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Recommended Citation
Hackney, Raymond; Dhillon, Gurpreet; and Burn, Janice, "Challenging Assumptions for SISP: theoretical perspectives" (1999). AMCIS 1999 Proceedings, 41.
http://aisel.aisnet.org/amcis1999/41

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Challenging Assumptions for SISP: theoretical perspectives

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Abstract

There are a number of well documented fundamental assumptions associated with strategic information systems planning (SISP). A core activity for this domain is the alignment of an organisation's systems and technology strategy with its business objectives. The difficulty is the complex and diverse nature of the strategy process itself which renders such a match increasingly problematic. The evidence within the literature relating to SISP suggests that it does not fully mirror contemporary business strategy and contains some fundamentally incorrect assumptions. This paper identifies eight such assumptions which propose a number of challenges for future research directions. Finally, a number of challenges to SISP are noted which relate to identified categories, through an IS complexity framework for sustainable competitive advantage.

Introduction

The literature is unanimous in prescribing that any investments in information systems and their associated technology (IS/IT) should be closely linked with the strategic direction of the organisation (Earl, 1989; Ward & Griffiths, 1996, Hackney, 1996). While these decisions are traditionally delegated to the IT professionals there has been an increasing recognition that business managers should also be involved in the process. Consequently, the notion of ‘Strategic Information Systems Planning’ (SISP) has been promoted to involve a variety of opinions for determining IT requirements (Reponen, 1993; Ranchhod & Hackney, 1998).

A basic premise underlying SISP is a distinction between an IS strategy and an IT strategy (Earl, 1989; Burn, 1993). The IS strategy is demand oriented focusing on information and system requirements in meeting business objectives. These needs are captured in terms of what are the most appropriate applications. The IT strategy, on the other hand, is supply oriented and concerned with specifying the technology as to how to deliver these applications. Prescriptive approaches have been proposed to help in aligning these IS/IT strategies with an organisation’s business strategy through identifying applications which support the business and at the same time give direction to IT investments.

In this paper the generally held assumptions which underlie SISP are challenged. Firstly, the business strategy literature is outlined in order to briefly present current debates and related to the new organisational challenges for the 21st century. Secondly, a catalog of underlying assumptions relating to SISP is presented along with a number of real life examples which support the inadequacy of such assumptions. Finally, the paper concludes by suggesting the challenges in which the dynamics of the organisation in an exciting but turbulent environment may be reflected more accurately through SISP.

SISP Assumptions

A variety of theoretical frameworks have been proposed to incorporate both business driven and creative approaches in the search for significant opportunities for gaining benefits from IT. The language and concepts associated with this research are varied and complex and include ‘top down’ (Ward & Griffiths, 1996), ‘middle out’ (Henderson & Sifonis, 1986), ‘eclectic’ (Sullivan, 1986) and ‘multiple’ (Earl, 1989) methods. Incorporated within these approaches are a variety of tools and techniques, borrowed primarily from the ‘formal rational’ business strategy domain.

However, the research evidence questions whether SISP, in its many guises, is actually working. Lederer & Sethi (1988), for example, highlighted that only 24% of applications recommended for development via a formal planning process were ultimately developed as organisations needed to carry out further substantial analysis post planning. Flynn & Goldeniewska (1993) even suggested that the whole process of IS planning may be a cosmetic exercise conveyed as a type of informal social consequence of traditional systems analysis and design. The SISP process is consequently grounded in a number of fundamental assumptions and in the remainder of this section these are surfaced and their validity is assessed.

A1 - a business strategy exists

One of the major assumptions which underlies SISP is that organisations must articulate a business strategy in which IS/IT can be aligned. As noted, this process may be shown to be emergent, often serendipitous and continually being renewed. The challenge is that IS/IT strategy must itself
be dynamic. While it may be possible to determine a flexible IS strategy, the paradox is that in order to develop an IT application a strong element of stability and predictability is required. In essence, business strategy formulation involves an ability to articulate and capture a diverse, fluid and informal set of organisational characteristics which, to date, IT professionals regard as functional, quantifiable and certain.

A2 - IS strategy can be aligned with IT strategy

Paradoxically, the business strategy process is itself often constrained by the legacy of IT systems. These represent the results of past strategies as articulated by earlier IS planning decisions. This restriction, imposed by IT, has resulted in some organisations considering the opportunities presented through outsourcing routine applications. These options, however, involve significant difficulties for strategy where business critical systems cannot be readily facilitated by a third party.

