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Key Stages of Strategic Information System Planning (SISP) Methods and Alignment to Strategic Management Planning Concepts

CAPSTONE REPORT

Brian Fergerson
Manager, ERP and Virtualization
Services
Columbia Forest Products

University of Oregon
Applied Information
Management
Program

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Approved by

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Dr. Linda F. Ettinger
Senior Academic Director, AIM Program

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Abstract

This annotated bibliography identifies and explores stages within five selected strategic information systems planning (SISP) methodologies. Stages are compared to produce an extrapolated set of key stages for use by information technology managers and business managers to support business strategies and contribute to business value. Conclusions describe reasons for the need for SISP, strategic management planning (SMP) foundational concepts, the need for SISP/SMP strategic alignment, and key factors for SISP implementation and alignment success.

Keywords: SISP, IS, strategic management planning, information technology, SMP, ISP-BP, alignment, advantage

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Problem

In relation to information technology resource planning, strategic information system

planning (SISP) at the most basic can be defined as "the process of determining an

organization's portfolio of computer-based applications that will help it achieve its business

objectives" (Newkirk & Lederer, 2007, p. 34). Before SISP, the information technology resource

planning process was referred to simply as information system planning (ISP) (Teo & King,

1996, p. 309). ISP is defined as:

> IS planning is a set of activities directed toward achieving three objectives: (a)
>
> recognizing organizational opportunities and problems where IS might be applied
>
> successfully; (b) identifying the resources needed to allow IS to be applied successfully
>
> to these opportunities and problems; and (c) developing strategies and procedures to
>
> allow IS to be applied successfully to these opportunities and problems. (Hann & Weber,
>
> 1996, p. 1044)

While the definitions for SISP and ISP concepts align a great deal, the "differences between

SISP, and the planning practices that pre-dated it, are in terms of its explicit emphasis on

strategic alignment and competitive impact" (Doherty, Marples, & Suhaimi, 1999, p. 264).

Due to the nature of SISP by definition, and the goals of strategic information system

planning with regard to meeting organizational strategic goals, SISP can be considered a critical

management issue (Bechor, Neumann, Zviran, & Glezer, 2010, p. 17). According to Grover and

Segars (2005) researchers commonly accept the fact that SISP is needed in order to facilitate or

influence the strategic direction of an organization (p. 761). There are a number of SISP

methodologies for an organization to choose from including, but not limited to, Business System

Planning (BSP), Strategic Systems Planning (SSP), Information Engineering (IE), Method/1,

Information Quality Analysis, and Business Information Analysis (Lederer & Sethi, 1988, p.

448). Doherty et al. (1999) state that choosing a specific SISP methodology is a critical issue;

however, specific methodologies focus on "technique, procedure, or methodology employed" (p.

265). Doherty et al. (1999) go on to express that any one SISP methodology may not be

sufficient for the application of SISP, but that a combination of techniques utilized in different

methodologies is a more balanced application of SISP (p. 265). Earl (1993) identifies five SISP

approaches: business-led, method-driven, administrative, technological, and organizational (p.

7).

Purpose

The purpose of this annotated bibliography is to identify key stages of the strategic

information system planning (SISP) process through an examination of five selected SISP

methodologies. Selected methods include (a) a maturity model of SISP, (b) business systems

planning (BSP) and strategic systems planning (SSP), (c) ISSP process model, (d) SISP process

with box structures method, and (e) integrated SISP methodology. The study includes an

examination of SISP relationships to strategic management planning (Avison, Jones, Powell, &

Wilson, 2004, p. 223; Goldsmith, 1991, p. 67; King & Teo, 1997, p. 281). Literature is selected

for this annotated bibliography that describes selected strategic information system planning

methodologies, strategic management planning concepts, and ways in which these two planning

processes are related.

Doherty et al. (1999) explain that strategic information system planning grew from the

foundation provided by information system planning (p. 264). The concept of SISP evolved

during the 1980s from a need to emphasize the strategic alignment of information technology in order to increase an organization's competitive impact (Doherty et al., 1999, p. 264).

The definition of strategic information system planning has many variations. For example Lederer and Sethi (1988) state that "(SISP) is the process of deciding the objectives for organizational computing and identifying potential computer application which the organization should implement" (p.445). Hevner, Bernt, and Studnicki (2000) state that "(SISP) is the process of aligning an organization's business strategy with effective computer-based information systems to achieve critical business objectives" (p. 1). Doherty et al. (1999) offer a composite definition from different sources and state that SISP is "the process of identifying a portfolio of computer-based applications to be implemented, which is both highly aligned with corporate strategy and has the ability to create an advantage over competitors" (p. 265). Each of these definitions states that there is a process to strategic information system planning. This annotated bibliography attempts to identify key stages within this process across selected planning methodologies.

This annotated bibliography also seeks to identify the relationship between strategic information system planning and strategic management planning and the need for alignment between them (King & Teo, 1997, p. 280). Bracker (1980) provides seventeen definitions of strategic management spanning four decades (p. 220). Bracker (1980) provides a macro definition regarding strategic management planning stating that "strategic management entails the analysis of the internal and external environment of a firm to maximize the utilization of resources in relation to objectives" (p. 221).

Bracker (1980) also equates strategic management with the term or concept of business strategy (p. 221). David (2009) provides a more granular definition in that "strategic

management can be defined as the art and science of formulating, implementing, and evaluating cross-functional decisions that enable an organization to achieve its objectives" (p. 4). David (2009) also equates the term strategic management with the term strategic planning, where the former is used in business, and the latter in academia. Strategic management can also be defined as "a company's manifest plan of action for the ongoing creation and appropriation of value. Strategic management is at once a short-term and long-term process that involves both plans and actions" (Amason, 2010, p. 7).

Audience

The audience for this annotated bibliography is information technology managers and business managers investigating SISP concepts and methodologies, as well as managers who have an interest in strategic management and how those concepts are applied through SISP to better align the information technology group to the goals of the organization (Johnson & Lederer, 2010, p. 138; Philip, 2007, p. 248). As early as 1988, Lederer and Mendelow (1988) indicated that there was some difficulty convincing upper management of the need for SISP (p. 525). More recently, Kearns (2006) indicates that "despite considerable evidence of the efficacy of strategic information systems planning (SISP) to create a competitive advantage, there is equal evidence that top management in many firms fail to support this process" (p. 236). The information presented in this annotated bibliography may provide rationale for this type of support.

Significance

Nearly 25 years ago, Lederer and Mendelow (1988) stated that because upper management has the duty to develop and implement an organization's strategic business plan for business success, this same management team should realize and accept the need to properly

leverage information systems that have strategic impact (p. 526). However, more recently Kearns (2006) writes that "top management support of SISP is often weak or absent" (p. 237). Research suggests that an organization cannot reach success without the proper alignment of business strategy and information systems strategies (Avison, Jones, Powell, & Wilson, 2004, p. 223; Johnson & Lederer, 2010, p. 138; Teo & King, 1996, p. 309). Without a fundamental understanding of SISP methodologies, and the need for an alignment of SISP activities with the strategic management process, it is "very difficult for IS to support business strategies and to contribute to the achievement of business value" (Teo & King, 1996, p. 309).

Bechor et al. (2010) believe that there is increasing pressure for organizations to better leverage their information technology assets in support of organizational goals, which are often unsuccessful due to a lack of alignment between the goals organization and the information technology group (p. 19). Bergeron, Raymond, and Rivard (2004) believe that strategic alignment or fit is crucial in order for an organization to leverage information technology to achieve greater performance (p. 1003). The goal of this annotated bibliography is to help those investigating SISP methodologies to recognize key stages across several selected options, and also identify those key stages that are most closely associated with SMP.

Research Questions

The focus of this annotated bibliography is to identify literature that (a) describes key stages and characteristics across selected SISP methodologies, and (b) examines SISP relationships to foundational SMP concepts. The following research questions serve as a guide for this annotated bibliography:

Main question. What are the key stages that can be generalized across selected SISP methodologies, and which stages are most dependent upon strategic management planning concepts in order to achieve effective alignment for business success?

Sub-questions.

- What are the main reasons for SISP development?

- What are the most commonly used SISP methodologies?

- What are the key stages within the selected SISP methodologies?

- Which key stages of a SISP clearly rely on SMP concepts?

- What are the key predictors for successful SISP alignment to SMP?

Delimitations

Time frame. The concept of strategic information system planning evolved during the 1980s from a foundation provided by information systems planning (Doherty et al., 1999, p. 264). The selected literature regarding SISP methodologies encompasses materials published between 1978 and 2011. Literature selected to discuss strategic management planning concepts follows same date range.

Topic and focus. The focus of this annotated bibliography is limited to the discussion and identification of the need for SISP, key stages of selected methodologies of SISP, and SISP relationships to SMP. The following areas within this literature are not explored:

- Relationship between SISP methodologies and industry type.

- Relationship between SISP methodologies and organization size.

- Methodologies explicit to SMP.

- Explicit recommendations of one methodology over another.

Databases and sources. Articles for this annotated bibliography are limited to those that can be accessed through the University of Oregon (UO) library system. Articles are accessed through the UO library from an off campus location. A virtual private network (VPN) connection is established in order to access database resources as if local to the campus library. This VPN connection also provides access to additional databases not explicitly linked to within the University of Oregon library website that are used for this annotated bibliography.

Audience selection. According to Gottschalk (1999), strategic IS planning is important as failure to properly plan can cause lost opportunities, wasted resources, and incompatible systems that will not meet an organization's needs (p. 77). The audience for this annotated bibliography is those individuals interested in, or responsible for, strategic planning of information systems within the organization.

Criteria for selection of SISP methodologies. The SISP methodologies identified for use in this annotated bibliography are selected against the following criteria: (a) methodology authors are documented subject matter experts in the field of SISP, (b) the literature details by research evidence or citations that the SISP methodology is in common use, and (c) there is adequate corroboration of use of the methodology by multiple references. The five most commonly referenced methodologies are selected for analysis in order to determine the set of key stages.

Literature collection criteria. The priority for the collection of literature generally follows Creswell's recommendations for selecting material including that articles are published in respected journals (Creswell, 2009, p. 32). The priority suggested by Creswell (2009) and followed for this study is reproduced in Table 1.

Table 1

Creswell's Recommendations for Material Selection

Start with broad syntheses of literature.	Search overviews in encyclopedias, summaries of the literature in journal articles, etc.
Turn to respected journals.	Search respected, national journals, especially ones that report research studies.
Turn to books.	Search books related to the topic.
Utilize conference papers.	Search for papers from major national conferences.
Scan dissertation abstracts.	Quality varies, but may result in finding relevant dissertations on chosen subject.
Utilize the Web	This source is easy to access yet material must be rigorously screened for quality.

Reading and Organization Plan Preview

Reading plan preview. A reading plan is developed to guide the analysis of the references presented in the Annotated Bibliography section of this paper. The reading plan is designed to address the concepts embedded in the set of research questions and is divided into three stages. These stages include: (a) the initial review of references in order to perform the initial categorization within each research question area, (b) coding of selected references using the process and methods described by Busch et al. (2005), and (c) the analysis of the coding results in order to develop the Conclusions section of this paper. The specific coding process follows the eight general steps put forth by Busch et al. (2005) for methods of conceptual analysis.

The content analysis coding process is:

1. Determine the depth of analysis;

2. Determine how many concepts to code for;

3. Decide whether to code for the existence or frequency of a concept;

4. Decide how to distinguish between concepts;

5. Develop rules for coding texts;

6. Decide what to do with irrelevant data;

7. Code the texts;

8. Analyze the results.

The complete treatment of the coding process, describing decisions used for this study, can be found in the full description of the Reading and Organization Plan, located in the Research Parameters section of this paper.

Organization plan preview. An organization plan guides the presentation of the information in the Annotated Bibliography. The references in the Annotated Bibliography are categorized into thematic areas defined by the research questions described in this paper ("Literature reviews," 2012). The complete treatment for the organization plan can be found in the full description of the Reading and Organization Plan, located in the Research Parameters section of this paper.

Definitions

The following definitions are offered with the aim of providing a clear understanding of the meaning of concepts as utilized in this study. The definitions are directly relevant to this paper, and show the specific perspectives presented by the authors whose writings have been selected for examination. This paper considers the terms SISP *methodologies* and SISP *approaches* as synonymous; the term SISP *methodologies* is utilized for ease of understanding.

Business planning – The process of gathering and analyzing information, evaluating required tasks, identifying risks and strategy, projecting financial development, and documenting these things in a written plan (Delmar & Shane, 2003).

Competitive impact – The exploitation of information technology for competitive advantage (Earl, 1993).

Computer-based applications- A computer program designed to assist in a specific task such as word processing, accounting, or inventory management (Microsoft computer dictionary, 2002).

Conceptual analysis – The process of quantifying and tallying the occurrence of selected terms within a text or texts (Busch et al., 2005).

Information systems planning – The recognition of organizational opportunities and developing strategies that allow IS to be applied successfully to solve these opportunities (Hann & Weber, 1996).

Information technology resource planning – The process of managing, forecasting, and allocating of information technology resources to improve information technology performance (Doherty et al., 1999).

Methodology – A system whose output is a solution to a problem (Veryard, 1985). The terms method, methodology, and model are considered synonymous in this paper with term usage determined by the cited author.

Strategic alignment – The alignment of the investment in information technology with business goals (Earl, 1993).

Strategic information system planning (SISP) – The process of identifying a portfolio of computer-based applications to be implemented, which is both highly aligned with corporate strategy and has the ability to create an advantage over competitors (Doherty et al., 1999).

Strategic management - Strategic management entails the analysis of internal and external environment of a firm to maximize the utilization of resources in relation to objectives (Bracker, 1980).

SISP approach-Comprises a mixture of techniques, elements, or procedures from different SISP methodologies (Doherty et al., 1999).

SISP methodology – An SISP methodology provides support for the SISP process by offering a structured approach for carrying out the IS planning process (Min, Suh, & Kim , 1999).

Strategic management planning – The formulation, evaluation, and implementation of decisions that enable an organization to reach its objectives (David, 2009).

Strategic planning – The process of determining the mission, major objectives, strategies, and policies that govern the acquisition and allocation of resources to achieve organizational aims (Pearce, Freeman, & Robinson Jr, 1987).

Research Parameters

This section explains the research strategies used to structure and conduct the design of this paper. This section is organized into four areas that describe (a) a detailed search strategy for literature, (b) a chosen documentation approach to record collected literature, (c) a description of evaluation criteria used to ensure quality of references selected for use in the Annotated bibliography section of this paper, and (d) a reading and organization plan that outlines and guides the analysis and presentation of references in the Annotated Bibliography and the conclusions drawn in this paper.

Search Report

The search for relevant literature on this topic focuses SISP methodologies, guidelines, and strategies. Additionally, the search seeks literature that identifies ties between SISP and SMP. Literature is searched in two content areas: (a) strategic information systems planning stages, and (b) strategic management planning concepts.

Key words and phrases. Key words utilized for the initial searches are derived from books written on the subject of strategic management (David,2009), management of information systems books (Curley,2004; Lientz & Larssen, 2004), as well as online sources including websites that concentrate on strategic management ("Strategic Management Society – Home," 2012).

Initial strategic management keywords regarding strategic management concepts are derived from Fred David's book *Strategic Management Concepts and Cases* (David, 2009). David is the author of three mainstream strategic management textbooks regarded "among the best, if not the best-selling, strategic management textbooks in the world" (David, 2009). This resource provides strategic management planning terms and definitions.

Initial strategic information system planning keywords regarding strategic information

system planning are derived from Bennet Lientz and Lee Larssen's book *Manage IT as a*

Business: How to Achieve Alignment and Add Value to the Company (Lientz & Larssen, 2004).

Lientz and Larssen's book provides over 200 practical guidelines regarding strategic alignment

of information technology and the business, and as such provides a number of terms and

definitions regarding SISP. Additional keywords regarding information technology planning are

derived from Martin Curley's book *Managing Information Technology for Business Value:*

Practical Strategies for IT and Business Managers (Curley, 2004). Curley's book focuses on

practical methods for effective IT management, success measurement, and IT to business

alignment. The Strategic Management Society website provides the initial list of targeted

journals to search for relevant articles regarding strategic management concepts ("Strategic

Management Society - Home," 2012). These journals include the Strategic Management Journal,

Strategic Entrepreneurship Journal, and the Global Strategy Journal.

Key words are combined to create Boolean searches. Key phrases are used

independently. Acronyms are used both independently and combined with key words to develop

search phrases. Prolific authors within the field of SISP are identified by the number of resource

results from keyword searches and the span of time of contributions. Author's names are also

combined with various key words, phrases, and acronyms to create search strings. The key

words/phrases utilized are outlined in Table 2:

Table 2

Key Words and Search Terms

Keywords used for SISP concepts	Keywords used for SMP concepts	Known authors in the field of SISP
SISP	Strategic management	Albert H. Segars

SISP approach	Strategic management planning	Varun Grover
SISP methodology	SMP	Vijay Sethi
SISP methodologies	Business Planning	Albert Lederer
SISP objectives	BP	G. S. Kearns
SISP success		A. Medelow
Strategic information systems planning		M. Earl
Strategic technology planning		
SISP Formalization		
SISP Effectiveness		
Information systems planning		
ISP		

Search results. Both targeted and exploratory search terms are utilized against a number

of search databases in an effort to reveal peer-reviewed articles on strategic information system

planning (SISP). These databases include Academic Search Premier, Business Source Complete,

JSTOR, Web of Science, and Science Direct. Initial searches produced a relatively large amount

of information relevant in some capacity to this annotated bibliography. Results also return

information regarding semi-related topics such as strategic management planning. Due to the

relationship between strategic management planning and strategic information systems planning

these related topics are investigated for relevancy (Teo & King, 1996, p. 309).

