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Abstract

The increasing importance of the strategic role of information systems (IS) in a world of global markets, exemplified by the trend to international e-commerce, has placed even greater emphasis on the need for effective IS strategic planning (ISSP). A first step in empirically determining the effectiveness of a particular ISSP project is to establish how ISSP success (the dependent variable) is to be defined and operationalised. Various approaches have been discussed in the IS literature. This study contributes to that discussion by undertaking a review of that literature and proposing a four-part approach for operationalising the dependent variable, ISSP success.

Keywords

Information systems strategic planning, success measures, planning effectiveness

INTRODUCTION

The research upon which this paper is based has the objective of defining and operationalising the dependent variable, ISSP success. In meeting this aim, the ISSP success literature is reviewed and a four-part approach for assessing the level of success of an organisation's IS strategic planning is proposed.

EVUALATION OF ISSP SUCCESS

Following Segars and Grover (1998, p. 140), the terms 'ISSP success' and 'ISSP effectiveness' are used interchangeably in this paper. The review of the ISSP success literature was undertaken in two steps. First, previous research into its measurement was thoroughly analysed. Second, the outcomes of this analysis was synthesised to provide a framework that can be used to assess an organisation's actual level of ISSP success.

ISSP Success Measurement Research

A paper entitled 'Success Measures for Information Systems Strategic Planning' (Fitzgerald 1993) provides a detailed analysis of the relevant literature up to the end of 1992. That analysis uncovered only a handful of research efforts in which an evaluation of ISSP effectiveness was the main objective (e.g. King 1988; Raghunathan & King 1988; Raghunathan & Raghunathan 1989b, 1990b; Lederer & Sethi 1991). In the intervening period, an additional four studies focussing on the measurement of ISSP success have been published in leading IS journals (i.e. Premkumar & King 1994a; Raghunathan & Raghunathan 1994; Lederer & Sethi 1996; Segars & Grover 1998). This list can be considered representative of the state of the art in this area as it was drawn from a detailed analysis of leading IS research publications. Only since 1988 has research begun to pay attention to this topic. Prior to that, assessing ISSP success had been a secondary consideration of a number of studies (e.g. Pyburn 1983; Galliers 1987a).

In these early studies, only very basic indirect operational measures of ISSP effectiveness were used. For instance to measure the degree of success of strategic IS planning, Pyburn (1983, p. 7) asked four or five senior operating executives in eight organisations two questions: the degree to which IS seemed to be addressing what they perceived to be the critical needs of the business (effectiveness); and the degree to which the IS organisation seemed to be well managed (efficiency). In his survey of IS managers in both the UK and Australia, Galliers (1987a) also had two questions dealing with the measurement of success in IS planning (ISP): how successful has ISP been in your organisation, and why has ISP been successful/unsuccessful in your organisation? Galliers' finding (p. 253) that different stakeholders are likely to apply different success measures supports similar earlier findings in the corporate planning literature (e.g. Ansoff 1965; Ackoff 1970; Dyson & Foster 1980; King 1983, 1984c; Ramanujam et al. 1986) and highlights the need for multiple stakeholder analysis of ISSP success. The limitations of these early studies notwithstanding, they did serve to direct

attention to the problem of measuring the effectiveness of ISSP and to highlight the need for further research.

The first significant advance on these early attempts came in 1988 with King's (1988) normative model in which he defined eight evaluation points on a schematic model of ISSP. This model was an adaptation of King's (1983, 1984c) earlier model for evaluating strategic (corporate) planning. According to King (1988, p. 105), assessments made at each of the eight evaluation points, when viewed as an overall 'effectiveness profile', constitute a comprehensive assessment of ISSP. The strengths of this model derive from the underlying methodological bases of its evaluation procedure (King 1988, p. 106): multi-dimensional assessment; internal and external benchmarks; multiple stakeholder analysis.

