Organizational Planning for Information Systems Strategies

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ABSTRACT: *Strategic Information Systems Planning (SISP) has been a theme of considerable importance to Information Systems (IS) professionals in both the business and academic communities for the last two decades. SISP process is intended to ensure that technology activities are properly aligned with the evolving needs and strategies of the organization. Success can be achieved when an organization can achieve balance between IS and its organizational planning, SISP is confirmed as the heart of all IS planning contribution to the competitiveness of the organisation.*

This paper examines the research on this everimportant topic and focuses on the importance of SISP to IS strategies.

Keywords: Strategic Information System Strategy, Information systems planning, Information Systems, Business Alignment

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1. Introduction

In order to manage an IS/IT based systems, it is important to have an appropriate strategy that defines the systems and provides a means to manage them. Strategic Information Systems Planning (SISP) is an effective way of developing and maintaining the IS/IT systems that support the business operations as the whole. SISP certifies that the new systems are installed in a method that will provide for the organisational strategic aim. SISP is defined as the process of identifying a portfolio of computer-based applications that can be put into practice and in which it can positively align with corporate strategy. This is to create an advantage over competitors. It is the course of recognising the information systems (IS) needs of an organisation at a high level. The success to this direction is of identifying a portfolio of computerbased applications that assists an organisation to execute its business plans and realising its business goals.

The first part of this writing will focus on the current literature about SISP. This will be followed by looking at its relationship to other IS strategies and plans.

2. About SISP

SISP has been defined as the process of deciding or choosing the correct portfolio of information systems, the objectives for organisational computing and identifying potential computer applications which the organisation should implement. [4, 20] Strategic Information Systems Planning starts with the identification of the organisational strategic information needs. The strategic plan must be specific enough to enable understanding of each application and to know where it stands in the order of development. The plan should also be adaptable so that priorities can be attuned if needed. [10] King (1997) proposes that

strategic plan to be seen as capability architecture – a flexible and continuously improving infrastructure of organisationalcapabilities – as the primary basis for a company's sustainable competitive advantage [11, 12]. He stresses the need for incessantly updating and improving the strategic capability architecture.

The main objective of SISP is to establish goals and find the most effective way to reach them. SISP helps professionals and users to establish a mutual understanding of the value of information systems and related problems. It can also assist companies to classify the importance of higher gains in terms of efficiency, effectiveness and strategic value. Practically, SISP make easier for organisations to identify their portfolio of computer-based applications which in turn is to align business strategy and create a competitive advantage. [10]

This means that SISP implementation is a continuous activity that allows organisations to develop precedence for information systems growth. This pursuit can help the organisation's competitive position.

Whilst the main focus of SISP is typically viewed as the identification of new applications, Beynon- Davies [15] suggests that a SISP use may deal with a wider diversity of development as SISP makes possible the identification of a prioritised portfolio of the following types of system and technology related projects [15, 27].

Although the main objective of SISP is generally seen as the identification of new applications, Beynon-Davies suggests that SISP can be used to address a wider range of SISP development enables identification of a portfolio of the following priority types of systems and related technology projects [15, 20]:

Corrections to existing information systems; Enhancements to existing information systems; Major new information systems development projects;

Major new infrastructure systems or technologies, for example those that attempt to integrate systems across the organisation;

Research projects investigating innovative and potentially rewarding systems and technologies.

2.1 Importance of Information System Alignment

Today it is widely recognised that information systems knowledge is essential for managers because most organisations need information systems to survive and prosper. In the modern times, information systems have become an essential part of all types of business as information systems provide the opportunity for organisations to integrate with their business strategy. [13]

From a business perspective, an information system is an organisational and management solution, based on information systems to a challenge posed by the environment. To fully understand information systems, a manager must understand the broader organisation, management, information systems dimensions of systems and their power to provide solutions to challenges and problems in the business environment. [10, 25] Management needs to know what evaluation methods are already in place for alignment to be feasible.

The strategic planning process in IS/IT planning is to input, output and processing activities. [27] Figure 2 shows the input and output of the planning process. The input activities are internal corporate environment, the external business environment, internal IS/IT, and external IS/IT. Internal business environment is the current corporate strategy, objectives, resources, processes and culture and values of the business. External business environment is the economic climate, industry and competitive environment in which the organisation operates. Internal/IT environment is the current IS/IT perspective of the business, its maturity, the coverage and the contribution of business, skills, resources and technology infrastructure. The current portfolio of existing systems and application development, or budgeted but not yet being a part of the internal market, IS/IT. External/IT environment is the tendency of technology and the opportunities and the use of IS/IT by outside bodies.