Based on initial findings, the data collection strategy is focused by leveraging specific

databases and journals found to have produced substantive results. Databases that contain the

most relevant articles include Academic Search Premier, Business Source Complete, JSTOR,

and Science Direct. Utilizing the more granular search capabilities within each specific database

provider, additional key word terms are utilized and combined producing a variety of relevant

and non-relevant results. Additionally, the more granular search functions provided within the

databases allow the ability to limit article results to peer-reviewed with full text availability.

Other results are not discarded, but systematically filed into categories relevant to this annotated

bibliography.

Located articles deemed to have high academic quality or particularly pertinent information are mined for additional keywords and cited references deemed applicable to this annotated bibliography. These references are investigated for relevance and inclusion. Journals found to have the most relevant articles regarding SISP and SMP concepts include MIS Quarterly, Information and Management, and Strategic Management Journal. These three journals are accessed through two main databases. MIS Quarterly is accessed through JSTOR, and Information Management and Strategic Management Journal are accessed through Science Direct. Science Direct has a suggested reading feature based upon the current selected resource. Suggestions offered by this list are investigated for inclusion in this annotated bibliography.

Literature Evaluation Criteria

Several factors must be met in order for article to be considered useful as a key reference: (a) if the reference is relevant, i.e., if it sufficiently explains an SISP methodology or component that makes up a strategic information system plan, (b) if the reference describes a methodology that is considered one of the commonly used SISP processes, and (c) if the reference is deemed credible, based on a review of criterion provided by Bell and Smith (2009).

Selected supporting references meet standard academic criteria in that the articles are peer-reviewed, full-text, and published in a journal. According to Hewitt (1998) other supporting literature should be considered (p. 5). Therefore supporting references are not limited to academic articles and journals but include professional sources such as conference proceedings and published textbooks.

According to Creswell (2009) an article abstract contains important information summarizing the major elements of an article (p. 36). Article relevancy is first determined by examining the article title, abstract, and introduction. The first few paragraphs or the first page of

the article is then parsed in order to ascertain if the article meets the informational needs of this

annotated bibliography. Articles that appear to address required topics are then mined for

additional relevancy by analyzing key words used for section headings. Additionally, the closing

or results sections, along with the references section, are also analyzed.

Article credibility is ascertained by examining the use of the following (Smith, 2009):

- Bibliographic references-The list of references is mined to ensure quality of
  sources.

- Use of appropriate citations.

- Foundations on prior work. Articles are surveyed in order to determine agreement
  or dependence on prior work.

- Prolific authorship and/or credentials. Experience of the researcher is determined
  by the number of article results returned by key word searches.

Documentation Approach

A protocol for recording research is utilized. Two software programs are used to track

and classify literature. These programs are (a) Zotero, a tool that allows researchers to collect,

organize, cite, tag, interact with and share data ("Zotero | About," 2012), and (b) Microsoft

OneNote, a planning and note taking program that allows for the capture and classification of

text, images, video, and audio data ("Classroom collaboration with Microsoft OneNote 2010,"

2012).

Four research folders are created within the Zotero storage framework to store and

classify peer-reviewed articles. The top-level folder represents the annotated bibliography. Three

subfolders represent the different classifications of articles. These classifications include:

- Relevant

- Historical

- Supportive

All articles or studies directly relating to the concept of methodologies of strategic information system planning and strategic management planning are stored in the folder labeled relevant. Historical concepts of both strategic information system planning and strategic management planning are stored in the folder labeled historical. Articles that contain supporting, yet not quite relevant data regarding strategic information systems planning or strategic management planning are stored in the folder labeled supportive. The article tagging and note taking functions within Zotero are utilized to further classify the most relevant articles. Article tagging elements include the database in which the article was found and keywords utilized to locate article. Zotero allows for linking between references stored within a library regardless of folder hierarchy. Articles found to have similar information are linked for ease of tracking. Additionally, Zotero provides easy generation of reports on articles located within a library. Abstracts for each stored article are placed into each articles abstract field in order to quickly identify the most relevant articles using the reporting function. Bibliographic information is created by retrieving the meta-data from the article using the retrieval function within Zotero. Bibliographic fields lacking information after meta-data retrieval, or articles that do not provide meta-data text for bibliographic information, are populated manually.

Microsoft OneNote is used to track and store the preliminary study and research data regarding strategic information system planning and strategic management planning concepts. A notebook within OneNote mimics the Zotero storage structure. The data placed within the OneNote framework is considered secondary and lacking academic qualities, but usable in the effort to enable broader research. This data consists of industry web pages, public and private

documents, and links to books used in the study of strategic information systems management.

Articles are coded by placement into appropriate classifications for analysis. Analysis of articles

includes the use of tags, and notes within Zotero. Analysis of secondary sources within OneNote

also includes color coding.

Reading and Organization Plan

       Reading plan. The reading plan is developed using the conceptual analysis methodology

outlined by Busch et al. (2005). According to Busch et al. (2005) this methodology includes the

following eight steps for coding (or reading) the selected literature; steps and the particular

decisions used to develop this reading plan, are outlined in Table 3.

Table 3

Conceptual Analysis Decision Matrix

Conceptual analysis step	Decision used
1. **Decide the level of analysis-**Researcher decides to code for single word or sets of words.	Level of analysis includes both single word and sets of words (phrases). Words and phrases are derived from key words used for search (e.g., SISP, SISP approach, SISP methodology).
2. **Decide how many concepts to code for-** Researcher how many different concepts to code for.	Coded concepts follow the thematic areas listed in the organization plan.
3. **Decide whether to code for existence or frequency of a concept-**Researcher decides to either code for existence or frequency.	References are coded for existence of each of the coding terms/phrases; the goal is to determine contextual meaning.
4. **Decide on how to distinguish among concepts-**Researcher decides if concepts are coded exactly as they appear, or are recorded the same even if they appear in different forms.	Concepts are recorded the same even when they appear in different forms (e.g., business planning and strategic management planning are coded the same).
5. **Develop rules for coding texts-**Researcher creates translation rules to streamline the coding process.	Codes exist for each thematic element described by the research questions as well as codes for like or relational concepts (e.g., SISP methodology and SISP approach are coded under SISP methodology).
6. **Decide what to do with irrelevant information.**	Information without relevancy is discarded.
7. **Code the texts-**Researcher codes the text.	Coding is performed by reading through the

	selected literature; results are recorded utilizing Zotero as outlined in the Documentation Approach.
8. **Analyze the results-**Researcher attempts to draw conclusions from the data.	Coded data is analyzed against the research questions previously outlined and as indicated in the organization plan. Results are presented in the Conclusions section of this paper.

Organization plan. This plan is followed in order to initially categorize references selected for use in the Annotated Bibliography into thematic elements guided by the content embedded in research questions previously outlined ("Literature reviews," 2012). This alignment allows the audience to easily locate relevant articles by research question. The four thematic categories include:

1. The need for strategic information systems planning. References that address the need for strategic information planning include those which (a) describe the need for alignment of SISP and the business needs (Avison et al., 2004), and (b) define the need for strategic information systems planning (Henderson & Sifonis, 1988)

2. Key stages within and across selected methodologies utilized in SISP. The SISP methodologies identified for use in this annotated bibliography are selected against the following criteria: (a) methodology authors are documented subject matter experts in the field of SISP, (b) the literature details by research evidence or citations that the SISP methodology is in common use, and (c) there is adequate corroboration of use of the methodology by multiple references. The five most commonly referenced methodologies with documented stages are selected for analysis in order to extrapolate a set of generalized key stages.

3. Foundational approaches to strategic management planning (SMP). References that describe foundational approaches to strategic management planning include those that describe (a) background information and definitions of strategic management

(Bracker, 1980), and (b) historical and foundational information with regard to

approaches to strategic management (Bryson, 1988).

4. SISP and SMP alignment concepts and success indicators. References that identify

and discuss (a) the need for strategic information systems planning and strategic

management planning alignment, which is also referred to in literature as business

planning (BP) and information systems planning (ISP) alignment (BP-ISP)

(Gottschalk, 1999; King & Teo, 1997), and (b) references that discuss key indicators

of SISP implementation success (Bechor et al., 2010).

Annotated Bibliography

The literature selected for this Annotated Bibliography includes references considered to be the most relevant to support the research questions described in the Introduction (see page 13). References selected for use in the Annotated Bibliography are organized into thematic elements guided by the content embedded in the research questions. This organization allows the audience to easily locate relevant articles by research question. The four thematic categories include: (a) the need for strategic information systems planning, (b) key stages within selected methodologies utilized in SISP, (c) foundational approaches to strategic management planning (SMP), and (d) SISP and SMP alignment concepts and SISP implementation success indicators.

This annotated bibliography consists of 34 entries. Each entry includes the following: (a) a reference citation in APA format, (b) an abstract of the reference content, (c) an assessment of the references credibility, and (d) a summary of the content relevant to each specific research question category. The ideas presented in the summaries of the references are those of the author(s).

The Need for SISP

References that address the need for strategic information planning include those that: (a) describe the need for alignment of SISP and the business needs (Avison et al., 2004), and (b) define the need for strategic information systems planning (Henderson & Sifonis, 1988).

Avison, D., Jones, J., Powell, P., & Wilson, D. (2004). Using and validating the strategic

alignment model. *The Journal of Strategic Information Systems*, *13*(3), 223–246.

doi:10.1016/j.jsis.2004.08.002

Abstract. The literature suggests that firms cannot be competitive if their business and information technology strategies are not aligned. Yet achieving strategic alignment continues to be a major concern for business executives.

Credibility. The authors of this article represent three universities and one corporation and reside in three countries. David Avison is from ESSEC Business School in Paris, France. Jill Jones is from State Street Corporation in Sydney Australia. Philip Powell is from the University of Bath in the United Kingdom. David Wilson is from the University of Technology in Sydney Australia. This paper is published in the *Journal of Strategic Information Systems* and offered through Elsevier. The article cites 60 references including works by M. J. Earl, A. Lederer, and A. Mendelow. These authors are also cited in this paper. The majority of references cited in this article are on the need for IT alignment with the business. References include scholarly articles as well as books and magazines.

Summary. The authors argue that firms cannot be competitive without a strategic plan that aligns information technology strategies with the business. The authors write that the importance of strategic alignment has been stated frequently, and is a key concern to businesses. The authors state that strategic alignment between information technology and the business leads the business to greater profitability by maximizing return on information technology investment, while failure to leverage information technology has adverse effects on business performance. They state that a number of models can be used to determine alignment, including the strategic alignment model (SAM) and they provide a framework that allows technology managers to monitor and determine alignment levels, thereby offering greater strategic alignment.

Henderson, J. C., & Sifonis, J. G. (1988). The value of strategic IS planning: Understanding

consistency, validity, and IS markets. *MIS Quarterly*, *12*(2), 187–200.

Abstract. The impact of IS technologies on the competitive capability of the firm has

increased the need for effective strategic IS planning in order to positively affect the

performance of the business. The commonalities between strategic IS planning and

strategic business planning are apparent.

Credibility. John C. Henderson is an associate professor of management science at the

Sloan School of Management and a member of the Center for Information Systems

Research at M.I.T. Dr. Henderson received his PhD from the University of Texas, Austin.

John G. Sifonis is the director of Strategic Management Services for the national office of

Arthur Young & Co. He is a graduate of the Case Institute of Technology. This article is

published in *MIS Quarterly*, which seeks to provide the communication and enhancement

of knowledge concerning the management of information technology resources along

with economic and societal implications. This paper utilizes 44 references, including

peer-reviewed journal articles and also books relevant to the concept of strategic IS

planning.

 Summary. This paper argues that an effective strategic IS planning process must

provide three elements: (a) a definition of the organization's needs for IS products and

services; (b) consistency between the strategic business plan and strategic IS plan; and (c)

a methodology to be able to access the validity of the planning process. The authors write

that the need to establish validity is critical within the business environment, and that

planning techniques have the ability to strengthen ties between the business and

information technology. The authors suggest that stronger ties equate to better

performance and facilitate the meeting of strategic business goals.

Johnson, A. M., & Lederer, A. L. (2010). CEO/CIO mutual understanding, strategic alignment,

and the contribution of IS to the organization. *Information & Management*, *47*(3), 138–

149. doi:10.1016/j.im.2010.01.002

Abstract. Mutual understanding between the CEO and CIO is thought to facilitate the

alignment of an organization's IS with its business strategy, and thereby enhance the

contribution of the IS to business performance.

Credibility. Alice M. Johnson is an associate professor in the School of Business and

Economics at North Carolina Agricultural and Technical State University. Dr. Johnson

holds a PhD in Decision Sciences and Information Systems from the Gatton College of

Business and Economics at the University of Kentucky and has over 10 years of

experience in the field of information systems. Albert L. Lederer is a professor in the

Gatton College of Business and Economics at the University of Kentucky and holds an

MS in Computer and Information Science and a PhD in Industrial and Systems

Engineering from the Ohio State University. Dr. Lederer has written numerous articles

and his research has been featured in journals such as *MIS Quarterly*, *Information

Systems Research*, *Decisions Science*, and *Decisions Support Systems*. This article

appears in *Information & Management*, which is a peer-reviewed journal that aims to

collect and disseminate information regarding development in the field of applied

information systems.

Summary. The authors write that organizations invest a large amount of financial

resources into information technology, but that executives of these organizations believe

that they have not realized substantial value from these investments. The authors offer

that these organizations can only realize the benefits from investments in information

technology when a strategic alignment exists between information technology strategies

and strategic business strategies. Additionally, they state that not only must there be an

alignment between IT and the business, but that IT resources must target areas within the

business that are most critical to business success. In an effort to gauge strategic

alignment, the paper surveys 202 pairs of CEOs and CIOs in order to investigate the

relationships between the managers responsible for setting strategy and ensuring strategic

alignment. One of the questions posed in the paper is if strategic alignment between IT

and the business leads to higher IT contribution. A main focus of their study is to extend

the theory of IT strategic alignment in order to provide direction for CEOs and CIOs

interested in improving strategic alignment, and increase the IT contribution of their

organization.

Kearns, G. S. (2006). The effect of top management support of SISP on strategic IS

management: Insights from the US electric power industry. *Omega*, *34*(3), 236–253.

doi:10.1016/j.omega.2004.10.008

Abstract. Strategic IS planning (SISP) is a fundamental tool of strategic IS management.

Despite considerable evidence that strategic information system planning is relevant, top

management support of SISP is often weak or absent. This paper looks at the strategic use

of IS in US electric power companies. The author states that it is noteworthy due to the

deregulation of this industry and its transition into a more highly competitive

environment which provide special insights not available elsewhere. The author provides

evidence and writes that CEOs exhibit only moderate participation in SISP even though

participation in SISP is positively and strongly associated with strategic IS management.

Credibility. Grover S. Kearns is an assistant professor of information systems in the

College of Business Administration at the University of South Florida St. Petersburg. Dr.

Kerns holds a PhD in decision sciences and information systems, and an MBA from the

University of Texas at Austin. His fields of interest are IT strategic planning, global

commerce, and knowledge management. This paper is published in *Omega – The*

International Journal of Management Science offered through Elsevier. *Omega* reports

research on management developments for those such as practicing managers,

management scientists, consultants, and academics. Articles are reviewed by the editor

and two additional referees.

Summary. The author writes that despite the large amount of evidence that supports the

need for strategic information systems planning (SISP) to create competitive advantaged,

that there is an equal amount of evidence that supports that management still fails to

leverage SISP. The author also states that by failing to leverage SISP, managers are

ignoring proven practices that identify information systems opportunities, and miss

opportunities to define and implement new business strategies. One of the author's

positions is that SISP is essential for those companies that rely upon, and invest heavily

in, information technology. Another position the author takes is that a key determinant of

SISP success is top management support, and that without the support of top management

of SISP, information technology services will not be able to support the strategic business

goals of an organization. The author writes that in order to understand and acknowledge

the use of SISP as a strategic too, one has to understand the association between the

strategic IS management, strategic business planning, and management support of these

processes. Furthermore, the author posits that in highly competitive industries companies

are under increased pressure to maximize return on information technology investments.

Lederer, A. L., & Mendelow, A. L. (1988). Convincing top management of the strategic potential

of information systems. *MIS Quarterly*, *12*(4), 525–534.

Abstract. Research has shown that the difficulty of convincing top management of the

potential strategic impact of information systems impedes information systems planning.

Interviews with 20 top information systems executives revealed reasons for this difficulty

and techniques that they use in attempting to overcome it.

Credibility. Albert L. Lederer is a professor in the Gatton College of Business and

Economics at the University of Kentucky and holds an MS in Computer and Information

Science and a PhD in Industrial and Systems Engineering from the Ohio State University.