There is strong support in the earlier corporate planning literature for King's approach of basing the measurement of planning system effectiveness on multiple facets of the system and the organisation (e.g. Ansoff 1965; Ackoff 1970; Dyson & Foster 1980; Ramanujam et al. 1986). In concluding their argument for such an approach, Ramanujam et al. (1986, p. 348) posited: 'A truly meaningful assessment of the value of planning systems should, therefore, recognise their multidimensional nature and the plurality of approaches that can be used to assess their worth'. Nevertheless, King's model has major limitations:

- no attempt has been made to validate the eight determinants of ISSP success upon which the measurement approach is based.
- no measure of an ISSP system is provided; the overall evaluation is based on subjective judgments of mainly 'soft' data;
- the nature of the multivariate relationship between the eight criteria of ISSP success needs to be determined and allowed for in the model.

Table 1, extends Fitzgerald's (1993) table 1, by analysing four more recent studies in which measurement of ISSP success was a major objective. In contrast with the earlier research of Pyburn (1983) and Galliers (1987a) reviewed above, the studies from the late eighties onwards are characterised by construct measurement issues. This is demonstrated by the attempts to operationalise the selected constructs and to measure their changes. However, as some of the researchers themselves admit (e.g. Raghunathan & King 1988, p. 92; Lederer & Sethi 1991, p. 117), their mainly single or at best bi-dimensional dependent variables are a very narrow operationalisation of ISSP effectiveness. In addition, as is clearly indicated in table 1 below by the widespread use of Likert scales, there is a large degree of subjectivity involved in the measurement approaches adopted thus far.

While the more recent of these studies (i.e. post Fitzgerald's 1993 review) have made other important contributions, they have neither added to the dimensions used to represent ISSP success, nor reduced the level of subjectivity in assessing those dimensions. To support this assertion, the measurement approaches used in the four most recent studies (see table 1) are now considered.

In two of the studies (i.e. Raghunathan & Raghunathan 1994; Segars & Grover 1998) defining and operationalising the dependent variable, ISSP success, is the focus of the study, whereas in the remaining two (i.e. Premkumar & King 1994a; Lederer & Sethi 1996), ISSP success is the dependent variable in research models in which the effects of independent variables are assessed. In keeping with what appears to be almost universal practice in research into ISSP success measurement nowadays, all four studies based their operationalisation on the Venkatraman and Ramanujam (1987) study, which in turn was based on the seminal work of Cameron and Whetton (1983). However, in all four studies, at most only two of Venkatraman and Ramanujam's (1987) four dimensions have been included. As will be seen below, this study's operationalisation of the dependent variable, ISSP success, incorporates all four dimensions.

In the first of the four studies, Premkumar and King (1994a) conceptualised IS planning success in terms of two interrelated dimensions: *planning system capabilities* (naming the construct, Quality of the Planning Process) and *the fulfilment of key (generic) planning objectives* (which they entitled, Planning Effectiveness). Similarly, for their investigation of the key prescriptions for ISSP, in defining ISSP success Lederer and Sethi (1996) also used two interrelated dimensions: *the fulfilment of (generic) objectives* and *planner satisfaction*, the latter derived from McLean and Soden's (1977) study.

As mentioned above, in the remaining two studies an operational model for measuring ISSP success is developed. In both instances, two very similar interrelated dimensions are used to conceptualise ISSP success. In the earlier of the two papers, Raghunathan and Raghunathan (1994) define ISSP success in terms of *IS planning system capabilities*, and *the extent of fulfilment of key (generic) IS planning objectives*. However four years later, in an investigation of the ISSP construct and its measurement, Segars and Grover (1998, p. 139) argued that there is still very little understanding of how the success of the IS planning activity is measured.