The main activities of IS/IT management strategy, business strategy and IT strategy are the common elements of the strategy to apply across the organisation, ensuring consistent policy where is needed. Business strategy emphasis how each unit or function is deployed in the attainment of business goals. To each of these application portfolios for the business unit the information architecture of the individual units is developed. The portfolios, such as IS / IT is used at later stage to help the units to achieve their goals. IT strategy is a policy and strategies for the management of technology and specialist resources.

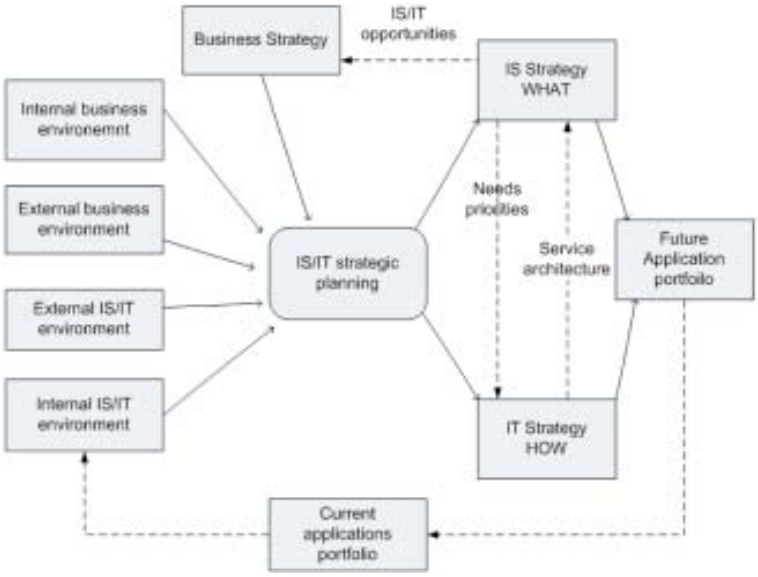

Figure 1. Edwards, Ward & Bytheway, 1991

Information technology strategy is the supply to the demand created by IS strategy as it draws the vision of how the organisation's demand for information and systems will be supported by technology. [25, 28] Ward and Griffith argue that the IT strategy is focusing the IT capabilities and services like "IT operations, systems development and user support". [28] Luftman referred IT strategy as "a set of decisions made by IT and functional business managers that either enables or drives the business strategy. It leads to the deployment of technology infrastructure and applications, and human competencies that will assist the organisation in becoming more competitive. [20]

Information systems plan is typically prepared for the whole organisation or for a specific department. The plan should have a broad range and involve the core activity of the organisation. The plan starts usually from a defining the project scope that involves the description of the business requirements. This leads to analysis of the existing environment, and applications are done, followed by identifying a new options and then finally evolution of a strategy and an IS planning [25].

Below is a model of the five key stages to develop an information strategy. Figure 3, outlines the inputs and outputs of the IS/ IT strategy, that clearly indicates a continuous cycle and with planning needed in order to get the outputs that will realise the business functions and objectives. [2,16]

Information Systems (IS) strategy can be defined as a strategy to implement information systems that recognise organisational requirements, in other words, 'demand' for the information and systems to support the overall business strategy and its plan to gain or maintain the advantage. [25] An IS strategy includes the business needs for the future aligned closely to the business strategy. It should also define and prioritise the investments needed to achieve the application portfolio. [16]

Relation between information system functions and business strategy were not of much interest to majority direction of firms. Information systems were thought to be equivalent with business data in support of corporate daily tasks. [20] In the 1980' s and the 1990's, however, the growing realisation of the need gave information systems a strategic importance in the organisation. Consequently, Strategic Information Systems Planning (SISP) became a critical issue.

A strategic plan is a different thing as an operational plan. The former should be visionary, conceptual and directional in contrast to an operational plan which is likely to be a shorter term, tactical, focused, implementable and measurable. In order to put the planning for strategic information systems in perspective, the evolution of information systems, according to the three-era model of John Ward, is pertinent. [28] According to this model, there are three distinct eras of information systems, dating back to the 1960's.