Dr. Lederer has written numerous articles and his research has been featured in journals

such as *MIS Quarterly*, *Information Systems Research*, *Decisions Science*, and *Decision

Support Systems*. Aubrey L. Mendelow is an associate professor at the Graduate School

of Management at Kent State University. Dr. Mendelow holds a PhD in business

leadership from the University of South Africa. Her articles have appeared in *MIS

Quarterly*, *Business Horizons*, *Information and Management*, and *Long Range Planning*.

This paper uses 25 references, including 3 references of which Dr. Lederer and Dr.

Mendelow jointly authored. Most references are in the form of published journal articles

from sources such as *Business Horizons*, *Harvard Business Review*, *Information and

Management*, and *MIS Quarterly*. This paper is published by *MIS Quarterly*, a

peer-reviewed journal which seeks to provide the communication and enhancement of

knowledge concerning the management of information technology resources along with

economic and societal implications.

Summary. The authors of this article explore the need to convince top management of

the potential strategic impact of information technology systems. They also provide

techniques used by information technology executives to convince top management of

the potential of strategic information systems. The authors write that information systems

planning is a prerequisite to strategic information planning. They state that information

executives cited the need for improved planning as their most important issue. They also

identify other key issues, including aligning IS goals with business goals, and using

information systems technology in order to establish a competitive advantage. The

authors write that effective IS planning needs an understanding of top management's

business objectives, yet this understanding is deficient. They go on to state that this

deficiency is the result of senior business managers only sharing their objectives with

information technology managers when business managers believe that information

technology systems will have a strategic impact. The authors write that the basic need to

convince business management of the need for strategic information planning is to

ultimately help an organization realize business goals and objectives in the form of three

generic business strategies: (a) differentiation, (b) cost leadership, and (c) focus. They

suggest that it is ultimately top management's responsibility for developing and

implementing business strategy, thus top management must also take responsibility for

creating an environment where information systems provides strategic impact.

Newkirk, H. E., & Lederer, A. L. (2007). The effectiveness of strategic information systems

planning for technical resources, personnel resources, and data security in environments

of heterogeneity and hostility. *Journal of Computer Information Systems*. Retrieved from

http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=25144334&site=ehost-

live

Abstract. Environmental uncertainty is believed to influence strategic information

systems planning (SISP). Research suggests that more such uncertainty would prompt

more SISP, and that more SISP would produce greater planning success.

Credibility. Henry E. Newkirk is an assistant professor of MIS in the College of

Business at East Carolina University. Dr. Newkirk holds a PhD from the University of

Kentucky, and an MBA from East Carolina University. Dr. Newkirk's research interests

include electronic commerce and strategic information systems planning. Dr. Newkirk's

articles have appeared in the *International Journal of Electronic Commerce*, *Journal of

Strategic Information Systems*, and *International Journal of Information Management*.

Albert L. Lederer is a professor of MIS in the Gatton College of Business and Economics

at the University of Kentucky. Dr. Lederer holds a PhD in industrial and systems

engineering from the Ohio State University. Dr. Lederer's research focus is on

information systems management. This article is offered by the peer-reviewed journal

Information and Management published through Elsevier and utilizes 85 references of

which 80 are references to journal articles and 5 are books.

Summary. The authors write that today's business managers face a number of uncertain

challenges, and as such need to excel as careful strategic planners. It is the authors'

position that both information technology executives and business executives view SISP

as a critical issue. They state that information systems reduce uncertainty, and that

because of this information systems planning is all the more important. Additionally, the

authors believe that business uncertainty forces strategic information systems planning to

be more extensive. The greater purpose of this study is to test the relationship between

uncertainty and the need for SISP. The authors have developed a questionnaire that has

defined SISP and measures environmental uncertainty. They collected data from 161 IS

executives. Furthermore, the authors believe that SISP benefits cannot be reduce to

simple financial measures in order to gauge success. They write that like strategic

business planning, SISP produces difficult to assess benefits, making the measurement of

SISP success complex.

Segars, A. H., & Grover, V. (1998). Strategic information systems planning success: An

investigation of the construct and its measurement. *MIS Quarterly*, *22*(2), 139–163.

Abstract. Strategic information systems planning (SISP) requires significant outlays of

increasingly scarce human and financial resources. Yet, there exists very little

understanding of how the success of this planning activity is measured.

Credibility. Albert H. Segars is an associate professor in the Kenan-Flagler Business

School at the University of North Carolina at Chapel Hill. Dr. Segars holds a PhD in MIS

from the University of South Carolina. Dr. Segars' research interests include strategic

planning, and organizational transformation through information technologies. Dr.

Segars' articles have been included in *MIS Quarterly*, *Decision Sciences*, and *Information

& Management*. Varun Grover is an associate professor of IS in the Management Science

Department at the University of South Carolina. Dr. Grover holds an MBA from

Southern Illinois University, Carbondale and a PhD in MIS from the University of

Pittsburgh. Dr. Grover has authored over 80 refereed articles on topics such as IS

planning, and strategic information systems. Dr. Grover's works can be found in journals

such as *Information Systems Research*, *MIS Quarterly*, *Journal of Management*

Information Systems, and *Information & Management*. This article uses 65 references

offered by journals such as *MIS Quarterly*, *Journal of Management Information Systems*,

and *Information Systems Research*. The article is published in the peer-reviewed journal

MIS Quarterly, which seeks the enhancement and communication of knowledge

concerning the development of IT-based services.

Summary. The authors state that information systems literature has given much attention

to the concept of developing strategic planning methodologies. The authors believe that

the reason for this attention is to aid information system planners in aligning information

technology services with the strategic goals of the company. Furthermore, there is a need

for identifying information technology opportunities that can be leveraged for

competitive advantage. They suggest that information technology strategic planning is

similar to organizational strategic planning and should be conceptualized and evaluated

similarly. Due to the nature of strategic information systems planning, the authors state

that the SISP process requires a significant investment in both time and material and the

process must contribute to the organization. They state that any strategic planning

initiative, including SISP, renders many positive results that are not tangible which makes

measurement of SISP planning success difficult. It is the authors' position that it is

generally accepted that successful information technology planning is dependent upon the

amount of alignment between information technology strategy and business strategy.

This alignment facilitates the proper deployment of information technology resources that

support the organization's competitive needs.

Teubner, R. A. (2007). Strategic information systems planning: A case study from the financial

services industry. *The Journal of Strategic Information Systems*, *16*(1), 105–125.

doi:10.1016/j.jsis.2007.01.002

Abstract. Strategic Information Systems Planning (SISP) is an important topic for

managers and researchers alike. However, there is evidence of a gap between SISP

research and practice. Taking this situation as a motivation, we conducted an in depth

case study on SISP to investigate this gap.

Credibility. Alexander Teubner is a senior lecturer at the Department for Information

Systems, University of Muenster in Germany. He heads the research group on Strategic

Information Management of the European Research Center for Information Systems

(ERCIS). Dr. Teubner's research interests include IT strategy theory, IT value and

organization theory, and IT operations management. His works have been published in

German and international journals such as *Wirtschaftsinformatik*, *Information Systems

Frontiers*, and *Journal of Strategic Information Systems*. He is also an associate professor

for information management at Educatis University, Graduate School of Management,

Switzerland. This paper is published in the refereed *Journal of Strategic Information

Systems* offered through Elsevier. The *Journal of Strategic Information Systems* focuses

on the management, business, and organizational issues associated with the introduction

and utilization of information systems. This paper utilizes 57 references, including

references to previous works from Earl, Lederer, Sethi, Teo, and Teubner.

Summary. The author writes that strategic information systems planning (SISP) is a

concern for management, and has been ranked as one of the highest issues on

management agendas for many years. Larger enterprises may have dedicated

management positions such as Head of IT Strategy, or Director of Strategic IT

Management that are responsible for SISP. The author states that SISP is an ongoing

exercise, and needed to align IT investments with business objectives, so that the

organization can increase its competitive position. He writes that the areas that have been

addressed by most research include the impact of IT on competitive advantage, and

processes for implementing SISP. When discussing strategic information systems, the

subject of IT and competitive advantage is in the forefront as strategic information

systems is rooted in competitive theories from previous management studies.

Key Stages Within and Across Selected Methodologies Utilized in SISP

The SISP methodologies identified for use in this annotated bibliography are selected

against the following criteria: (a) methodology authors are documented subject matter experts in

the field of SISP, (b) the literature details by research evidence or citations that the SISP

methodology is in common use, and (c) there is adequate corroboration of use of the

methodology by multiple references. The five most commonly referenced methodologies with

documented stages are selected for analysis in order to extrapolate a set of generalized key

stages.

Bergeron, F., Buteau, C., & Raymond, L. (1991). Identification of strategic information systems

opportunities: Applying and comparing two methodologies. *MIS Quarterly*, *15*(1), 89–

103.

Abstract. Much has been said about opportunities for the strategic use of information

technology by organizations aiming to gain a competitive advantage, however, not much

is known about the actual process by which opportunities for the use of strategic

information systems are identified. While various planning methodologies have been

proposed, there is at present a paucity of information on empirical results obtained from

applying them, and on their effectiveness, efficiency, and specificity.

Credibility. Francois Bergeron is an associate professor and director of the Information

Systems Department at Laval University, Quebec City, Canada. Dr. Bergeron holds a

PhD from the Anderson Graduate School of Management, University of California, Los

Angles, an MS in economics, and an MBA. from Laval University. Dr. Bergeron's

research interests focus on information systems for competitive advantages, and he has

been published in journals such as *MIS Quarterly*, *Journal of Management Information

Systems*, and *Information & Management*. Chantal Buteau is an information system

consultant for Groupe CGI Inc. She received her MBA in management information

systems from Laval University. Ms. Buteau's area of specialization is the development

and implementation of information technology for competitive advantage. Louis

Raymond is a professor of information systems at the Department of Administration and

Economics, University of Quebec at Trois-Rivières, Quebec, Canada. He has published

articles in journals such as *MIS Quarterly*, and *Information & Management*. This article

appears in the peer-reviewed journal *MIS Quarterly*, which seeks the enhancement and

communication of knowledge concerning the development of IT-based services. This

article has 41 references from various reviewed journals such as *Harvard Business

Review*, *MIS Quarterly*, and *Journal of Management Information Systems*.

Summary. The authors present the results of a field experiment comparing two

methodologies for identifying information systems opportunities. The two methodologies

are Porter's value chain and Wiseman's strategic thrusts. Porter's and Wiseman's

methodologies are known for their ability to identify competitive advantage

opportunities. The authors provide the decision matrix for both methodologies from which key stages of planning can be discerned. They then operationalize each methodology, and apply them in matched sets to 10 medium sized enterprises. The authors find that both methodologies are effective in generating ideas regarding strategic planning for information systems; similarities and differences are analyzed in terms of implementation costs, duration, and managerial level. Results indicate that while there are similarities between the two methodologies, differences show Wiseman's methodology has greater attractiveness for those organizations with unstable environments.

Cheong, F., Corbitt, B., & Pita, Z. (2011). A maturity model of strategic information systems planning (SISP): A comprehensive conceptualization. *International Journal of Enterprise Information Systems*, *7*(3), 1–29. doi:10.4018/jeis.2011070101

Abstract. Strategic Information Systems Planning (SISP) maturity model is conceptualized as a five-stage maturity model. To identify the maturity stage of SISP, a model for assessment of SISP is developed.

Credibility. France Cheong holds a PhD in Computer Systems Engineering from La Trobe University. Dr. Cheong is a senior lecturer in the School of Business IT at RMIT University. Dr. Cheong's research interests include modeling and simulation of complex systems. Brian Corbitt is a professor of MIS and head of the School of Business Information Technology at RMIT University, Australia. Mr. Corbitt has published books on eCommerce, eBusiness, and eGovernment. He has also published papers in journals such as the *Journal of Information Technology*, *Leading and Managing*, and the *International Journal of Networking and Virtual Organizations*. Zijad Pita holds a PhD from RMIT University in Australia and is currently a lecturer in the School of Business

IT at RMIT University. Dr. Pita's research interests including strategic information

systems planning. This paper appears in the peer-reviewed *International Journal of*

Enterprise Information Systems (IJEIS). The mission of *IJEIS* is to provide coverage of

various enterprise information systems. This paper utilizes 76 references from journal

authors such as Segars, Grover, Earl, and Lederer.

Summary. The authors state that SISP literature is sparse when it comes to identifying

and describing what elements make up a superior SISP, even though there is a call within

SISP literature to improve SISP methodology. They believe that since SISP is a prime

component of information technology decision making, SISP methodology should be

studied in an organizational context, yet little exists in literature for providing a

comprehensive framework for SISP processes alone. The aim for this paper is to present

research regarding a five-stage SISP maturity model. The authors write that this research

paves the way for a unique approach to SISP that will improve understanding of SISP

concepts. The authors state that high-level constructs are presented in this paper, and

present high-level stages of practical implementations of the SISP planning process.

Córdoba, J.-R., & Midgley, G. (2005). Broadening the boundaries: An application of critical

systems thinking to IS planning in Colombia. *Journal of the Operational Research*

Society, *57*(9), 1064–1080. doi:10.1057/palgrave.jors.2602081

Abstract. Most current information systems (IS) planning methodologies are focused on

achieving plans that provide competitive advantage to business and solve the problems of

information needs by using the latest technologies available. This paper presents an

alternative approach to IS planning based on critical systems thinking—a research

perspective that encourages the analysis of stakeholders' understandings of social

contexts prior to the selection and/or design of planning methods.

Credibility. Dr. Jose-Rodrego Cordoba-Pachon is a senior lecturer in technology and

information management at the school of Management in Royal Holloway. Dr. Cordoba

received his PhD from the University of Hull, and his research interests include the

systemic study of information systems and the development of sustainability practices.

Dr. Cordoba has written numerous articles for journals such as the *International Journal*

of Information Management, and *International Journal of Project Management*. Gerald

Midgley is a professor at the Business School at the University of Hull. Dr. Midgley has

authored over 150 papers for various journals, two books on systems thinking and

computer forensics, and has contributed numerous book chapters for other publications.

This paper is published in the peer-reviewed *Journal of the Operational Research Society*

(JORS) offered through Palgrave-Macmillan. *JORS* covers the theory, practice, history or

methodology of operational research. This paper utilizes 85 references.

Summary. The authors state that the goal of an information system (IS) planning process

initiative from a strategic point of view is to provide one organization an advantage over

another; however, most information systems planning methodologies simply reformulate

the corporate or business strategy for use within IS in such a way as to provide a

competitive advantage. The goal of this paper is to challenge the key assumptions of a

majority of IS strategic planning methodologies. Additionally, it is the authors' position

that a number of traditional IS planning methodologies fail to account for diverse

concerns which impacts IS and its ability to play a more meaningful role within the

organization. The paper first provides a review of IS planning stages and methodologies

with a focus on issues surrounding the inclusion of people in IS planning, followed by a description of the authors' approach to IS planning, and concludes with analysis and learning outcomes.

Doherty, N., Marples, C., & Suhaimi, A. (1999). The relative success of alternative approaches to strategic information systems planning: An empirical analysis. *The Journal of Strategic Information Systems*, *8*(3), 263–283. doi:10.1016/S0963-8687(99)00024-4

Abstract. Strategic information systems planning (SISP) is an exercise or ongoing activity that enables organizations to develop priorities for information systems development. It has been suggested that the 'SISP approach', a combination of method, process and implementation, is the most complete way of describing SISP activity.

Credibility. Neil Doherty is a professor in the School of Business and Economics at Loughborough University Leicestershire, United Kingdom. Dr. Doherty holds an honors degree in Management Science, and MSC in Engineering Management, and a PhD in Software Engineering. Dr. Doherty's research interests include information systems and the organizational impacts of information technology. Dr. Doherty has been published in a range of journals including the *Journal of Information Technology* and *Journal of Strategic Information Systems*. Dr. Adam Suhaimi is a Dean and professor at the International Islamic University Malaysia. C. G. Marples is from the School of Business and Economics at Loughborough University. *The Journal of Strategic Information Systems* is refereed.

Summary. The authors analyze four distinct approaches to SISP that have been derived using cluster analysis and then compare the four approaches with five approaches suggested by Earl (1993). The authors state that Earl indicates in his article Experiences

in SISP (see next entry) that three of the authors approaches bear strong similarities to

Earl's 'organizational', 'business-led', and 'administrative' approaches, while the fourth

approach is related to both Earl's 'method-driven' and 'technological' approaches. The

authors provide an analysis of the relationship between SISP approaches and provide

evidence that the 'organizational approach' is significantly more successful than the other

approaches. The authors discuss 8 key attributes of a SISP approach (i.e., analysis,

planning, delay, external influence and internal influence, top management influence, and

IS influence). The authors also present a comprehensive review of factors related to the

success of the IS planning process.

Earl, M. J. (1993). Experiences in strategic information systems planning. *MIS Quarterly*, *17*(1),

1–24.

Abstract. Strategic information systems planning (SISP) remains a top concern of many

organizations. Accordingly, researchers have investigated SISP practice and proposed

both formal methods and principles of good practice. SISP cannot be understood by

considering formal methods alone.