Reference	Variable(s)	Measurement Instruments	Methodology

Premkumar & King (1994a)	Dependent:
	. ISSP success:
	  - quality of IS planning process (4 process dimensions of ISSP)
	
	  - fulfilment of planning objectives (7 generic objectives of ISSP)
	
	Independent:
	. 8 organisational factors
		Likert scales:
		- 7-point scale, from 'little detail' to 'great detail'
		
		- 7-point scale, from 'not at all' to 'to a very great extent'
		
		Various metrics (pp. 85-90)
		 - some quantitative (e.g. size)
		- some 7-point Likert scales (e.g. present/future role of IS)
			Survey of 720 firms
			(249 responses)

Raghunathan & Raghunathan (1994)	Dependent:
	. ISSP success:
	  - improvement in planning system capability (10 key capabilities of IS planning)
	
	  - fulfilment of planning objectives (8 generic objectives of ISSP)
	
	Independent: nil
		Likert scales:
		- 5-point scale, measuring extent of improvement
		
		- 5-point scale, from 'not at all' to 'to a very great extent'
			Survey of 800 firms
			(202 responses, 192 usable)

Lederer & Sethi (1996)	Dependent:
	. ISSP success:
	  - fulfilment of planning objectives (10 generic objectives of ISSP)
	
	  - satisfaction of the planner
	
	Independent:
	. ISSP prescriptions
		Likert scales:
		- 5-point scale, from 'not at all' to 'to a very great extent'
		
		- 5-point scale, from 'extremely satisfied' to 'extremely dissatisfied'
		
		Likert scales:
		rated 71 ISSP prescriptions on the extent prescriptions followed:
		- 5-point scale, from 'not at all' to to 'a very great extent'.
			Survey of 840 firms
			(199 responses, 105 usable)

Segars & Grover (1998)	Dependent:
	. ISSP success:
	  - objective fulfilment (3 dimensions: alignment; analysis, cooperation)
	
	  - improvement capability (planning capabilities)
	
	Independent: nil
		Likert scales:
		- 7-point scale, from 'entirely unfulfilled' to ' entirely fulfilled '
		
		- 7-point scale, from 'much deterioration to much improvement'
			Survey of 550 firms
			(262 responses, 253 usable)

Table 1: Summary–Recent Empirical Research into ISSP Effectiveness Measurement

They proceeded to develop and test a measurement model using basically the same two constructs (but different operationalisation): *objective fulfilment*, and *improvement capability*. A contribution of their study is their novel conceptualisation of objective fulfilment. In place of the eight or ten generic objectives used in earlier studies, Segars and Grover (1998, p. 143) grouped a set of 28 objectives into three broad dimensions: alignment, analysis, and cooperation. They then operationalised each of these with a set of seven or eight item measures. In an even more recent publication, Segars and Grover (1999, p. 199) identify '... five distinct profiles of strategic planning' based upon six dimensions. Even though there is a degree of overlap with the 1998 paper in the theoretical foundations and some of the dimensions, as this new research focuses on planning profiles - not planning success - it has not been added to table 1.

Following from the above analysis, it is clear that the ideal metrics for ISSP success would eschew both a uni-dimensional approach and subjectivity of the measures. However, the current 'pre-scientific' state of research in this area is well exemplified in table 1 with all approaches relying on subjective judgment. It appears, therefore, that at our current level of knowledge, we can measure ISSP success only indirectly.

Thus, whilst no way was found to eliminate subjective measures, in the next sub-section the framework created in this study to assess ISSP success incorporates more dimensions of ISSP success than do any of these earlier empirical studies.

ISSP SUCCESS MEASUREMENT FRAMEWORK

As ISSP success is the construct of primary interest in this study, it is the dependent variable. Generally, it is the researcher's goal to explain the variability in the dependent variable by '... quantifying and measuring this variable, as well as the other variables that influence this variable' (Sekaran 1992, p. 65). However, before a construct can be quantified or measured, it '... must be made operational' (Zikmund 1997, p. 333) by '... looking at the behavioural dimensions, facets, or properties denoted by the concept, and categorising these into observable and measurable elements' (Sekaran 1992, p. 150). The operationalisation of the dependent variable, ISSP success, is now addressed.