2.2 SISP Requirement

McBride (2004) suggests a complete overhaul in the planning process is needed and that the critical analysis of the classical

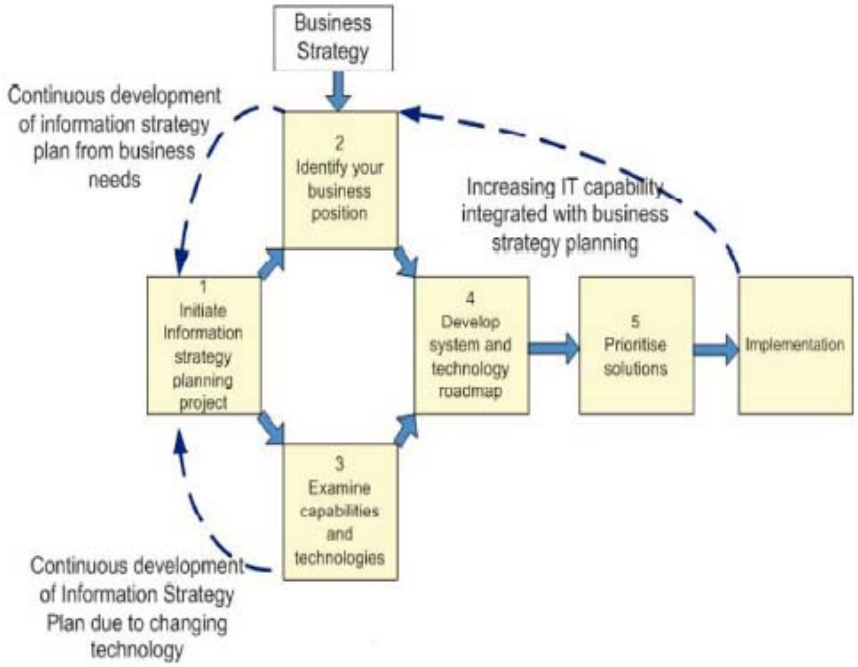

Figure 2. Construct-IT, Unitec

theory is insufficient for organisations. [9, 25]. He goes further by emphasising SISP as a process of identifying the IS requirements of an organisation at a high level by identifying "a portfolio of computer-based applications that will assist an organisation in executing its business plans and realising its business goals". [6, 9]

Besides that, Kearns and Lederer (2004) referring to the research led by Sabherwal et al, (2001), proposed the formal or sensible procedure that can be suitably under such conditions [14, 20, 23]. King and Teo (1997) forward that SISP is competing when the organisations try to use effectively it to improve its IS applications, revise business procedure and profit on competitive advantage. [12, 24, 25]

Rogerson and Fidler [12] propose that SISP provide an understanding of the information needed to realise business objectives and implement the systems. Before setting an information systems framework, IT/IS professionals should set an IS planning framework that induces all the essential elements needed to be able to come up with an IS strategy that would surely work and be coherent in the alignment of the corporate strategy [12, 25].

As the initial stage in the setting of an IS strategy, a detailed plan work must be set. According to Bhatnagar (2007) this is a typical framework for IS planning:

• Phase 1: The initial purpose, process and the scope of the IS strategy.

• Phase 2: IS planner should come to terms of these directions through in-depth analysis of the essence of the information needs, business processes and the needful business requirements.

• Phase 3: IS planner can envisage an IS plan that would be appropriate for the company. It is from these phases that the pre-requisites and considerations should carefully be looked into rather than overlooked into so that the IS planner would not miss out on something in the process of synthesising the bits of the ingredients in successfully formulating an effective IS strategy that works.

• Phase 4: IS planning framework allows an IS planner to outline a well-documented IS strategic plan which can examine and explore the features most vital for the organisation. This will lead the planner to devise an IS strategy plan that shows the right direction.

In an organisation, SISP generally started by an accord between the management of systems and the executives. The use of

technology should be projected well. [9, 25] The decision to carry out SISP must be evaluated well because SISP is expensive and difficult. In addition, members of the information systems development often do not want to be involved with business issues, and some senior managers fail to give the necessary support. Companies which lead usually SISP are in general mature and have a practical attitude to helping users get the most from the information systems [21, 27]. In review, whether an organisation requires a SISP, Remenyi [21] lists circumstances to be considered:

• Corporate-Wide Issues – These are issues that have an impact on most aspects of the organisation and which can radically affect the way the firm conducts its business.

Table 1	**ERA Characteristics**	**Information System**
60's	Data Processing (DP)	Standalone computers, remote from users, cost reduction function.
70's & 80's	Management Information Systems (MIS)	Distributed process, interconnected, regulated by management service, supporting the business, user driven.
80's & 90's	Strategic Information Systems (SIS)	Networked, integrated systems, available and supportive to users, relate to business strategy, enable the business - business driven.

Table 1.The relationship over time of the three eras of information systems

• Industry Drivers – This refer to conditions in the environment in which the firm functions which impact all organisations in the industry.