Credibility. Michael J. Earl is Emeritus Professor of Information Management and Pro-

Vice Chancellor of the University of Oxford. He was previously Dean of Templeton

College, and also an Andersen consulting Professor of Information Management at

London Business School. Dr. Earl is the author or editor of numerous books, and has

been published widely in numerous journals including *Harvard Business Review*, *Sloan

Management Review*, and *MIS Quarterly*. His current research interests include the role

of information technology in mergers and acquisitions. This paper is published in the

peer-reviewed journal *MIS Quarterly*, which seeks the enhancement of communication of

knowledge of IT-based services and economics of IT with managerial, organizational, and societal implications. This paper has 42 references and cites works from Lederer, Mendelow, and King as well as citing Dr. Earl's previous works regarding information systems planning.

Summary. The author writes that SISP targets the following areas: (a) aligning IS with business goals, (b) leveraging IT for competitive advantage, (c) providing efficient management of IS resources, and (d) development of polices and architectures. Furthermore, the first two areas deal with information systems strategy, while the third with information management strategy, and the fourth with information technology strategy. The author investigates five different SISP approaches found in companies: Business-Led, Method-Driven, Administrative, Technological, and Organizational. He also describes the characteristics and taxonomy of each approach and determines the likelihood of success. Dr. Earl's results show that the Organizational Approach is the most effective. He provides ranking order for elements that make up the objectives of SISP, SISP benefits, unsuccessful features of SISP, and SISP concerns by stakeholder. Key stages and elements are provided for different SISP approaches and strengths/weaknesses are evaluated.

Grover, V., & Segars, A. H. (2005). An empirical evaluation of stages of strategic information systems planning: Patterns of process design and effectiveness. *Information & Management, 42*(5), 761–779. doi:10.1016/j.im.2004.08.002

Abstract. While much has been written about strategic information systems planning (SISP), two important aspects have been underemphasized. The first is the planning process or how planning is accomplished. The second is planning evolution or how

planning evolves as a learning system. Both perspectives can provide practical guidance on how organizations will change their planning process over time in an attempt to improve their effectiveness as well as leverage their investment in SISP. This paper draws on prior literature to identify key dimensions of SISP and its effectiveness.

Credibility. Varun Grover is the William S. Lee Distinguished Professor of IS at the college of Business and Behavioral Sciences, Clemson University. Dr. Grover has over 150 publications in refereed journals and has written three books. Recent articles have ranked him among the top five researchers based on publications in top IS journals. He has published work in *ISR*, *MISQ*, *JMIS*, *CACM*, *Decision Sciences*, *IEEE Transaction*, among others. Albert Segars is the RBC Centura Distinguished Professor and chair of the information and technology management area at the Kenan-Flagler Business School, University of North Carolina, Chapel Hill. He received his PhD from the University of South Carolina in the area of IT Management. He has been published extensively in journals such as *MIS Quarterly*, *Information Systems Research*, *JMIS*, and *Decision Sciences*. This article appears in the peer-reviewed journal *Information and Management* and contains 77 references which include previous works by Segars and Grover.

Summary. The authors state that while literature exists that examine the questions of *what* SISP does, that very little exists on *how* SISP planning occurs. They question if it's reasonable to expect that planning processes for organizations improve and change over time, or as planning matures does it become less effective. The authors believe that most studies have focused on planning content with an interest in methods and measurement of alignment between the business and IS, but that little is provided on the organizational aspects of planning. They discuss Earl's five SISP approaches and different process

dimensions of SISP. The authors state that there are six important process dimensions of

SISP, and that these are more robust in describing SISP design. Furthermore, they believe

that these process dimensions of SISP extend beyond methodologically-based and

less-generalized descriptions of planning.

Hevner, A. R., Bernt, D. J., & Studnicki, J. (2000). Strategic information systems planning with

box structures. *System Sciences, 2000. Proceedings of the 33rd Annual Hawaii

International Conference on* (pp. 1–11). Retrieved from

http://csdl.computer.org/dl/proceedings/hicss/2000/0493/04/04934005.pdf

Abstract. Strategic Information Systems Planning (SISP) is the process of aligning an

organization's business strategy with effective computer-based information systems to

achieve critical business objectives. SISP is a top concern of major executives and

considerable resources (time and money) are spent in SISP activities. Many SISP

initiatives are not successful due to the difficulty of implementing the recommendations.

Existing SISP methods do not provide sufficiently rigorous representations to specify

detailed system recommendations.

Credibility. Alan R. Hevner is an Eminent Scholar in the Information Systems Decision

Sciences Department at the University of South Florida. He earned his bachelors,

masters, and PhD degrees from Purdue University. He has published over 150 papers,

and has coauthored chapters and books. Dr. Hevner serves on the editorial board of MIS

Quarterly. Donald Berndt is an associate professor at the Information Systems Decision

Sciences Department at the University of South Florida. He received his PhD from the

Stern School of Business at New York University. Dr. Berndt's research interests include

data mining, business intelligence, and bioterrorism surveillance. His papers have been

published in *Decision Support Systems*, and *Journal of Computer Information Systems*.

James Studnicki is the Director, Center for health Outcomes Research, Health Sciences

Center at the University of South Florida. He received his PhD from Johns Hopkins

University and has published numerous papers in journals such as *Decisions Support*

Systems, and *Health Care Management Review*. This paper is published as part of the 33rd

Annual Hawaii International Conference on System Sciences (HICSS). Now in its 46th

year, HICSS is one of the longest-standing continuously running scientific conferences.

The paper uses 25 journal references.

Summary. The authors state that in a typical SISP project, business teams are formed

with IS specialists and a planning methodology is chosen. They discuss that there are a

number of known and documented methodologies available that can be used or

customized. Organizations may even choose to hire an IS consulting group with a

proprietary methodology. It is the authors' position that while the benefits of effective

SISP are obvious, most industrial surveys show dissatisfaction with SISP projects. Major

issues the authors find with current SISP methodologies are identified, as well as a

proposed solution using box structure method. The use of box structure concepts is

demonstrated in an actual SISP implementation to illustrate box structure process and

benefits. Key stages of box structure planning are presented.

King, W. R. (1978). Strategic planning for management information systems. *MIS Quarterly*,

   2(1), 27–37.

Abstract. Planning for the information systems in an organization generally has not been

closely related to the overall strategic planning processes through which the organization

prepares for its future. An MIS strategic planning process is conceptualized and illustrated as one which links the organization's "strategy set" to an MIS "strategy set."

Credibility. William R. King holds the title University Professor in the Katz Graduate School of Business of the University of Pittsburgh. He is the author of over 300 papers published in respected journals of information systems and strategic planning. He has also authored, co-authored, or coedited 15 books. He received his PhD from Case Institute of Technology and holds an MS in Operations Research. Dr. King created the concept and a workable methodology for strategic planning for IS in the early 1970s which eventually became known as IBMs Business Systems Planning methodology. His current research interests include knowledge management, IT outsourcing, and strategic IS planning and IS evaluation. This paper is published in the peer-reviewed journal *MIS Quarterly*, which seeks the enhancement of communication of knowledge of IT-based services and economics of IT with managerial, organizational, and societal implications. References include previous works by Dr. King.

Summary. The author provides an overview of the MIS strategic planning process by way of transforming an organizational strategy set of mission, objectives, and other strategic attributes into an MIS strategy set of system objectives, constraints, and design strategies. The author's position is that the direct relationship between the two information sets is neither well recognized nor operationalized. He states that while the intrinsic linkage of MIS to the organizations purpose, objective, and strategy may appear to be straightforward, the link between the organizational strategy and MIS design methodology has not been operationalized. The author describes an operationally feasible approach of using an organizational strategy to plan for MIS, regardless of whether or not

written statements of strategic elements exist. The author elaborates on the MIS strategy

set including elements of system objectives, constraints, and design strategies before

engaging an overall MIS strategic planning process. The author provides high-level key

elements in diagrammatic form regarding the strategic planning process.

Lederer, A. L., & Sethi, V. (1988). The implementation of strategic information systems

planning methodologies. *MIS Quarterly*, *12*(3), 445–461.

Abstract. Strategic information systems planning (SISP) is the process of deciding the

objectives for organizational computing and identifying potential computer applications

which the organization should implement. This article gives a thorough definition of

SISP and then illustrates it with three methodologies.

Credibility. Albert L. Lederer is a professor in the Gatton College of Business and

Economics at the University of Kentucky and holds an MS in Computer and Information

Science and a PhD in Industrial and Systems Engineering from the Ohio State University.

Dr. Lederer has written numerous articles and his research has been featured in journals

such as *MIS Quarterly*, *Information Systems Research*, *Decisions Science*, and *Decisions

Support Systems*. Dr. Lederer is also the consulting editor for the journal *Computers in

Personnel*. Vijay Sethi is an assistant professor at the School of Management at the State

University of New York at Buffalo. He is currently completing his doctoral dissertation at

the Joseph M. Katz Graduate School of Business. Mr. Sethi has written articles which

have appeared in journals such as *Interfaces*, *Information Management Review*, and

DATA BASE. This article has 49 references, 5 of which are references to previous works

by Lederer. References consist of journal articles, books, and booklets. This article is

published in the peer-reviewed journal *MIS Quarterly*, which seeks the enhancement and communication of knowledge concerning the development of IT-based services.

Summary. The authors write that strategic information systems planning has the ability to provide large contributions to the organization, and as such is a critical issue facing top management. They continue by stating that the effective use of SISP can help organization realize their business goals, which is one of the objectives of both information technology and business executives. Additionally, the authors believe that while SISP can significantly impact business strategy, that the failure to properly implement SISP can result in lost opportunity and failure to meet business objectives as well as wasting information technology resources. This paper shows the results of a survey of 80 organizations and their attempts to implement SISP using one of three methodologies. The paper also examines the problems faced when information systems managers attempt to implement SISP. The authors write that of the two problems rated most severe in attempting to implement SISP, one is the difficulty in securing top management commitment. They go on to state that while SISP may produce a workable plan, management commitment and control of the plan in some organizations is lacking. Frequently applied methodologies are discussed including Business Systems Planning (BSP), Strategic Systems Planning (SSP), and Information Engineering (IE).

Mentzas, G. (1997). Implementing an IS strategy: A team approach. *Long Range Planning*, *30*(1), 84–95. doi:10.1016/S0024-6301(96)00099-4

Abstract. Although information systems strategy planning (ISSP) is vital to continuing organizational success and despite the existence of a multitude of frameworks and methods, organizations are still failing to deal effectively with IS planning problems. In

order to help alleviate this problem, this article proposes an ISSP process. The article

identifies separate process elements: phases, stages and modules of elementary activities.

Credibility. Dr. Gregory (Gregoris) Mentzas is an Associate Professor in the School of

Electrical and Computer Engineering at the National University of Athens, Greece. Dr.

Mentazas holds a PhD in Electrical & Computer Engineering from National Technical

University of Athens. His research interests include information technology systems,

intelligent systems, and organization. His works have been published in journals such as

the *International Journal of Software Engineering and Knowledge Engineering*,

Electronic Government, and *International Journal of Networking and Virtual*

Organizations. This article is published in the peer-reviewed journal *Long Range*

Planning (LRP) - International Journal of Strategic Management. *LRP* is a leading

international journal for the field of strategic management. This article utilizes 42

references including references to prior works from King, Earl, Lederer, and Sethi.

Summary. The author states that a process is a set of ordered steps intended to reach a

goal. Components of a process are considered a process element. The author offers a

process model for strategic information planning. He suggests a *divide and conquer*

approach to the tedious and dangerous task of IS strategy formulation. He distinguishes

between three process elements: phases, stages, and modules. The author also states that

the phases identified are generic strategy concepts, and that they can be applied to any

corporate strategy development process.

Min, S. K., Suh, E. H., & Kim, S. Y. (1999). An integrated approach toward strategic

information systems planning. *The Journal of Strategic Information Systems*, *8*(4), 373–

394. doi:10.1016/S0963-8687(00)00029-9

Abstract. An investigation of SISP, showed that only 24% of planned applications were actually developed (Int. J. Comput. Appl. Technol., 8 (1995), 61; MIS Quarterly, September (1988), 445). This figure clearly shows that enhancements are required for current SISP processes. This paper focuses on SISP methodologies, which provide support for overall SISP processes. The paper initially identifies four general SISP methodology problems and proposes an integrated SISP methodology which solves the problems while retaining the advantageous qualities of current SISP methodologies.

Credibility. S.K. Min is from the Knowledge Information Center, Electronics and Telecommunications Research Institute, South Korea. E. H. Suh is from the Department of Industrial Engineering, Pohang University of Science and Technology, South Korea. S.Y. Kim is from the Department of Industrial Engineering, Pohang University of Science and Technology, South Korea. Pohang University of Science and Technology is Korea's first research-oriented university founded in 1986. This paper is published in the refereed *Journal of Strategic Information Systems* offered through Elsevier. The *Journal of Strategic Information Systems* focuses on the management, business, and organizational issues associated with the introduction and utilization of information systems. The paper utilizes 16 references from journals such as *Harvard Business Review* and *Journal of Computer Information Systems*. References include articles from Lederer and Sethi.

Summary. According to the authors, in order for a system to be considered strategic, it must significantly change the way a business performs and attain a strategic goal. They state that the difference between strategic information systems and other information systems such as transaction processing systems or management information system is the

focus on strategy. Since a competitive advantage may be obtained with proper strategic planning for information systems, the authors believe that it is vital to consider all factors surrounding the development of a strategic information systems plan. The authors write that the planning phase is imperative. They present three questions that a corporation must answer in order to develop a strategic plan. Additionally, they cite a study that finds that corporations adopting a specific SISP methodology are more satisfied with the planning process than those that do not use a specific methodology. The authors provide an overview of SISP methodologies, and an analysis of contemporary SISP methodologies complete with elements, stages, and issues.

Segars, A. H., & Grover, V. (1999). Profiles of strategic information systems planning. *Information Systems Research*, *10*(3), 199–232.

Abstract. Improving strategic planning within the realm of information technology management is consistently identified by top corporate executives as a critical competitive issue. While relevant literature in the area is replete with descriptions of planning tools and methodologies, investigations that examine this activity from the perspective of process-based characteristics, or "profiles," are still in the formative stages. Through multivariate analysis of data gathered from 253 organizations, the findings of this study suggest that five distinct profiles of strategic planning can be identified.

Credibility. Varun Grover is the William S. Lee Distinguished Professor of IS at the college of Business and Behavioral Sciences, Clemson University. Dr. Grover has over 150 publications in refereed journals and has written three books. Recent articles have ranked him among the top five researchers based on publications in top IS journals. He has published work in *ISR*, *MISQ*, *JMIS*, *CACM*, *Decision Sciences*, *IEEE Transaction*,

among others. Albert Segars is the RBC Centura Distinguished Professor and chair of the

information and technology management area at the Kenan-Flagler Business School,

University of North Carolina, Chapel Hill. He received his PhD from the University of

South Carolina in the area of IT Management. He has been published extensively in

journals such as *MIS Quarterly*, *Information Systems Research*, *JMIS*, and *Decision

Sciences*. This paper is published in the peer-reviewed journal *Information Systems

Research*. *Information Systems Research* is a journal of INFORMS, The Institute for

Operations Research and the Management Sciences. The paper utilizes 115 references,

including references of prior works from Segars, Grover, King, Lederer, and Mendelow.

Summary. The authors draw upon both theoretical and operational perspectives of

strategic management and information system literature to identify and describe profiles

of SISP across multiple dimensions of planning processes. The authors provide five

profiles of strategic planning based on dimensions of comprehensiveness, formalization,

focus, flow, participation, and consistency (which the authors identify as the six

dimensions of the strategic information systems planning process). The authors state that

each profile exhibits strength of planning effectiveness. The authors have created a study

that utilizes both survey and field techniques for collection and analysis of data. The

authors discuss measuring strategic IS planning success, as well as provide reasons for

SISP planning. They provide detailed information with regard to planning development,

and the effectiveness characteristics of the different planning profiles. They also provide

a high level matrix of elements derived from the different planning schools of thought.

Surmsuk, P., & Thanawastien, S. (2007). The integrated strategic information system planning

methodology (p. 467–467). Presented at the 11th IEEE International Enterprise

Distributed Object Computing Conference, IEEE. doi:10.1109/EDOC.2007.48

Abstract. This paper describes a new strategic information system planning

methodology, called ISISP (Integrated Strategic Information System Planning), which

combines both top-down and bottom-up methodologies for strategic information system

planning.

Credibility. Pakorn Surmsuk is from Thammasart University Bangkok, Thailand.

Thammasart University is the second oldest university in Thailand and is considered one

of the best known and respected institutions of higher learning in the country. Suchai

Thanawastien is from Sripatum University Bangkok, Thailand. Sripatum University is

considered one of the finest private universities in Thailand and is accredited by the

International Standards Organization (ISO9001:2000) for both undergraduate and

graduate programs. This paper was presented as part of the 11th IEEE International

Enterprise Distributed Object Computing Conference (IEEE EDOC). This conference is a

key annual event in enterprise computing, and addresses the full range of technologies

and methods that contribute to enterprise distributed application systems. This paper has

20 references, which include references to prior work from Lederer, Sethi, Grover, and

King.