The multi-dimensional framework for measuring ISSP success was created by updating and extending the approach proposed in table 2 of Fitzgerald (1993, pp. 344-5). Venkatraman and Ramanujam's (1987) description of Cameron and Whetton's (1983) four components of organisational effectiveness measurement provided the foundation for the construction of the aforementioned table. When adapted to the ISSP environment and extended and modified by incorporating relevant research from the areas reviewed earlier in this section, the four components resulted in the framework depicted in table 2. The four components are goal-centred judgment, improvement judgment, normative judgment, and comparative judgment.

The structure of the framework that was created for assessing ISSP success, the dependent variable in this study, is evident in table 2. For each of the four dimensions, the framework contains:

- a brief description of its purpose;
- a list of previous ISSP studies in which the dimension, or some aspect of its operationalisation, has been discussed or applied;
- an outline of the steps taken in this study to operationalise the dimension;
- the name given in this study to the construct that was used to represent the dimension.

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(1)   *Goal-centred judgment*

Purpose: to determine the degree of fulfilment of the stated objectives of the organisation's ISSP process.

Previous research:
Cameron and Whetton (1983); Pyburn (1983); Galliers (1987a); Venkatraman & Ramanujam (1987); King (1988).

Operationalisation in this study:
- extract all major objectives from the organisation's IS strategic plan;
- ask stakeholders to indicate the extent to which each objective has been achieved (interviews and questionnaire - five-point scale from 1, 'not at all' to 5, 'fully').

Name given to the construct:
- Fulfilment of stated ISSP objectives.

(2)   ***Improvement judgment***

Purpose: to assess the improvement in (benefits to) the organisation resulting from the ISSP process.

Previous research:
Dyson & Foster (1980); Cameron and Whetton (1983); Venkatraman & Ramanujam (1987); King (1988); Raghunathan & Raghunathan (1989b, 1990b).

Operationalisation in this study:
- start with important process benefits of ISSP from the literature;
- ask stakeholders in interviews to identify additional benefits arising from each organisation's ISSP process;
- ask stakeholders (interviews and questionnaire) to assess extent of attainment of these ISSP process benefits.

Name given to the construct:
- Achievement of ISSP process benefits.

(3)   ***Normative judgment***

Purpose: to compare the effectiveness of the organisation's ISSP with 'ideal' benchmarks (e.g. with generic ISSP objectives; with the avoidance of common problems).

Previous research:
Cameron and Whetton (1983); Pyburn (1983); King (1988); Lederer & Sethi (1988, 1991, 1992a, 1996); Earl (1990); Raghunathan & Raghunathan (1994); Premkumar & King (1994a)); Segars & Grover (1998).

Operationalisation in this study:
- using the literature, the following two categories of internal benchmarks were identified:
  - generic ISSP objectives;
  - common ISSP problems.
- ask stakeholders (interviews and questionnaire) to assess extent of attainment/avoidance as relevant for each category.

Name given to the construct:
- Attainment of ISSP benchmarks.

(4)   ***Comparative judgment***

Purpose: to assess the quality (capability) of the organisation's ISSP process.

Previous research:
Cameron and Whetton (1983); Boynton & Zmud (1987); Karimi (1988); King (1988); Earl (1990); Premkumar & King (1994a); Raghunathan & Raghunathan (1994); Lederer & Sethi (1996); Segars & Grover (1998).

Operationalisation in this study:
- use secondary sources of data (ISSP plans, etc.) to assess planning capability and planning maturity levels:
  - use the important internal and external aspects of the business and IT environments that are inputs to the ISSP process (from the literature);
  - use maturity (stages) models of ISSP from the literature;
- ask stakeholders (interviews and questionnaire) their perceptions of the overall success of the organisation's ISSP;
- compare the organisation's ISSP capability with that of other similar organisations.

Name given to the construct:
- Assessment of ISSP process capability.