• Information Quality – This refers to the standard of reporting facilities supplied by the Information Systems Development (ISD).

• Information Management – This refers to a group of issues relating to how information is presented to appropriate users as well as how ISD is managed.

3. The Strategic IS/IT and Planning Process

According to Lederer and Sethi [6, 14] the objectives of the strategic planning of information systems are extensively and cover all feature important for normal functioning of organisations. These goals include: align Information Technology with business, gain competitive advantage, identify new applications, increase top management commitment, improve communication with users, predict IT resource requirements and develop information architecture. [20] These objectives can be broadly divided into four aspects.

• Alignment – Refers to the results of the linkage of IS strategy and business strategy.

• Analysis – Refers to the results of the study of the internal operations of the organisation

• Cooperation – Refers to the results of the general agreement about development priorities, implementation schedules and managerial responsibilities

• Improvement – Represents the enhancement of the potential of the planning system.

The degree of SISP satisfies these key objectives for an organisation contribute to evaluation of SISP success. A comprehensive review of the recent IS planning literature reveals that the following factors are related to the success of the IS planning process [20]:

• The need to align the corporate objectives with the IS strategy

• The underlying motivation for the initialisation of the planning process

• The level of maturity of the organisation

• The methodology used in developing the IS plan

• The framework used for setting IT investment priorities

• The measurement of effectiveness used for the IS department

• Preparation of an implementation plan is critical to meeting SISP objectives

3.1 SISP with IS Strategies

SISP is characterised as the process of identifying a portfolio of computer-based applications that can be implemented and in which it can favourably aligned with corporate strategy and can create an advantage over competitors. [12, 20, 25] SISP is the process of identifying the information systems (IS) requirements of an organisation at a high level. It is also the process of identifying a portfolio of computer-based applications that will assist an organisation to execute its business plans and realising its business goals. [20]

Here the emphasis is to put on the identifying application systems, which support and enhance organisational strategy. SISP provides a framework for the effective implementation of these systems. [12] It mirrors the business aims of the company by facilitating an understanding of the information needed to support those aims and the implementation of computer systems to provide that information. This will result with a plan for the development of systems towards some futurevision of the role of IS in the organisation.

The exercise of SISP has focused on the identification of suitable IS for the organisation, investment appraisal and implementation planning with the overall aim of aligning IS strategy with business strategy. Information security plans cannot exist in an empty space. Instead, the information security organisation is characteristically part of the overall organisationalobjective. Any objective and aim that are defined in the information security plan should be in alignment with those organisational goals.

To carry out SISP, an organisation generally carries out an intensive study. Majority of firms pursue some predefined and documented methodologies while other set their own versions. During the multi-steps study, a portfolio of applications is defined, along with appropriate priorities.

SISP fundamentally tackles four common issues [20]: (i) aligning IS/IT plans with the organisational business plan; (ii) designing IS/IT architecture for an organisation in such a way that user, applications and databases can be integrated and network together; (iii) efficiently allocating information systems development; and (iv) operational resource among competing applications and finally planning information project in order to complete on time and within budget and include the specific functionalities.

Aligning information systems to the organisational strategy goals has appeared to be a concern for managers over the last decade. Alignment is defined as “the capacity to demonstrate a positive relationship between information systems and the accepted financial measures of performance”. [22, 25] One of the most extensively used models of alignment is the Strategic Alignment Model proposed by Henderson and Venkatraman (1999). This multidimensional model (Figure 4) identifies the internal and external dimensions and how these can be integrated functionally with the organisational strategy [7, 22, 25].

Strategic Information Systems Planning (SISP) is an activity that assures continuous planning Information Technology to be implemented within an organisation in line with business strategies, improve the organisational effectiveness process, create business opportunities and contribute to organisational competitiveness. [15] An SISP methodology is particularly useful for inexperienced developer SISP as it provides systematic guidance to make the IS strategic formulation process.