Summary. The authors state that traditional methodology for information systems

planning is based on Business System Planning (BSP). They state that BSP is a

bottom-up approach in which business processes are grouped into a CRUD (create, read,

update, or delete) matrix that after analysis will yield an application portfolio that covers

the business processes. They write that strategic information system planning based on strengths, weaknesses, opportunities, and threats (SWOT) analysis and working from the vision, mission, and goals to derive strategic themes is basically a top-down strategic information systems planning approach. It is their observation that these two approaches would result in different sets of applications, and that the application of each approach alone would result in unique problems. They offer a new methodology, ISISP, which takes the strengths of both approaches while eliminating the deficiencies of each. Key stages of the different methodologies are discussed.

Foundational Approaches to Strategic Management Planning (SMP)

References that describe foundational approaches to strategic management planning include those that provide: (a) background information and definitions of strategic management (Bracker, 1980), and (b) historical and foundational information with regard to approaches to strategic management (Bryson, 1988).

Armstrong, J. S. (1982). The value of formal planning for strategic decisions: Review of

empirical research. *Strategic Management Journal*, *3*(3), 197–211.

Abstract. A review of research from organizational behavior supported the guidelines by corporate planners: that is, use an explicit approach for setting objectives, generating strategies, evaluating strategies, monitoring results, and obtaining commitment. To determine whether these findings could be applied to strategic decision making in organizations, a review was made of all published field research on the evaluation of formal planning.

Credibility. J. Scott Armstrong is a Professor of Marketing at the Wharton University of Pennsylvania. He is known internationally for his pioneering work on forecasting

methods. Dr. Armstrong received his PhD in Management from Massachusetts Institute of Technology, and his MS in Industrial Administration from Carnegie Mellon University. He is the author of the book Long-Range Forecasting, which is said to be the most frequently cited book on forecasting methods. He is also the co-founder of the *Journal of Forecasting*. This article appears in the refereed *Strategic Management Journal* (*SMJ*). The aim of the *Strategic Management Journal* is to publish original content concerning all aspects of strategic management in an effort to improve and further development theory and practice of strategic management. This article contains 55 references from papers published in journals such at the *Academy of Management Journal*, and *Long Range Planning*.

Summary. The author writes that 48% of companies have reported that they find strategic decision making valuable. Additionally, researchers have obtained conflicting findings that some have found planning useful, while others claim the opposite. The author seeks to answer questions regarding the usefulness of strategic planning and finds that in 12 studies of comparisons of informal vs. formal planning, formal planning was superior in 10 of the 12 comparisons while informal planning was superior in only two comparisons. The author provides background on the need for strategic planning, examples of the formal planning process, and general strategies taken in strategic planning. The author also provides background on situations that favor the use of formal strategic planning. The author finds that formal planning tends to be more useful in environments where large changes are involved and suggests further research should assess the situations in which strategic planning is involved.

Bracker, J. (1980). The historical development of the strategic management concept. *Academy of*

    Management Review, *5*(2), 219–224.

    Abstract. In this article, I examine how the concept of strategy has evolved into the field

of strategic management. A definition of strategic management is developed from

commonalities of past definitions and a selected overview of approaches to

operationalizing strategic management is presented.

    Credibility. Jeffrey Bracker is an Instructor of Management at Georgia State University,

Atlanta. He has written and published numerous articles, and is the author, or co-author,

of a number of books. This article appears in the peer-reviewed journal *Academy of*

Management Review (AMR). The aim of the *Academy of Management Review* is to

publish new theoretical works that advance understanding of management and

organizational concepts. This article includes 31 references from journals such as the

Quarterly Journal of Economics and books from authors including Peter Drucker.

    Summary. The author writes that the concept of strategy has been largely a semantic

issue, and that while numerous authors have focused their attention on the concept of

strategy, few have comprehensively investigated its historical evolution. He states that his

objective is to develop a definition of strategic management from common elements of

past definitions in order to provide a useful departure point for further study of strategic

management. The author discusses the first known applications of strategy to business

when Socrates consoles Nichomachides, a Greek militarist who has lost an election, and

then proceeds through to the modern era. He discusses the rapid growth of strategy that

occurs after World War II as it relates to business, and discusses key figures and modern

writers on the topic of business strategy. Additionally, the author provides a discussion

on disagreements between authors on the breadth, components, and the inclusiveness of

the strategy-formulation process. A chronology of definitions of strategy dating back to

1947 is provided as well as a history of the scope of strategic management starting from

3000 B.C.

Bryson, J. M. (1988). A strategic planning process for public and non-profit organizations. *Long

Range Planning*, *21*(1), 73–81. doi:10.1016/0024-6301(88)90061-1

Abstract. A pragmatic approach to strategic planning is presented for use by public and

non-profit organizations. Benefits of the process are outlined and two examples of its

application are presented—one involving a city government and the other a public health

nursing service. Requirements for strategic planning success are discussed.

Credibility. John M. Bryson is McKnight Presidential Professor of Planning and Public

Affairs in the Hubert H. Humphrey School of Public Affairs at the University of

Minnesota. Dr. Bryson holds a PhD in urban and regional planning and an MA in public

policy and administration all from the University of Wisconsin. He serves on the editorial

boards of *Public Management Review*, *International Public Management Journal*, and

Journal of Public Affairs Education. He is the author of best-selling and award-winning

Strategic Planning for Public and Nonprofit Organizations, 4th Edition (2011). This

article is published in the peer-reviewed journal *Long Range Planning (LRP) -

International Journal of Strategic Management*. *LRP* is a leading international journal for

the field of strategic management. This paper uses 14 references in the form of papers

published in various journals and from books on the topic of organizational strategy.

Summary. The author writes that strategic thinking and acting, and not strategic planning

per se, are most important. One must know the rules of the game, strengths and

weaknesses of the team, and opportunities and threats posed by the other team. The

author states that a strategic planner must also be well-equipped and conditioned. It is his

position that strategic thought and action are increasingly important to organizations. The

author posits that the environments of organizations have changed dramatically in the

past decade due to demographic shifts, oil crisis, and other elements. The author provides

reasoning behind the need for strategic planning, and background information on

foundational steps to strategic planning. The author provides diagrams of the strategic

planning process and answers the question of the benefits of strategic planning.

SISP and SMP Alignment Concepts and Success Indicators

References are included in this theme that identify and discuss (a) the need for strategic

information systems planning and strategic management planning alignment, which is also

referred to in literature as business planning (BP) and information systems planning (ISP)

alignment (BP-ISP) (Gottschalk, 1999; King & Teo, 1997), and (b) references that discuss key

indicators of SISP implementation success (Bechor et al., 2010).

Bechor, T., Neumann, S., Zviran, M., & Glezer, C. (2010). A contingency model for estimating

success of strategic information systems planning. *Information & Management*, *47*(1),

17–29. doi:10.1016/j.im.2009.09.004

Abstract. Strategic information system planning (SISP) has been identified as a critical

management issue. It is considered by many as the best mechanism for assuring that IT

activities are congruent with those of the rest of the organization and its evolving needs.

Our research investigated the success of SISP as a function of its key success factors

(KSFs) in different contexts and SISP approaches, in a framework that integrated all of

the SISP components and provided a new perspective on how the constructs are

instrumental to produce SISP success.

Credibility. Tamir Bechor is a visiting researcher at the School of Information Systems

and Technology, Claremont Graduate University, California. He holds a PhD in

information systems from The Leon Recanati Graduate School of Business

Administration, Tel Aviv University, Israel. Seev Neumann is the Emeritus Mexico

Professor of MIS at the Recanati Graduate School of Business Administration, Tel Aviv

University. He received his MBA and PhD from the University of California. He has

published over 40 referred articles and nine books. Moshe Zviran is Vice-Dean, Chair of

the Management of Technology and Information Systems program and professor of

Information Systems at the Faculty of Management, The Leon Recanati Graduate School

of Business Administration, Tel Aviv University. He holds a PhD in information systems

from Tel Aviv University, Israel. Chanan Glezer is a senior lecturer at the Department of

Industrial Engineering and Management, Ariel University Center of Samaria, Israel. He

holds a PhD in MIS from Texas Tech University and an MBA from the Leon Recanati

Graduate School of Business Administration, Tel Aviv University, Israel. This article

appears in *Information & Management*, which is a peer-reviewed journal that aims to

collect and disseminate information regarding development in the field of applied

information systems. This paper utilizes 18 references, including references to prior

works from authors such as Newkirk, Lederer, Grover, Segars, and King.

Summary. The authors write that a combination of SISP context and approach to

planning was found to have an influence on the relationship between SISP key success

factors (KSFs) and its success. The authors state that the best predictor for the long-term

success of the SISP process is based on the three-way interactions between SISP's KSFs, its approach and its context. The authors provide a diagram of their research model and hypothesis linking business strategy (strategic management) elements to the SISP approach and SISP context. They then interlink all elements with known key success factors to long-term SISP success.

Bergeron, F., Raymond, L., & Rivard, S. (2004). Ideal patterns of strategic alignment and business performance. *Information & Management*, *41*(8), 1003–1020. doi:10.1016/j.im.2003.10.004

Abstract. Strategic alignment or ''fit'' is a notion that is deemed crucial in understanding how organizations can translate their deployment of information technology (IT) into actual increases in performance. While previous theoretical and methodological works have provided foundations for identifying the dimensions and performance impacts of the strategic alignment between IT, strategy, and structure, few attempts have been made to test the proposed theory empirically and operationalize fit systemically.

Credibility. Francois Bergeron is an associate professor and director of the Information Systems Department at Laval University, Quebec City, Canada. Dr. Bergeron holds a PhD from the Anderson Graduate School of Management, University of California, Los Angles, an MS in economics, and an MBA. from Laval University. Dr. Bergeron's research interests focus on information systems for competitive advantages, and he has been published in journals such as *MIS Quarterly*, *Journal of Management Information Systems*, and *Information & Management*. Dr. Louis Raymond is a professor of information systems at the Department of Administration and Economics, University of Quebec at Trois-Rivières, Quebec, Canada. He has published articles in journals such as

MIS Quarterly, *Information & Management*, *Journal of Management Information Systems*, and *Entrepreneurship Theory and Practice*. His research interests include the alignment of IT and business performance. Suzanne Rivard is professor of information technology and holder of the Chair of Strategic Management of Information Technology at HEC Montreal. She received her PhD from the Ivey School of Business at the University of Western Ontario. Her research interests include software project risk management, and strategic alignment of information technology. Her works have been published in journals such as *Data Base*, *Information and Management*, *MIS Quarterly*, and *Journal of Management Information Systems*. This article appears in *Information & Management*, which is a peer-reviewed journal that aims to collect and disseminate information regarding development in the field of applied information systems. This article utilizes 79 references including previous works by Bergeron and Raymond.

Summary. The authors write that given the complex question on how an organization can actually translate IT investments into increased business performance that researchers have surmised the answer would be predicated upon a contingency theory perspective. They explain that information technology would influence business performance eventually coming into alignment with the strategic structure of the organization. From a theoretical background, the authors write that the notion of strategic alignment originates from a body of work in organizational literature that equates two or more factors (e.g., strategy, structure, technology) to organizational performance. They state that the fundamental view of strategic management researchers and organization theorists is that fit involves the search of aligning an organization with the different aspects of its environment and then arranging resources to support that alignment. The authors us a

gestalt perspective of fit and theory-based ideal coalignment patterns to identify ideal

patterns of strategic alignment.

Gottschalk, P. (1999). Implementation predictors of strategic information systems plans.

Information & Management, *36*(2), 77–91. doi:10.1016/S0378-7206(99)00008-7

Abstract. This research complements the existing knowledge on implementation by

addressing previous research from three sources: (i) empirical evaluation of the plan

implementation link in the theory of strategic information systems planning; (ii)

integration of research literature on organizational practices influencing the

implementation; and (iii) application of validated instruments to measure potential

predictors of the implementation.

Credibility. Petter Gottschalk is Professor of Management at BI Norwegian Business

School. BI is a private, independent, specialized university located in Norway. Dr.

Gottschalk received a PhD in Business Administration from Brunel University and an

MS from Dartmouth College. His papers have been published in journals such as

Industrial Management & Data Systems, *Journal of Knowledge Management*, and

International Project Management Journal. His research interests include IT project

management and strategic information technology planning. This article appears in

Information & Management, which is a peer-reviewed journal that aims to collect and

disseminate information regarding development in the field of applied information

systems. The article utilizes 66 references from journal articles and books. References

include prior works from Earl, Lederer, Mendelow, Segars, Sethi, Grover, and

Gottschalk.

Summary. The author states the need for improved implementation of strategic IS plans, and that this need has been emphasized in empirical and prescriptive studies. He states that these studies show implementation is important for four reasons: (a) failure to enact a plan can cause lost opportunities, (b) extent to which IS planning meets its objectives is largely determined by implementation, (c) lack of implementation leaves firms dissatisfied with strategic IS planning, and (d) lack of implementation creates problems establishing future strategic IS planning. The author states the desire to further research regarding signification implementation predictors and factors leading to SISP implementation. The author conducts a survey in Norway and uses exploratory factor analysis to ten potential predictors with ties to strategic management elements and organizational practices.

Kearns, G. S., & Lederer, A. L. (2004). The impact of industry contextual factors on IT focus and the use of IT for competitive advantage. *Information & Management*, *41*(7), 899–919. doi:10.1016/j.im.2003.08.018

Abstract. Only limited empirical evidence has confirmed the effectiveness of strategic information systems planning (SISP) and there is no evidence that investment in mission-critical systems leads to improved performance under conditions of environmental uncertainty and information intensity. This study tests the extent to which such contextual factors impact business dependence on IT and two SISP practices: IT participation in business planning and the alignment between the IT and the business plans.

Credibility. Grover S. Kearns is an assistant professor of information systems in the College of Business Administration at the University of South Florida, St. Petersburg. Dr. Kerns holds a PhD in decision sciences and information systems, and an MBA from the

University of Texas at Austin. His fields of interest are IT strategic planning, global

commerce, and knowledge management. Albert L. Lederer is a professor in the Gatton

College of Business and Economics at the University of Kentucky and holds an MS in

Computer and Information Science and a PhD in Industrial and Systems Engineering

from the Ohio State University. Dr. Lederer has written numerous articles and his

research has been featured in journals such as *MIS Quarterly*, *Information Systems*

Research, *Decision Science*, and *Decisions Support Systems*. Dr. Lederer is also the

consulting editor for the journal *Computers in Personnel*. This article appears in

Information & Management, which is a peer-reviewed journal that aims to collect and

disseminate information regarding development in the field of applied information

systems. This article utilizes 90 references including previous works from Lederer,

Mendelow, King, Segars, and Grover.

Summary. According to the authors, businesses have become so dependent on IT to

support strategic business objectives that a failure of these systems would critically

impact the organizations ability to execute its strategic vision. When an organization uses

information technology in its core strategic, mission-critical process, the organization

becomes dependent on technology for survival and must manage technology assets as

investments. The authors write that the more systems that are mission-critical to strategic

planning, the greater the dependence. They state that the amount of IT participation in

business planning relies on the extent that the CIO participated in the organizations

strategic planning process. The authors state that for organizations that value SISP as a

strategic resource, alignment between SISP and SMP is critical. The authors provide

background on rational adaptive planning, alignment, business dependence, and

environmental uncertainty.

King, W. R., & Teo, T. S. (1997). Integration between business planning and information

systems planning: Validating a stage hypothesis. *Decision Sciences*, *28*(2), 279–308.

doi:10.1111/j.1540-5915.1997.tb01312.x

Abstract. This paper proposes and empirically validates a stages-of-growth model for the

evolution of Information Systems Planning (ISP). A questionnaire survey of senior IS

executives is used to gather information pertaining to the stages-of-growth model, which

includes measurement of the nature and level of integration between business planning

(BP) and ISP. The results support the stages-of-growth model of BP-ISP integration and

the benchmark variables *are* generally found to be successful in predicting the stage of

integration.

Credibility. William R. King holds the title University Professor in the Katz Graduate

School of Business of the University of Pittsburgh. He is the author of over 300 papers

published in respected journals of information systems and strategic planning. He has

also authored, co-authored, or coedited 15 books. He received his PhD from Case

Institute of Technology and holds an MS in Operations Research. Dr. King created the

concept and a workable methodology for strategic planning for IS in the early 1970s

which eventually became known as IBMs Business Systems Planning methodology. His

current research interests include knowledge management, IT outsourcing, and strategic

IS planning and IS evaluation. Thompson S.H. Teo is Associate Professor in the School

of Computing at the National University of Singapore. He received his PhD in

management information systems from the University of Pittsburg. His research interests

include information systems management and planning, eCommerce, eBusiness, eGovernment, and knowledge management. His works have been published in journals such as *Information & Management*, and *Journal of Management Information Systems*. This article is published in the peer-reviewed *Decision Sciences Journal*, a journal that seeks to advance the science and practice of decision making.