Table 2: ISSP Success Measurement Framework (dependent variable)

Thus, as graphically portrayed in figure 1 below, in this study ISSP success was considered from four perspectives, the first three measuring the 'ends' or benefits of ISSP while the fourth (comparative judgment) measured the 'means' or process of ISSP. Well-known previous empirical studies (see table 1 above), while advocating multi-dimensional approaches, have assessed ISSP success using, at most, two perspectives. As the

data collection method in all of these studies was mailed questionnaires, a possible explanation may be the desire of the researchers to limit the size of the instrument in an attempt to maximize the response rate.
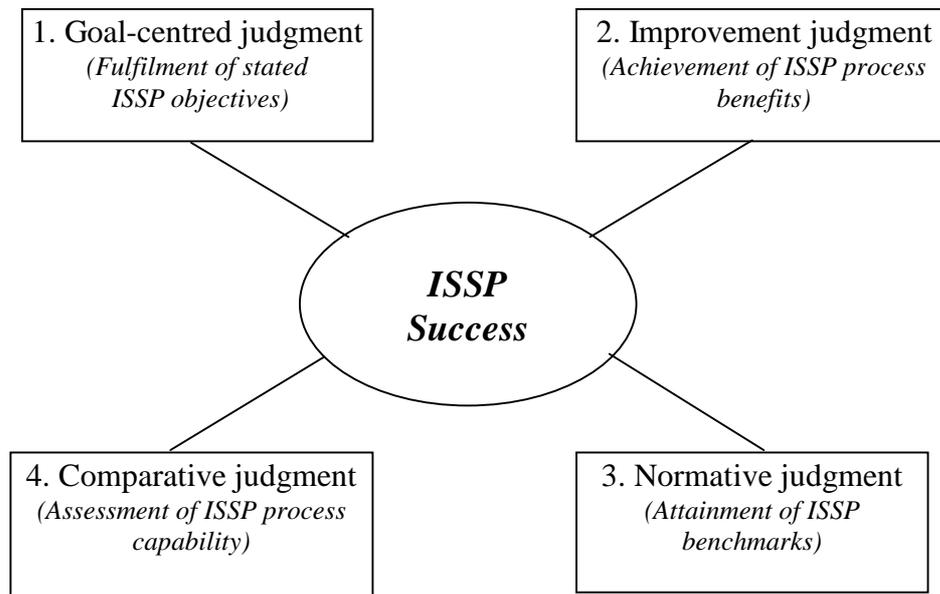
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┌──────────────────────────┐          ┌──────────────────────────┐
│  1. Goal-centred judgment │          │  2. Improvement judgment │
│     (Fulfilment of stated │          │   (Achievement of ISSP   │
│        ISSP objectives)   │          │     process benefits)    │
└──────────────────────────┘          └──────────────────────────┘

                          ╭───────────────╮
                          │     ISSP      │
                          │    Success    │
                          ╰───────────────╯

┌──────────────────────────┐          ┌──────────────────────────┐
│  4. Comparative judgment  │          │   3. Normative judgment  │
│   (Assessment of ISSP     │          │    (Attainment of ISSP   │
│     process capability)   │          │        benchmarks)       │
└──────────────────────────┘          └──────────────────────────┘
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Figure 1: ISSP Success Measurement (4 constructs)

Following King (1988), by viewing the assessments made for the four dimensions as an overall 'effectiveness profile', a comprehensive assessment of an organisation's ISSP success can be achieved.

An explanation of the operationalisation of each of the four constructs in the above framework (table 2) is now undertaken.

Fulfilment of Stated ISSP Objectives (goal-centred judgment)

In addition to using all four of Cameron and Whetton's (1983) four dimensions, another key distinguishing feature of my study's operationalisation of the dependent variable, ISSP success, is its use of the *actual objectives* used by each organisation in its ISSP project, to assess the goal-centred judgment dimension. In all other studies known to the author where fulfilment of planning objectives constituted part of the metrics of ISSP success (e.g. the four most recent studies analysed in table 1: Premkumar & King 1994a; Raghunathan & Raghunathan 1994; Lederer & Sethi 1996; Segars & Grover 1998), the researchers have used a list of *generic* ISSP objectives.

