



# Testing and Extending Theory in Strategic Information Systems Planning Through Literature Analysis

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## ABSTRACT

*Strategic information systems planning (SISP) has been a perennial concern to information systems managers for the past two decades, and much research effort has been devoted to studying it. SISP has been theorised in terms of an input-process-output model, with well-defined components, and a set of hypotheses to be tested. Based on this theoretical framework, a literature review of research over the past decade is undertaken. The analysis reveals the extent to which the various components and hypotheses within this framework have been researched, as well as identifying additional hypotheses that are suggested from the literature.*

*Keywords: literature review; strategic information systems planning; SISP*

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## INTRODUCTION

Information systems planning (ISP) has been defined as the process of identifying “prioritised information systems (IS) that are efficient, effective and/or strategic in nature together with the necessary resources (human, technical and financial), management of change considerations, control procedures and organisational structure needed to implement these” (Baker, 1995, p. 62). The focus of this research is on the strategic to tactical level of ISP, commonly referred to as strategic ISP (SISP). This differs from lower levels of planning in that, in terms of scope, it is

organisational; in perspective of top management, in terms of level of abstraction, more conceptual than physical, and in time frame, medium to long (Segars et al., 1998).

SISP has long been a key issue for information systems managers (Watson et al., 1997). This interest in SISP stems from the recognition that IS is a strategic resource for organisations, capable of providing strategic advantage and improving overall business performance (Pant & Hsu, 1999). As such they need to be managed strategically, planning notwithstanding being key to this endeavour. In the modern era, described variously as the information age or knowledge age, IS is furthermore ubiquitous in

many organisations, and plays an increasingly important strategic role. E-business, for example, is the phrase coined to denote the use of Internet technologies to support both internal operations and processes within a firm, as well as those between firms (Pant & Ravichandran, 2001). These types of IS offer many potential benefits if adequately planned for and implemented (Pant & Ravichandran, 2001). Thus, SISP continues to be of importance even in this modern e-business era. In addition, IS continue to evolve and grow in complexity as technology, the competitive environment and business strategies change (Benamati & Lederer, 2001). SISP helps organisations make sense of this complexity, as by adopting this practice, firms are able to analyse the environment, keep track of new developments, monitor how IT is being used by competitors, plan for adequate IT infrastructure, and establish how best IS can be used to both support and impact business strategies and objectives (Salmela & Spil, 2002). The efficacy of SISP has furthermore been demonstrated in several studies (Premkumar & King, 1994; Cohen, 2002).

The purpose of this paper is to conduct an extensive review of research in order to test a theory of SISP proposed by Lederer and Salmela (1996), and in so doing to identify where further research is required. Extensions to theory may also be suggested from the analysis. In the following section, justification for using this theory as a basis will be provided by examining several other ways in which SISP has been conceptualised, and the limitations of these alternatives. The process by which data was collected will be described, before the data is analysed according to the theoretical framework. Results of this analysis are reported and discussed before implications for future research are outlined, and the paper concluded.

## SISP CONCEPTUALISATIONS

Early research in SISP focused attention mainly on the derivation of methods and techniques for carrying out the process (e.g., McFarlan et al., 1983; Porter & Millar, 1985; Shank et al., 1985; Lederer & Putnam, 1986). Very often, however, these were developed in the absence of a sound theoretical underpinning for SISP, and as a result there were reports of methodological problems, and plan implementation failures (Lederer & Sethi, 1988). Suffice to say, methods and techniques continue to be prescribed, albeit from a more informed understanding of SISP (Galliers, 1993; Ormerod, 1996; Salmela & Spil, 2002; Min & Kim, 1999; Van der Zee & De Jong, 1999).

Other streams of research have examined the state of planning practice (Galliers, 1987; Conrath et al., 1992; Pavri & Angm 1995), success factors (Angm & Teo, 1997), problems (Lederer & Sethi, 1988; Teo & Ang, 2001), and prescriptions or guidelines for success (Galliers, 1991; Lederer & Sethi, 1996). In some cases frameworks for carrying out SISP have been proposed (Pant & Hsu, 1999). While all these studies have made a valuable contribution to the body of knowledge, they lack the gestalt perspective necessary to outline a broad overview of SISP.

Earl (1993) identified as a unit of analysis an approach to SISP, where this was defined as the interaction of method, process and implementation. Sabherwal and King (1995) examined the fit between organisational characteristics, environmental characteristics and decision-making process characteristics, and the relationship of this fit to IS success. Segars and Grover (1999) identified alternative SISP profiles, differentiated by ratings for specified process characteristics, and similarly compared

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