Summary. The authors propose a four-stage model for the evolution of information systems planning. They state that the most important aspect of this stage model is the high-level of integration between business planning and information systems planning (ISP). The first stage shows ISP is primarily non-strategic. Starting in the late 1970s the authors find that strategic business planning begins to influence ISP, and that strategic planning methodologies in information systems begin to emerge. They write that in the late 1980s to present, ISP involves strategic considerations and a close alignment to strategic management and state that SISP is an integral part of business planning. The authors conceptualize ISP in terms of an extent of business planning and information system planning integration (e.g., no planning, stand-alone planning, reactive planning, linked planning, integrated planning).

Lederer, A. L., & Sethi, V. (1992). Root causes of strategic information systems planning implementation problems. *Journal of Management Information Systems*, *9*(1), 25–45.

Abstract. Previous research has shown that many problems can potentially impede information systems planners as they carry out the process. The current study uses a survey of eighty information systems planners to investigate a causal relationship among the problems. It reveals a causal model describing (1) the influence of organization problems on hardware, cost, and database problems, and (2) the influence of

organization, hardware, cost, and database problems on implementation problems. Cost

problems had the largest direct effect on implementation problems.

Credibility. Albert L. Lederer is Professor of MIS and chair of the Department of

Decision and Information Sciences, School of Business Administration, Oakland

University, in Rochester, Michigan. He holds an MS in Computer and Information

Science and a PhD in Industrial and Systems Engineering from the Ohio State University.

Dr. Lederer's research interests include information systems planning and information

systems for managing human resources. His articles have appeared in journals such as

MIS Quarterly, *Decision Sciences*, and *Information Systems Research*. Vijay Sethi is

Assistant Professor in the Division of Management, College of Business Administration,

University of Oklahoma. He earned his PhD from the Joseph M. Katz Graduate School of

Business at the University of Pittsburgh. Dr. Sethi's articles have appeared in journals

such as *MIS Quarterly*, *Decision Sciences*, and *Journal of Business Strategy*. This article

appears in the refereed *Journal of Management Information Systems (JMIS)* which is a

widely recognized forum for the presentation of research that advances the practice and

understanding of organizational information systems. This article utilizes 74 references,

including references to prior works from King, Lederer, Mendelow, and Sethi.

Summary. In order to execute an effective SISP, many organizations choose to follow an

established SISP methodology that requires input from all levels of the organization. The

authors state that executing an effective SISP is a top challenge to many information

technology executives. They state that failure to properly execute a SISP is a serious

issue. The authors' research is an attempt to understand the relationship between

problems that prevent the successful implementation of SISP. They suggest that some

problems can potentially lead to greater problems, and thus an understanding of root

causes that prevent key success is needed. The authors write that SISP is as a complex

and intricate process, and that numerous issues can prevent success. They list 29 problem

elements with correlation and factor analysis in order to expose key problems and their

relationships.

Pita, Z., Cheong, F., & Corbitt, B. (2008). Approaches and methodologies for strategic

information systems planning: An empirical study in Australia. *19th Australasian*

Conference on Information Systems (pp. 751–761). Retrieved from

http://www.bsec.canterbury.ac.nz/acis2008/Papers/acis-0004-2008.pdf

Abstract. Based on data obtained from a large scale survey of Australian companies, this

paper examines the use of Strategic Information Systems Planning (SISP) approaches and

methodologies. Generally, studies on SISP approaches are conceptual and they do not

provide much for practitioners. In this study, analysis is done on the variable level which

brings to the surface the normally hidden content of the relationships. New relationships

between the SISP approaches, SISP success and several organizations' attributes are

discovered.

Credibility. Zijad Pita is a lecturer at the School of Business Information Technology at

RMIT University Melbourne, Australia. Dr. Pita received his Phd and Master's degree

from RMIT University and has presented papers at national and international conferences

in Europe and Australia. His research interests include strategic information systems

planning and decision support systems. France Cheong is a senior lecturer in the School

of Business IT at RMIT University and holds a PhD in Computer Systems engineering

from La Trobe University. His current research interests include the modeling and

simulation of complex systems. His research has appeared in *IEEE Transactions on*

Systems, and *Journal of Applied Soft Computing*. Brian Corbitt is currently Professor of

MIS and Head of the School of Business Information Technology at RMIT University,

Australia. He has published numerous books on eBusiness, eCommerce, and

eGovernment and specializes in IT policy development, and knowledge management. He

holds a PhD from Monash University and has published over 150 refereed scholarly

papers. This paper is published as part of the 19th Australasian Conference on

Information Systems which is the premier conference in Australasia for information

system academics. This conference covers technical, organizational, business, and social

issues in the application of information technology. This paper utilizes 36 references,

including previous work from authors such as Segars, Grover, Lederer, and King.

Summary. The authors state that the focus of their study is the empirical analysis of

diffusion and adoption of the five SISP approaches defined by Earl (1993): Business-Led,

Method-Driven, Administrative, Technological, and Organizational. They write that this

analysis will help SISP practitioners by finding relationships between methodologies and

success. The authors provide an extensive list of strategic planning methodologies (e.g.,

Balanced Scorecard Analysis, Business Portfolio Analysis), and specific SISP

methodologies (e.g., Business Systems Planning, Information Systems Planning) showing

the correlation between SISP and SMP concepts and relationships between SISP

methodologies and SISP success.

Segars, A. H., Grover, V., & Teng, J. T. . (1998). Strategic information systems planning:

Planning system dimensions, internal coalignment, and implications for planning

effectiveness. *Decision Sciences*, *29*(2), 303–341. doi:10.1111/j.1540-

5915.1998.tb01579.x

Abstract. Improving strategic information systems planning (SISP) remains a critical

concern of both practitioners and academics. To date, a rather large number of studies

have examined or proposed analytical techniques, frameworks, and tools for developing

strategic plans. As a direct consequence of this emphasis, methodologies have often

become the basis for characterizing the entire process of SISP within the information

systems literature.

Credibility. Albert Segars is the RBC Centura Distinguished Professor and chair of the

Information and Technology Management area at the Kenan-Flagler Business School,

University of North Carolina, Chapel Hill. He received his PhD from the University of

South Carolina in the area of IT Management. Dr. Segars has been published extensively

in journals including *MIS Quarterly*, *Information Systems Research*, *JMIS*, and *Decision

Sciences*. His areas of interest include strategic planning, and organizational

transformation through information technologies. Varun Grover is the William S. Lee

Distinguished Professor of IS at the college of Business and Behavioral Sciences,

Clemson University. He holds a PhD in MIS from the University of Pittsburgh. Dr.

Grover has over 150 publications in refereed journals and has written three books. Recent

articles have ranked him among the top five researchers based on publications in top IS

journals. Dr. Grover has published work in *ISR*, *MISQ*, *JMIS*, *CACM*, *Decision Sciences*,

IEEE Transaction, among others. James T.C. Teng is an associate professor at the

College of Business Administration, University of South Carolina. He holds a PhD in

MIS from the University of Minnesota. His research interests include information and

knowledge management, and management of process and organizational change. Dr.

Teng's works have been published in *Information Systems Research*, *MIS Quarterly*,

Journal of MIS, *Decision Sciences*, and *Information & Management*. This article is

published in the peer-reviewed *Decision Sciences Journal*, a journal that seeks to advance

the science and practice of decision-making. This article utilizes 83 references, including

references to prior works from King, Lederer, Sethi, Mendelow, and Earl.

Summary. There is a tendency within SISP research to conceptualize SISP by choice of

a known methodology, and though this tendency can provide insight, it ignores many

aspects of the complete strategic planning process. The authors state that recent

theoretical work suggests that SISP methodologies are unnecessarily narrow. They

explain that an organization's process for SISP can be characterized as critical success

factors. It is believed that many important dimensions of strategic planning are ignored,

and that these broader dimensions are a function of managerial beliefs, values, and

experiences. Additionally, these dimensions offer insight into how planning occurs across

organizational contexts. The primary purpose behind many studies in the area of strategic

management is the examination of planning systems dimensions and internal

coalignment. The authors identify six important process dimensions of SISP:

comprehensiveness, formalization, focus, flow, participation, and consistency. A

measurement model of planning effectiveness is determined.

Teo, T. S. H., & King, W. R. (1996). Assessing the impact of integrating business planning and

IS planning. *Information & Management*, *30*(6), 309–321. doi:10.1016/S0378-

7206(96)01076-2

Abstract. One of the key elements of strategic planning for information systems (IS) is the integration of IS planning (ISP) and business planning (BP). Although this issue has received significant attention in recent years, empirical research focusing specifically on it is still relatively sparse. Here, BP-ISP integration is considered in four ways (administrative, sequential, reciprocal, and full integration), reflecting various degrees of BP-ISP integration.

Credibility. Thompson S.H. Teo is Associate Professor in the School of Computing at the National University of Singapore. He received his PhD in management information systems from the University of Pittsburg. His research interests include information systems management and planning, eCommerce, eBusiness, eGovernment, and knowledge management. His works have been published in journals such as *Information & Management*, and *Journal of Management Information Systems*. William R. King holds the title University Professor in the Katz Graduate School of Business of the University of Pittsburgh. He is the author of over 300 papers published in respected journals of information systems and strategic planning. He has also authored, co-authored, or coedited 15 books. He received his PhD from Case Institute of Technology and holds an MS in Operations Research. Dr. King created the concept and a workable methodology for strategic planning for IS in the early 1970s which eventually became known as IBMs Business Systems Planning methodology. His current research interests include knowledge management, IT outsourcing, and strategic IS planning and IS evaluation. This article appears in *Information & Management*, which is a peer-reviewed journal that aims to collect and disseminate information regarding development in the field of applied information systems. This article utilizes 39

references and includes references to prior works from Lederer, Sethi, Mendelow, and King.

Summary. It is the authors' position that business planning (BP) and information system planning (ISP) integration is primarily conceptual in nature, regardless of the fact that the concept of integration has received significant attention. They write that empirical research that focuses on business planning and information systems planning is sparse, with most research focusing on information systems planning. They cite research suggesting that the MIS strategy set should be directly derived from the organizational strategy set. This alignment is not one-way as strategic information systems planning can be used to influence business strategy. Additionally, though many researchers have studied the importance of alignment, few researchers attempt to link performance measures. The authors provide planning taxonomies, analyze extent and impact of integration, as well as discuss planning problems. They analyze the relationships between BP-ISP their study, with results empirically validating the importance of BP-ISP integration.

Teo, T. S., & King, W. R. (1997). Integration between business planning and information systems planning: An evolutionary-contingency perspective. *Journal of Management Information Systems*, *14*(1), 185–214.

Abstract. One of the key elements of strategic planning for information systems (IS) is the integration of information systems planning (ISP) with business planning (BP). This integration enables IS to support business strategies more effectively. Although this issue has received significant attention in recent years, empirical research focusing specifically on BP-ISP integration is still relatively sparse. This research extends existing results by

examining the evolution of BP-ISP integration and the contingency variables that may influence BP-ISP integration.

Credibility. Thompson S.H. Teo is Associate Professor in the School of Computing at the National University of Singapore. He received his PhD in management information systems from the University of Pittsburg. His research interests include information systems management and planning, eCommerce, eBusiness, eGovernment, and knowledge management. His works have been published in journals including *Information & Management*, and *Journal of Management Information Systems*. William R. King holds the title University Professor in the Katz Graduate School of Business of the University of Pittsburgh. He is the author of over 300 papers published in respected journals of information systems and strategic planning. He has also authored, co-authored, or coedited 15 books. He received his PhD from Case Institute of Technology and holds an MS in Operations Research. Dr. King created the concept and a workable methodology for strategic planning for IS in the early 1970s which eventually became known as IBMs Business Systems Planning methodology. His current research interests include knowledge management, IT outsourcing, and strategic IS planning and IS evaluation. This article appears in the refereed *Journal of Management Information Systems (JMIS)* which is a widely recognized forum for the presentation of research that advances the practice and understanding of organizational information systems. This article utilizes 63 references including references to prior works from Lederer, Earl, Sethi, Grover, Teo, and King.

Summary. The authors state that it is crucial that IS plans are aligned with the strategic business plan in order for information systems planning to be effective. They state that

strategic alignment between information systems and the organization is consistently

related to IS effectiveness. Those organizations that integrate strategic planning between

IS and the business generally outperform those that don't. The authors show the growth

in alignment theory from a one-way integration (e.g., business planning to information

systems planning) to a two-way reciprocal integration. They state that strategic systems

planning can be used to influence business strategies. The authors cover a number of

varieties of integration planning concepts, and emphasize that planning should not be

executed separately, but that information systems planning should be *integrated* with

business planning.

Conclusion

This paper presents 34 selected references (peer-reviewed articles or industry conference

papers) in a scholarly annotated bibliography format. The research goal is to provide an

overview of strategic information systems planning (SISP) methodologies, identify key stages

within and across five selected SISP methodologies, and discuss the need for SISP. This paper

also identifies the relationship between strategic information systems planning and strategic

management planning (SMP) in the form of alignment concepts and planning success indicators.

The literature on strategic information systems planning is extensive and rich. While the

primary objective of this annotated bibliography is to identify literature that examines key stages

utilized in select SISP methodologies, the extensive nature of SIS planning concepts benefits

from expanded treatment of foundational and related concepts such as strategic management

planning as stated in the section Research Questions. Questions include: (a) what are the stages

within selected commonly used SISP methodologies, (b) what are the reasons for SISP

development, (c) what are key stages generalized across selected SISP and how does each stage

clearly rely on SMP concepts, and (d) what are the key predictors for successful SISP alignment

to SMP?

Conclusions are drawn from the coding and data analysis process (Busch et al., 2005),

with the goal of meeting the needs of the intended audience of information technology managers

and business managers investigating SISP concepts and methodologies and SISP/SMP alignment

concepts.

The analysis and presentation of the annotated bibliography follows the four thematic

categories: (a) foundational approaches to strategic management planning, (b) the need for

strategic information systems planning, (b) SISP and SMP alignment concepts and success

indicators, and (b) key stages within and across selected methodologies utilized in SISP. As the

history and concepts between the four thematic categories are linked, information utilized from

one thematic category to support another is noted.

Foundational approaches to strategic management planning (SMP)

The concept of strategic management planning has grown from the greater concept of

strategic management (Bracker, 1980). Bracker (1980) explains that the word strategy comes

from the Greek word *strategos*, meaning *a general* which has roots of *army* and *lead* (p. 219).

Bracker (1980) writes "the Greek verb *stratego* means to plan the destruction of one's enemies

through effective use of resources" (p. 219). Bracker (1980) explains the earliest known

application of business strategy using Socrates and Nichomachies. Bracker (1980) writes:
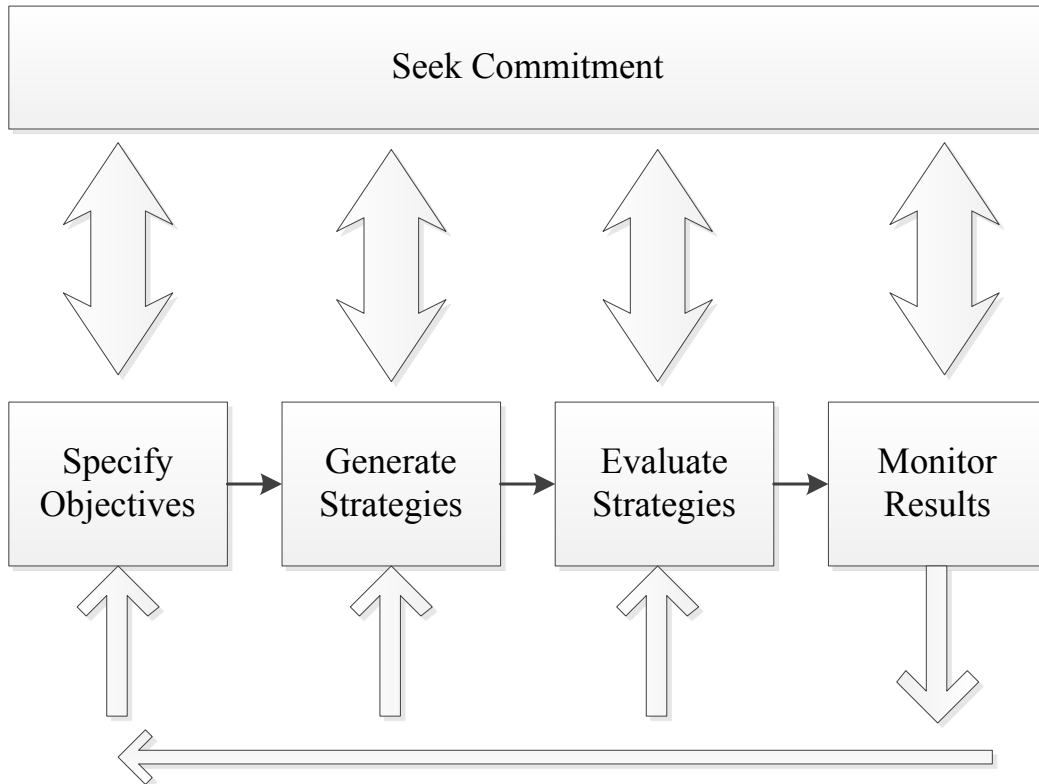
> One of the first known applications of strategy to business occurred when
>
> Socrates consoled Nichomachies, a Greek militarist who lost an election to the position of
>
> general to Anthisthenes, a Greek businessman. Socrates compared the duties of a general
>
> and a businessman and showed Nichomachides that in either case one plans the use of
>
> one's resources to meet objectives (p. 219).