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As information is the lifeblood of the organisation, seriously restricted or compromised to the information is dead or life for the organisation. [20] As McPherson (1996) suggests that, ‘information is vital to the success of the business and will be accountable for a significant share of the business’s various indicators of success, including its cash flow and market value’. [quoted in 20] Strategic information systems planning (SISP) plays a vital role in helping to avoid ‘lost opportunities, duplicated effort, incompatible systems, and wasted resources’. It looked a different way, the process of formulating an information systems plan helps to explicitly focus the planners’ attention on ‘major opportunities for exploiting information’. [20]

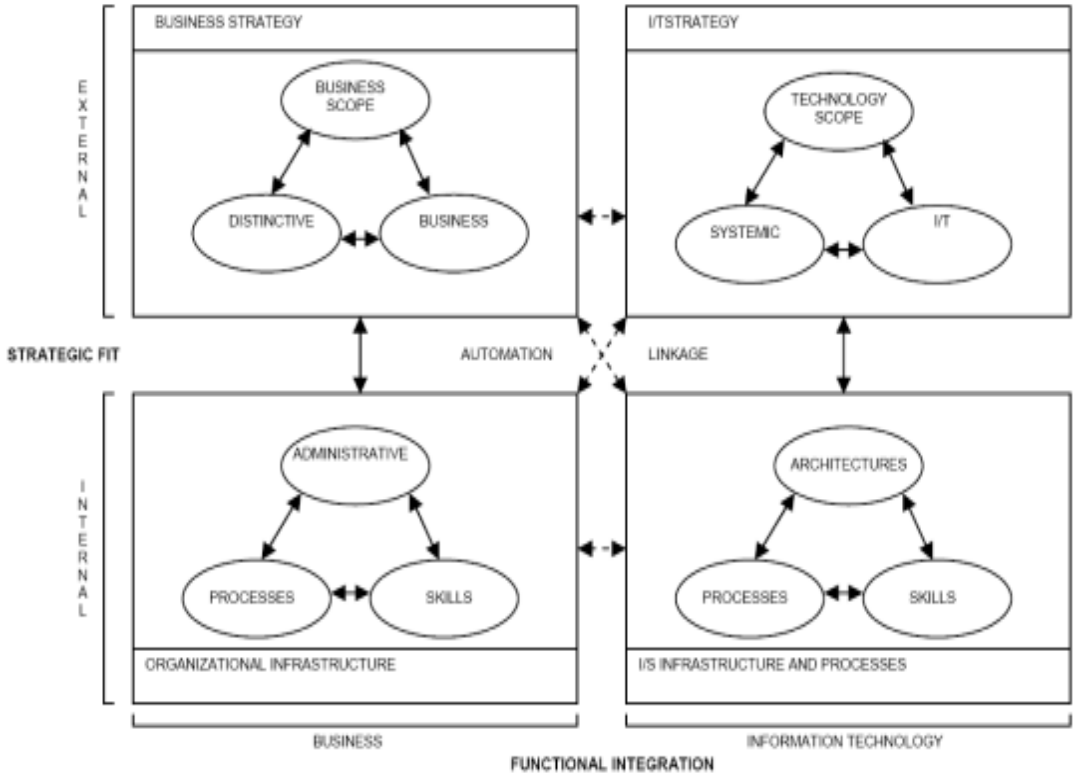

Figure 3. Strategic Alignment Model (Henderson and Venkatraman, 1999

Despite that that the information security 'policy is the start of security management' [12], Neil F. Doherty and Heather Fulford add that "while the caveat that the strategic information systems plan is a critical prerequisite for policy formulation, as it defines the business context in which information security will be managed and therefore the objectives of, and priorities for, security management". [20]

4. Conclusion

Planning IS beginnings with the identification of needs. These need may be on the basis problems in the existing system or based on an opportunity or assuming a directive of business board of directors. So a planning requires that goals, are formalised priorities and authorisation of information system projects. SISP is appreciated for its capacity to contribute substantially to organisations chiefly because it can identify the most desirable system development projects to invest.

SISP provides guidance on how the information systems infrastructure of the organisation should be developed over time. The plan serves as a road map indicating the direction and rationale of systems development. It also ensures better use of information systems resources, including funds, information systems personnel, and time for scheduling specific projects. With all these benefits, therefore, it follows that Strategic Information Systems Planning is an important process that enhances and sustains business performance.

The strategic information planning process should be a complete plan to accommodate the competence of the organisational competitiveness. For example, incorporating business strategy should be reflected in the Strategic Information Figure 1: Strategic Alignment Model (Henderson and Venkatraman, 1999 System Planning is an idea to increase the capability of SISP outcome. The deliverable from the SISP process will be more beneficial to the organisation, especially to the IS/IT department.

SISP plays a vital role in helping to IS strategic failures and lost opportunities, and creating an incompatible system. Looking at different ways, the process of formulating an information systems plan helps to explicitly focus the planners' attention on major opportunities for exploiting information.

It is important to relate strategic information systems planning with all other strategic attributes of the organisation for survival and prosperity. SISP is designed to identify what information resources are required and how they can be exploited.

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