A3 - an IS strategy and business strategy are different

A central assumption underlying SISP is that a clear distinction between a business strategy and an IS strategy is identifiable. This suggests that IT is something which is ‘bolted on’ and in some way secondary to the business strategy and not an integral part of it. Therefore, it is best either to integrate IT into the business so that a single set of decisions covers business and IT issues alike or to accept that IT is a service and possibly outsource it. However, in many firms IT is often intrinsically linked to the success of the business, particularly in information intensive industries. There are a number of well documented examples of how organisations have significantly improved their business performance as a result of building strategic applications. The challenge here is to provide a transparent relationship between the two where the systems are developed as the core of the business.

A4 - IT is a source of competitive advantage

Another fundamental assumption underlying SISP is that IT can provide a source of competitive advantage (McFarlan, 1984; Cash & Konsynski, 1985). The reality is that IT has become a commodity and many organisations would not exist or indeed survive without exploiting appropriate systems. However, there is evidence that the technology alone does not generate sustainable competitive advantage (Cecil and Goldstein, 1990; Galliers, 1991; Senn, 1992). Rather it is through the business changes which it facilitates (Earl, 1992) or its ability to leverage organisational capabilities (Hamel & Prahalad, 1994). The implications and challenge of this analysis is that IT-based sources of competitive advantage must focus less on IT, per se, and more on the process of organising and managing the technology within a firm. (Mata et al., 1995).

A5 - strategic information systems exist

The phrase strategic information system is now common in the lexicon of management. These are the systems which are seen as giving the organisation strategic advantage. In reality, however, strategic information systems may be considered a misnomer. The examples of strategic information systems (American Airlines; Thompson Tour Operators, etc) in fact represent a significant process capability which the organisation was able to harness mainly through communication technology. It is the process capability which is strategic to the business not the information system application.

A6 - strategic applications of IT are formally planned

A further underlying assumption of SISP is that the strategic application of IT can be formally planned. As Mintzberg notes, for those involved in the process, ‘should complete their thinking before they begin to act’ (Mintzberg, 1993, p. 282). However, an analysis of four of the most well known strategic information systems, Baxter’s ASAP, McKesson’s Economist, American Airlines SABRE reservation system and the French videotex, Teletel, Ciborra (1994) concluded that they were not fully designed top-down or introduced as part of a rational planning process. Rather they were tried out through prototyping and informal decision making. This corresponds to Earl’s (1996) recent research on IS planning which concluded that ‘effective [IS] strategies often emerge through implementation’. Planning in general is again noted as ‘formal rational’ through programming and not discovering (Hamel, 1996).

A7 - SISP encourages organisational integration

The irony of SISP is that it is supply orientated where a strong focus on individual applications can result in organisational fragmentation. This is clearly incongruous with the strategic objectives of the organisation where the integration of systems and process is desirable. The assumption is that integration takes place at the technological level. The end result, however, is usually more often about co-ordinating what results are achieved rather than the integration of the business processes. The implication of lessons from business process re-engineering (BPR) suggests that a strong process perspective should be adopted before any IT implementation is undertaken.

A8 – SISP works
In 1993, Mintzberg published a paper entitled “Strategic Planning is an Oxymoron”. He points out that strategy and planning cannot be embraced under a single concept and may well require skills and processes which are the opposite of each other. If this is the case (as the authors believe) then SISP must be a dual oxymoron since we have the added complication in relation to whether we mean strategic IS or strategies for IS and whether these can be planned. The existence of formal SISP processes does not guarantee success and indeed there is little empirical evidence to show any relationship (other than the converse) between the two (Lederer & Sethi, 1988; Ma & Burn, 1998). The assumptions, applications and challenges for SISP are clearly complex. Traditional approaches to these aspects of IS research have made few positive attempts to determine the characteristics of the dynamics involved in the core objective of aligning an IS strategy with the business. (Griffiths et al (1999) suggests that the traditional approaches to SISP require a fundamental reassessment in view of the challenges noted and the assumptions made. It proposes that the factors leading to an ephemeral advantage when coupled with ‘sustainability’ elements will enable an IS derived competitive advantage through a recognition of the complexities involved. Clearly, our analysis of the theoretical assumptions, which underpin SISP, require changing to reflect more appropriately the organisational realities involved.

**Conclusion**

The paper has argued that the assumptions underlying the objectives of SISP do not represent the existing research evidence. The central notion of aligning an IS/IT strategy with an organisation’s business strategy are fundamentally problematic. The diversity and complexity of organisational strategic processes are clearly not being considered through SISP which appear to mainly adopt what have been termed a ‘formal rational’ approach. A defined strategy is the result of creativity, innovation and foresight which represents a contradiction for organisations that engage in activities to develop SISP.

Clearly, more research, in theory and practice, is required to further demonstrate the importance of addressing the changing perspectives of organisational dynamics through the opportunities from SISP.

**References**

Available upon request.