Armstrong (1982) explains that much of the research regarding the formal strategic

planning process comes from research on organizational behavior (p. 198). Armstrong (1982)

writes that "formal strategic planning calls for an explicit process for determining the firm's

long-range objectives, procedures for generating and evaluating alternative strategies, and a

system for monitoring the results of the plan when implemented" (p. 198). Additionally, each

step requires ongoing commitment by those who will be affected by the plan (Armstrong, 1982).

Formal strategic planning is more helpful in markets with a high rate of technical innovation,

high complexity, and high uncertainty (Armstrong, 1982, p. 202). Armstrong's formal strategic

planning process steps are summarized in Figure 1.

Figure 1

Formal strategic planning process (From Armstrong (1982), p.198)

Armstrong (1982) identifies process requirements for each stage of the formal strategic planning

process. The requirements for each stage are reproduced in Table 4 below.

Table 4

Strategic planning process stage requirements (From Armstrong (1982), p. 199)

Stage	Requirements
Specify objective	Objectives should be written clearly.

	Objectives should start with ultimate objectives of the organization. Objectives should be translated into specific measurable objectives. Objectives should be challenging.
Generate strategies	Formal planning calls for generation of alternative strategies. Strategies should be written in detail to allow for explicit evaluation. Strategies should be comprehensive.
Evaluate strategies	Create systematic procedure for evaluating strategies. Rate strategies against listed objectives.
Monitor results	Provide means for explicit feedback at given intervals. Monitor for changes in environment, organization's capabilities and in those of the competition.
Seek commitment	Create explicit procedure for gaining commitment to the plan.

Bryson (1988) emphasizes "that *strategic thinking and acting*, not strategic planning *per se,* are most important" (p. 73). In order to remain effective, organizations need strategic thought and action, and without strategic planning organizations may be unlikely to meet their objectives (Bryson, 1988, p. 74). Bryson offers a more granular eight-step strategic management planning process outlined in Table 5 and shown in Figure 2 below.
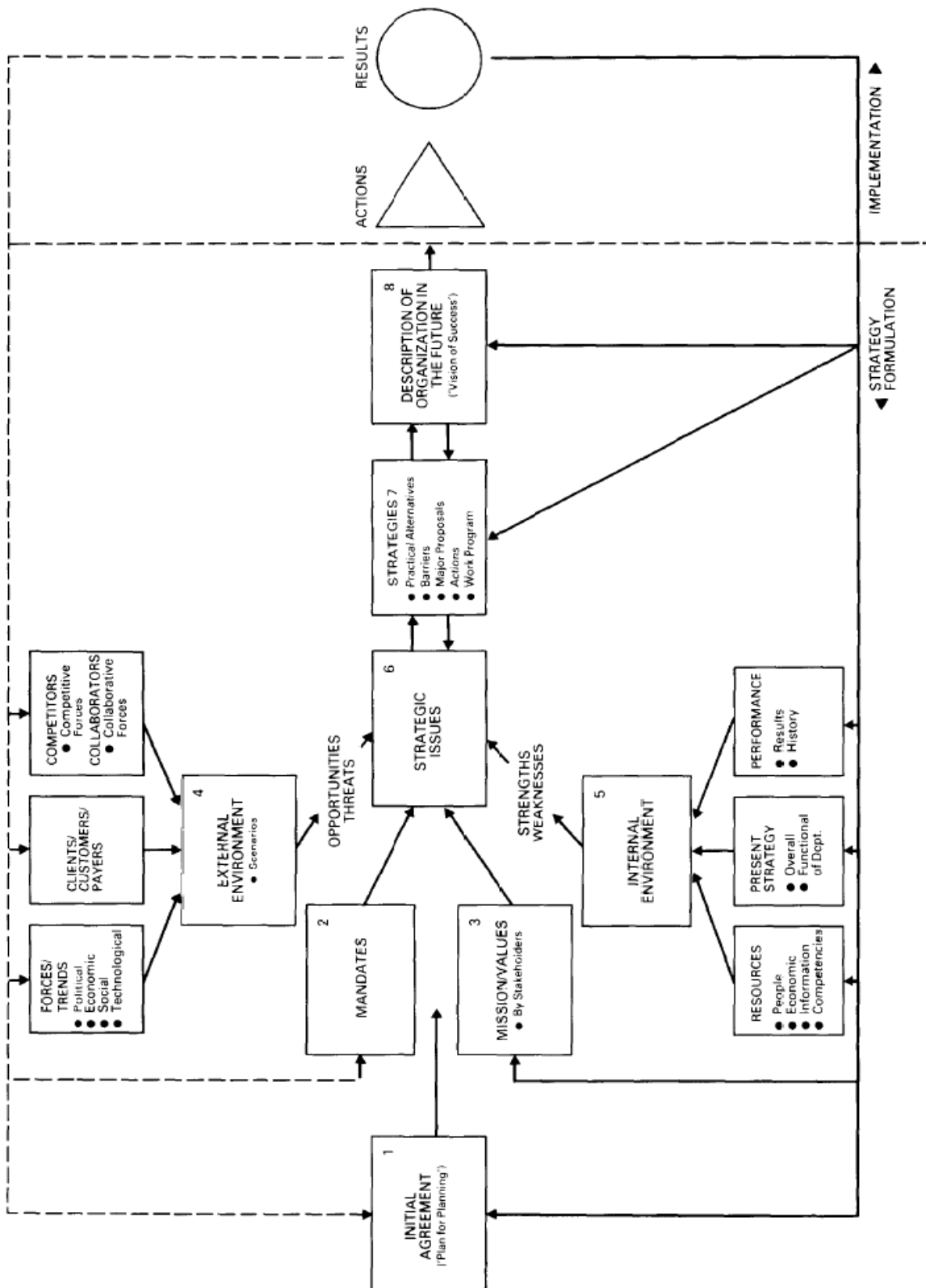
Table 5

Strategic management planning process (From Bryson (1988), p. 74)

Stage	Activities
Development of an initial agreement concerning the strategic planning effort	Cover purpose of the effort. Determine preferred steps in the process. Determine form and timing of reports. Cover role, functions, and membership of the strategic planning coordinating committee.
Identification and clarification of mandates	Identify and clarify the externally imposed formal and informal mandates placed on the organization.
Development and clarification of mission and values	Determine the development and clarification of the organization's mission and values—the justification for its existence.
External environmental assessment	Exploration of the environment outside the organization in order to identify opportunities and threats as well as political, economic, social, and

	technological trends.
Internal environment assessment.	Assess organization's strengths and weaknesses. Three assessment categories include organizational resources, present strategy, and present performance. Perform SWOT analysis.
Strategic issue identification	A summation of the first five stages to determine fundamental policy questions affecting the organizations mandates, mission and value, product or service mix, clients, users, cost, financing, management or organizational design.
Strategy development	Strategies are developed to deal with issues identified in the previous step.
Description of the organization in the future	Organization describes end vision on successful implementation of strategies and achievement of goals. Evaluation of results—process is iterative.

Figure 2

Strategic management planning process (From Bryson (1988), p. 75)

The Need for SISP

While nine references are analyzed in this category, it is important to note that most references presented within the Annotated Bibliography that discuss SISP also discuss the need for SISP at some level.

Literature suggests that organizations cannot be successful without some form of strategic planning for information technology (Kearns, 2006; Newkirk & Lederer, 2007). Additionally, literature suggests that strategic information systems planning must be aligned with the strategic goals of the business (Avison et al., 2004; Johnson & Lederer, 2010).

Analysis reveals that the most common recurring words used to describe the need for SISP include: competitive, performance, strategic, and alignment. Additionally, when used to describe the need for SISP, the groupings of these concepts are often found in close proximity to each other. For instance, Henderson and Sifonis (1988) state that "the impact of IS technologies on the competitive capability of the firm has increased the need for effective strategic IS planning in order to positively affect the performance of the business" (p. 223). Lederer and Mendelow (1988) state that there is a "need to convince top management of the strategic impact of information systems" (p. 526), while more recently Johnson and Lederer (2010) write "mutual understanding between the CEO and CIO is thought to facilitate the alignment of an organization's IS with its business strategy, and thereby enhance the contribution of the IS to business performance" (p. 138).

The need for SISP in order to obtain strategic alignment with the organization is a reoccurring theme. The selected literature suggests that organizations can't reach their competitive potential without IT strategic alignment (Avison et al., 2004, p. 224; Johnson & Lederer, 2010, p. 145; Kearns, 2006, p. 237). Furthermore, SISP is needed in order to align IT

with the strategic goals of an organization in order to identify new opportunities, and that

organizations miss opportunities and fail to implement new business strategies without SISP

(Kearns, 2006, p. 237; Lederer & Sethi, 1988, p. 445). The general consensus is that: (a) there is

an ongoing need for strategic information systems planning (Henderson & Sifonis, 1988), and

(b) that SISP has a direct impact in an organizations ability to execute its strategic business

strategy, maximize its performance, and leverage IT investments for competitive advantage

(Johnson & Lederer, 2010).

Strategic information system planning has grown out of the concept of strategic

management planning, which itself has grown from the greater concept of strategic planning

(Bracker, 1980). Today, there are a number of SISP methodologies to choose from. Pita et al.

(2008) provide a list of a number of SISP methodologies, which is reproduced in Table 6 below.

This list is by no means exhaustive and is included in order to show the range of methodologies

and provide a means for those interested in further study. An attempt to determine the most used

methodology from the Annotated Bibliography does not yield definitive results; however, Pita et

al. (2008) list the top methodologies used in Australia and suggest that the most popular

methodologies are *alignment methodologies* (p. 754). The top three methodologies from Pita et

al. (2008) are listed in order below (p. 754):

1. Information Systems Planning

2. SWOT Analysis

3. Combination bottom-up and top-down

Table 6

SISP Methodologies (From Pita et al. (2008), p. 754)

Method/1	Current portfolio evaluation

Fuzzy Cognitive Maps	Value Chain Analysis
Top-down	Business Portfolio Analysis
Balanced Scorecard Analysis	Bottom-up
SWOT analysis	Information Systems Planning
BIA Integration Technique	Business Systems Planning
BI Characterization Study	IS Investment Strategy
Resource Life Cycle	Executive Information Planning
Combination Bottom-Up and Top-Down	Inside-out
Information Engineering Work Bench IEW	Ends Means Analysis
Staged Approach	Resource Life Cycle
Technology Assess. IS infrastructure review	Business Portfolio Analysis
BIA Integration Technique	SWOT analysis
4 Front	Information Quality Analysis
BI Characterization Study	

Strategic information systems planning is considered a complex activity with a potential

for problems, thus it's important for the organization to choose the methodology with the best fit

(Lederer & Sethi, 1988, p. 448). As noted by Lederer and Sethi (1988) organizations may choose

to adopt a specific SISP methodology or modify an existing strategic management planning

strategy and incorporate information technology (p. 448). An organization may also choose to

combine a number of SISP methodologies into a SISP approach (Doherty et al., 1999, p. 265).

According to Pita et al. (2008), "one of the major issues on the IS planning agenda is choosing

the right methodology" and that the use of more than one methodology is preferred (p. 752).

Additionally, Pita et al. (2008) note that the selection of a wrong SISP methodology can significantly contribute to SISP failure (p. 752).

SISP and SMP Alignment Concepts and Success Indicators
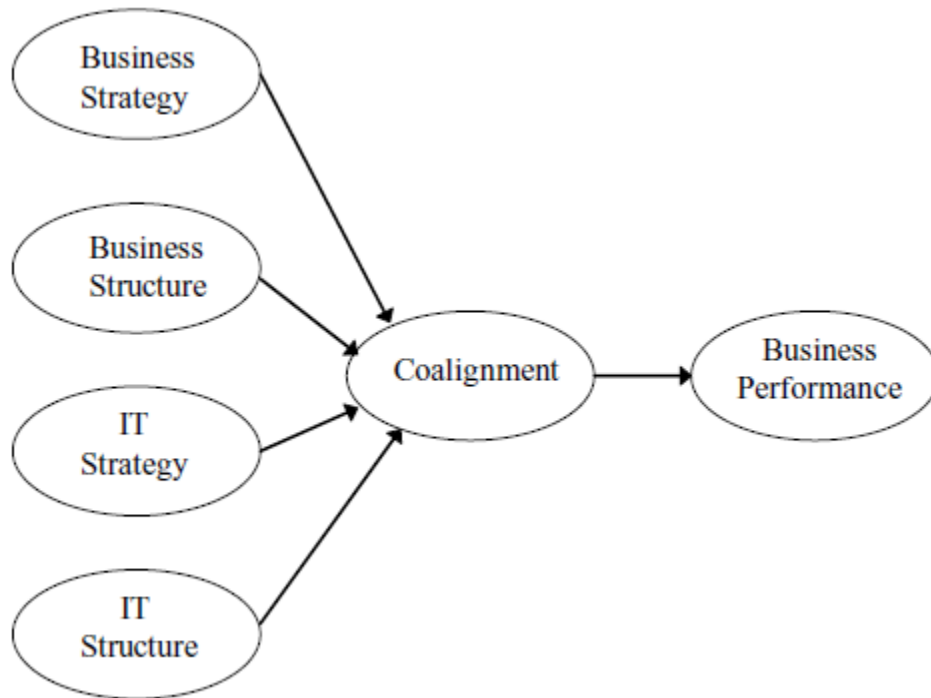
Armstrong (1982) defines strategic management planning as "a disciplined effort to produce fundamental decisions and actions shaping the nature and direction of an organization's (or other entity's) activities within legal bounds" (p. 74). Doherty et al. (1999) define SISP as "an exercise or ongoing activity that enables organizations to develop priorities for information system (IS) development. Applications are chosen for their alignment with business objectives or their capacity to create signification impact on the organization's competitive positioning" (p. 263). The key objective for SISP is to align an organizations technology initiatives and strategy to that strategy defined by the organization through strategic management planning (Henver & Studnicki, 2000, p. 1). Much literature exists regarding the concept of SISP and SMP alignment, which can be found in literature as business planning (BP) and information systems planning (ISP) integration (Avison et al., 2004; Kearns & Lederer, 2003; King & Teo, 1997; Teo & King, 1996, 1997). This paper considers the use of the terms SISP-SMP alignment and ISP-BP alignment synonymous.

According to Kearns (2006), the "alignment between the IS plan and the business plan (ISP-BP) has been defined as the degree to which the information systems mission and plans reflect the business mission and plans" (p. 238). Bergeron et al. (2004) see IT strategy as a four dimensional construct that includes competencies, role of IT, systems design and development, and infrastructures (p. 1004). Bergeron et al. (2004) state "the strategic orientation of IS focuses on the firm's application of portfolio as a mirror of its business strategic orientation along dimensions of aggressiveness, analysis, defensiveness, futurity, proactiveness, risk aversion, and

innovativeness" (p. 1004). Figure 3 shown below is the Gestalt model of strategic alignment

showing the ISP-BP alignment concept.

Figure 3

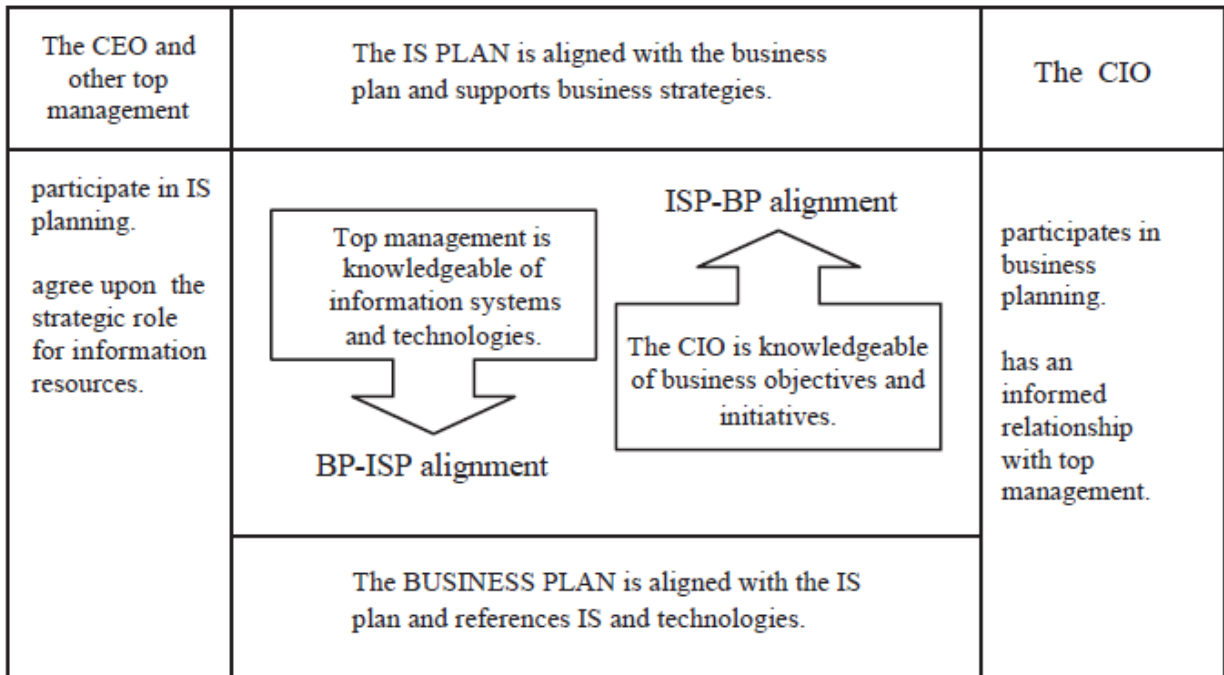*Gestalt model of strategic alignment (From Bergeron et al., 2004, p. 1007)*

Kearns (2004) suggests that top management involvement in SISP leads to greater

ISP-BP alignment (p. 238). Kearns (2004) writes that "alignment between the business plan and

the IS plan (BP-ISP) assumes that management crafts business strategies with consideration of

available information systems and technologies and utilize the strategic capability of IS" (p.

238). In Figure 4, Kearns (2004) suggests direct CEO/CIO engagement in SISP to ensure ISP-BP

alignment. This suggestion by Kearns matches key stages of SISP analyzed in this paper as well

as solving the first of the top nine SISP implementation problems identified by Lederer and Sethi

(1988) (see integrated SISP methodology above).

Figure 4

Integration of the IS and business plans (From Kearns (2004), p. 247)

Bechor et al. (2010) identify eighteen key success factors (KSF) in an effort to understand the correlation between KSFs and SISP implementation success (p. 18). Key success factors include involving corporate management in preparing the strategic plan, having a joint vision between all stakeholders, ensuring that there is a feeling for the need for SISP, and corporate management allocated the needed resources (p. 21). Bechor et al. (2010) also identify as a KSF the need for the strategic management plan to provide input to the IS plan (p. 21). Additional KSFs identified by Bechor et al. (2010) include (p. 21):

- An organizational steering committee exercised control over the process.

- The planning team includes representatives from various lines of business.

- The planning team accompanied the implementing phase of the strategic plan.

- The planning team included senior managers.

- The strategic plan was periodically reviewed and updated.

- The resulting strategic plan report was approved by corporate management.

In their effort to identify root causes of strategic information planning implementation problems, Lederer and Sethi (1992) add to their previous list (see integrated SISP methodology) and identify forty-nine SISP implementation problems (p. 28). According to Lederer and Sethi (1992), failing to take into account the strategic goals of the organization, and difficulty securing top management commitment are top SISP problems that prevent SISP success (p. 28). Lastly, Segars et al (1998) and Doherty et al. (1999) consider alignment, the degree to which alignment between corporate and IS strategies is explicitly sought, and business alignment, the degree of closeness between IS and corporate strategies, mandatory SISP process dimensions for all methodologies in order to ensure SISP success (see Table 7).

Key Stages Within and Across Selected Methodologies Utilized in SISP

This section provides additional SISP background information by (a) identifying process dimension characteristics of SISP, (b) analyzing five selected common SISP methodologies for key stages, and then (c) comparing the methodologies to produce an extrapolated set of key stages, generalized across the selected SISP methodologies. The methodologies analyzed include: (a) a maturity model of SISP, (b) business systems planning (BSP) and strategic systems planning (SSP), (c) ISSP process model, (d) SISP process with box structures method, and (e) integrated SISP methodology. The terms method, methodology, and model are considered synonymous in this paper. Usage of terms in this section reflects the usage by the author of the selected reference.

Process dimensions of SISP. While not strictly a methodology in and of itself, both Segars et al. (1998) and Doherty et al. (1999) determine SISP process dimensions and their

characteristics that a methodology should incorporate. Segars et al. (1998) state the following six

dimension characteristics: comprehensiveness, formalization, focus, flow, participation, and

consistency (p. 307). In their attempt to validate the number of distinct and stable approaches to

SISP, Doherty et al. (1999) expand the list of dimension characteristics to include: frequency,

alignment, ownership, implementation, competitive focus, satisfaction, and business alignment

(p. 268). Doherty et al. (1999) offer definitions for dimension characteristics, described in Table

7.

Table 7

Dimension characteristics of SISP (From Doherty et al. (1999), p. 268)

Dimension Characteristic	Definition
Comprehensiveness	The extent to which an organization attempts to be exhaustive in making and integrating decisions.
Formalization	The existence of structures, techniques and written procedures to support the planning process.
Focus	The balance between the application of financial control in considering applications, versus the welcoming of more creative contributions.
Flow	The locus of authority or devolution of responsibilities for strategic planning. (bottom-up, top-down, or interactive)
Participation	The breadth of involvement in the strategic planning process (narrow v wide).
Frequency	The frequency of planning activities or cycles (occasional v continuous)
Alignment	The degree to which alignment between corporate and IS strategies is explicitly sought.
Ownership	The locus of ownership for the planning process (business/IS group/mixed).
Implementation	Focus during the planning process on the implications for implementation.
Competitive focus	The range of benefits sought (primarily efficiency v wider benefits, including competitive advantage.
Satisfaction	The extent to which participant feel that effort expended on the SISP exercise has been time well spent.
Business alignment	The degree of closeness between IS and corporate strategies.

A maturity model of SISP. In their study of SISP maturity models, Cheong et al (2011)

provide high-level stages of the information systems planning process (p. 12). Cheong et al.

(2011) break down SISP into three stages: (a) formulation, (b) formation, and (c) evaluation as outlined in Table 8. In order for IS to be successful and for SISP to be effective, all three stages must be in place (Cheong et al., 2011, p. 11).

Table 8

Stages of the Maturity model (From Cheong et al. (2011), p. 13)

Stages	Activities
SISP Formulation	Process of analyzing external and internal environments for the purpose of positioning IS/IT in relations to the business. Issues and opportunities identified. Document generation describing business needs, current systems, trends, issues, and opportunities. Final deliverable is a high-level document called a SISP overview which highlights the focus and key strategies.
SISP Formation	The generation of the plan itself (SISP). Defines all important issues, goals, and related strategies for deployment. SISP plan is a baseline from which operational plans are developed. SISP formation is related to factors such as awareness, motivation, and alertness. The operational plan enables implementation of strategies described in the SISP.
Evaluation	Understanding and knowledge of how SISP is progressing.

Business systems planning (BSP) and Strategic Systems Planning (SSP). Business systems planning was developed by IBM from the research of Dr. William R. King (see entry in Annotated Bibliography). BSP involves a top-down planning process with a bottom-up implementation and places a heavy emphasis on executive involvement (Lederer & Sethi, 1988, p. 447). Strategic system planning (SSP) was developed by Robert Holland and is a model defined by business function (Lederer & Sethi, 1988, p. 448). SSP is materially the same as BSP with the exception of SSP's automated storage, manipulation, and presentation of the data collected during the SISP process. According to Lederer and Sethi (1988), while the language

differs, the stages in SSP are similar to BSP (p. 448). Stages within the BSP methodology are outlined in Table 9.

Table 9

Stages of BSP/SSP methodology (From Lederer and Sethi (1988), p. 447)

Stages	Activities
Gaining executive commitment	A top executive sponsor and other interested executives are identified
Preparation	Team members are trained. Data is compiled on firm's business functions and current IS support. A work plan is produced.
Start	Executive sponsor reviews purpose with team. A review of compiled business data is performed and top IS executive explains recent IS activities and issues.
Defining business processes	The team identifies the business processes which form the basis of interviews, the definition of future information architecture, and other activities.
Defining data classes	Data is grouped into data classes based on relationships to business processes.
Analyze current systems	Team identifies how IS currently supports the organization.
Determine executive perspective	Executive interviews gain commitment and give understanding of problems whose solutions will be provided by future systems.
Defining findings and conclusions	Team develops categories of findings and conclusions.
Defining information architecture	Team uses business processes and data classes to design databases and charts of systems to subsystems.
Determine architectural priorities	Team sets systems development priorities.
Review information resource management	Team evaluates the current IS organization's strengths and weaknesses.
Develop recommendations and action plan	Team prepares an action plan with recommendations about hardware, software, adjustments to current systems.
Reporting Results	Report covering purpose, methodology, conclusions, recommendations, and prescribed actions.

An ISSP process model. Gregory Mentzas developed an information systems strategy

planning (ISSP) process with the aim to increase planning usefulness in organizations (Mentzas,

1997, p. 84). Mentzas' process model identifies separate elements of the ISSP planning process

which include phases, stages, and modules of activities. The process model "aims to satisfy the

need for a consistent linkage with corporate strategy by adopting elements of the corporate

strategic planning literature" (p. 84). Mentzas (1997) notes that several terms have been used to

describe strategic IS planning (e.g., strategic information planning, information strategic

planning) but views the process as context independent (p.84). Stages of Mentzas' ISSP process

model are listed in Table 10 below.

Table 10 *Stages of the ISSP process model*

Stages of the ISSP process model (From Mentzas (1997), p. 89)

Stages	Activities
Identification of strategic goals, business and IT systems, and planning process objectives.	Identification of strategic business objectives, strategic IS objectives, planning horizon, business processes, IT systems, relevance to the strategic planning process. Project organization and project plan development.
Analysis of business systems, organizational systems, IT systems, external business environment, and external IT environment.	Analysis of business goals, functional description of business processes, identification of inefficiencies, diagnosis of current business processes, organizational analysis, analysis of IT goals, audit of IT systems, analysis of external business and IT environments.
Scanning the future, identification of alternative scenarios, and scenario elaboration.	Identification of strategic opportunities, competitive advantage/performance advantage, structure strategic opportunities into coherent scenarios, evaluation of strategic impact of solutions, evaluation of technological impact of solutions, determination of scenarios to be formulated.
Formulation of business and IT architecture.	Description of business processes, creation of business process model, creation of business data model, refinement of business architecture. Formulation of logical architecture (actors, sites, operations), formulation of physical architecture, refinement of technical architecture.

Formulation of organizational solutions, synthesis, and prioritization.	Analysis of organizational processes, inter-departmental analysis, prioritization of solutions, assessment of compatibility with strategic goals.
Definition of action plan elements, elaboration of action plan, evaluation of plan, and define follow-up and control procedures.	Inventory of actions for strategy implementation, study of implementation procedures, action prioritization, study of each action element, cost dimension, analysis of human resources issues, analysis of migration and cut-over aspects, risk management, strategic importance, satisfaction of short-term needs, specification of procedures and indicators for implementation monitoring, specification of quality management system.

SISP process with box structure method. Hevner and Studniki (2000) suggest that "an overarching reason for implementation failure is a large *specification gap* between the recommended IS solutions and the detail required to actually implement the desired information systems" (p. 2). Additionally, they state that one of the reasons that SISP implementations are perceived as failures is the inability to effectively implement the solutions (Hevner & Studniki, 2000, p. 2). As a solution to the SISP specification gap, Hevner and Studniki (2000) propose the use of box structure methods with SISP (p.2). Hevner and Studniki (2000) state that "the key asset of box structure representations and methods is that they are scale-free. Box structures can handle the full range from high-level system abstractions to low-level abstractions with the same amount of rigor and precision" (p. 2). Stages of SISP process with box structure method are presented in Table 11 below.

Table 11

Stages of the Box structure method (From Henver and Studniki (2000), p. 3)

Stages	Activities
Collect and analyze all pertinent SISP Information.	Collect business strategies and business objectives for the organization. Collect current information systems portfolio.
Apply strategic planning methods to identify	Using strategic planning, identify critical success

critical business processes (CBPs) in the organization.	factors, value chains, and strategic alignment needs.
For each CBP, describe CBP in box structure form.	Produce a *black* box definition of CBP. Produce a *state* box description of the CBP. Produce a *clear* box description of the CBP. Verify the completeness, consistency, and closure of the box structures. Refine the box structure descriptions as needed to accurately represent the *utopian* CBP.
Integrate CBPs into a strategic enterprise information systems plan.	Apply traditional integration techniques (e.g. process/data matrices) for CBP integration. Use box structure composition and decomposition techniques to produce an integrated system hierarchy. Verify the completeness, consistency, and closure of the box structure hierarchy. Refine the box structure hierarchy as needed to accurately represent the utopian enterprise information systems plan.
Develop a high-level incremental development plan for implementation of the desired strategic information systems.	
Produce a strategic information systems plan that includes the information systems specification and the incremental development plan for implementation.	

The integrated SISP methodology. In an effort to solve the nine SISP problems identified by Lederer and Sethi (1988), Min et al. (1999) propose a methodology that solves the issues while maintaining the positive qualities of existing SISP methodologies (p. 378). The nine top SISP problems are listed below.

1. Difficult to secure top management commitment.

2. Post-analysis required after study completed.

3. No training plan for IT development.

4. Success dependent on the IT leader.

5. Difficult to find a team leader meeting proper criteria.

6. Lack of sufficient computer support.

7. Ignores plan implementation issues.

8. No Analysis of IT department strengths/weaknesses.

9. No analysis of technology environment.

Min et al. (1999) categorize the nine issues into those that relate to SISP methodologies

(2, 3, 7, 8, and 9) and those that relate to corporate culture (1, 4, 5, and 6) (p. 378). Min et al.

(1999) suggest that the duration of SISP is also too long, given the consideration on the fast

moving evolution of IT and suggests that their methodology "concentrates on maximizing

strategic effectiveness while minimizing the use of corporate resources, especially time" (p.

377). Stages of the integrated SISP methodology are presented in Table 12 below.

Table 12

Stages of the Integrated SISP methodology (From Min et al. (1999), p. 379)

Stages	Activities
Establishment of planning process.	Establishment of planning committee (reasons for SISP). Top management commitment (approval to carry out SISP process). Establishment of project team.
Strategic business planning and information technology opportunity identification.	Establishment of corporate vision and objectives. Analysis of business environment. Identification of critical success factors. Identification of key performance indicators. Identification of business strategies.
Information systems strategy formulation.	Current IS system and information quality evaluation. Evaluation of current IS in relation to strategy. Analysis of IT environment. Identification of IT opportunities. Comparison and analysis of business strategies and IT opportunities. Establishment of IS strategies.
Operational analysis and business process reengineering (BPR). Information systems specification.	Operational analysis. Identification of processes requiring change. Understand and measure existing processes. Identification of IT enablers. Define information architecture.

	Derivation of common IT solutions. Set principles and policies. Set Specific requirements for IS development. Identification of specific components for implementation. Creation of sequence for IS development
Documentation for implementation.	Actual sequence for IS development is created.

Generalized key stages across selected SISP methodologies. Based upon the analysis performed on the stages within the five selected methodologies presented above, an extrapolated set of generalized key stages across the selected SISP methodologies is presented in Table 13. Also in Table 13 is an extrapolated set of generalized SMP concepts aligned with the SISP key stages clearly showing the SISP/SMP relationship and how each stage relies on SMP concepts. Analysis shows a nearly direct correlation between activities performed for both SISP and SMP with the exception of activities within the *Planning* and *Organizational and IS Strategy Analysis* stages for SISP. The SISP planning phase has a unique requirement from that of the SMP planning phase. It may be important for a manager investigating the need for SISP to note the requirement of a functioning strategic management plan to provide input to the SISP in order to accurately achieve alignment and realize SISP value. The differences between the SISP and SMP strategy analysis stages are apparent and understandable given the difference in the goals of each plan; however, execution of this stage is substantially the same. Regarding the iterative nature of strategic planning, further research for those investigating SISP might include the rate at which the strategic information systems plan is reevaluated compared to that of the strategic management plan.

Table 13

Generalized key stages across five selected SISP methodologies

SISP Key Stages	Activities	SMP Relationships

Preparation	Secure executive commitment-reasons/approval for SISP Identify executive project champions.	Seek commitment. Create explicit procedure for gaining commitment to the plan. Cover purpose of the effort.
Planning	Identify team and process. Create planning committee. Ensure strategic management plan serves as input to strategic information systems plan. Select SISP method(s). Develop solutions and alternatives.	Specify objectives. Identify and clarify mandates. Determine preferred steps in the process. Cover roles and functions. Development and clarification of mission and values.
Organizational and IS Strategy Analysis	Identify current state of business processes in the organization. Conduct operational analysis—SWOT. Identify critical success factors. Identify corporate mission and strategic objectives using strategic management planning. Determine levels of alignment and business alignment. Analyze IT systems and processes. Identify current state of IT and strategic alignment to the organization. Identify unique IS opportunities.	Assess external environment in order to identify opportunities and threats. Assess internal environment in an effort to identify the organizational strengths and weaknesses. Perform SWOT analysis. Identify strategic issues and develop strategy.
Implementation	Create development sequence. Document and execute implementation/action plan.	Identify and document actions needed to implement strategic plan. Execute strategic management plan.
Evaluation	Assess compatibility with strategic goals. Develop inventory of actions for strategy implementation. Study of implementation procedures. Plan action prioritization Conduct study of each action element. Evaluate cost dimension. Analyze migration and cut-over aspects, risk management, strategic importance. Assess satisfaction of needs.	Create procedure for evaluating strategies. Rate strategies against listed objectives.
Revision	Define follow-up and control procedures. Specify procedures and indicators for implementation monitoring. Specify quality management system.	Monitor results. Provide means for feedback. Monitor for changes in the environment, and in the capabilities of the organization and competition. Repeat the process in an iterative fashion.

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