Of course, it would be difficult to do otherwise when the data collection approach relies on mailed questionnaires, as the actual planning objectives will vary from organisation to organisation and from one planning project to the next (Saaksjarvi 1988, p. 528). Nevertheless, generic objectives certainly do not meet Cameron and Whetton's (1983) stipulation for goal-centred judgment (i.e. determining the degree of fulfilment of the objectives of the organisation's ISSP process). Rather it addresses their third dimension of normative judgment (i.e. comparing the effectiveness of an organisation's ISSP with 'ideal' benchmarks). This is a major limitation (generally unacknowledged) of these studies. They attempt to assess the success of organisations' ISSP on the basis of the fulfilment of objectives that the organisations may not have included, and may have had very good reasons for not including, as objectives of their planning.

To overcome this problem, the organisation's actual ISSP objectives must be obtained (e.g. from their strategic planning documents) and then the level of attainment of each be assessed.

Achievement of ISSP Process Benefits (improvement judgment)

In early studies of IS planning, it was commonly held that the plans needed to be implemented to have an impact on the organisation (Davis 1974; McLean & Soden 1977; Ein-dor & Segev 1978). Even as recently as 1988, models for assessing ISSP success were still being founded on this narrow assumption (e.g. Raghunathan & King 1988, p. 87). However, nowadays it is widely recognised that the actual process of planning can be very beneficial even if the plans themselves are never implemented (Earl 1989; Broadbent & Weill 1993; Ward & Griffiths 1996; McNurlin & Sprague 1998). Not implementing plans that have involved a lot of organisational

resources and effort may, of course, be dysfunctional in other ways (e.g. reduced commitment to future planning efforts).

Unintended consequences aside, a number of ISSP process benefits have been identified in the research literature. These tend to be what have been referred to as 'soft' benefits (Earl 1989, p. 84) and generally involve organisational learning of one type or another. For example, the actual process of carrying out IS strategic planning has the potential to deliver such benefits as:

- improved communication and understanding between the IS department and the business units, potentially leading to such outcomes as better teamwork, and greater support for new projects (Earl 1989; Keen 1991a, p. 214; Lederer & Gardiner 1992a, p. 83; McNurlin & Sprague 1998);
- greater top management support for IT (Benbasat et al. 1987; Keen 1991a; Scott Morton 1991; Ward & Griffiths 1996; McNurlin & Sprague 1998);
- the IS department having a better understanding of the business (Earl 1989; Lederer & Mendelow 1989; Nath 1989; Broadbent & Samson 1990; Broadbent & Weill 1993);
- top and user management having a better understanding of the current role of IT and its future potential to the business (Vitale et al. 1986; Lederer & Putman 1987; Lederer & Mendelow 1989; Nath 1989; Broadbent & Samson 1990; Keen 1991a; Lederer & Gardiner 1992a, p. 83; Broadbent & Weill 1993; Ward & Griffiths 1996);
- greater unity and focus within the IS department (Ball 1982, p. 34; Ward & Griffiths 1996);
- greater ownership by the business units of the outcomes of the strategic plan (Earl 1989; Ward & Griffiths 1996; McNurlin & Sprague 1998).

Thus, the achievement of planning process benefits can be assessed in terms of the above attributes. Given the 'soft' nature of these benefits, it is suggested that the assessment be accomplished by interviewing ISSP stakeholders.

Attainment of ISSP Benchmarks (normative judgment)

The strategic business planning and IS planning literatures were surveyed in order to identify benchmarks against which an organisation's ISSP can be normatively assessed. Following Schendel and Hofer (1979b, p. 388), here the term 'normative' refers to 'how things should be done' in contrast with 'descriptive' which refers to 'how things are done'. Two categories of internal benchmarks were identified: extent of fulfilment of generic ISSP objectives, and extent of avoidance of common ISSP problems.

Generic Objectives

In addition to rating the extent to which an organisation's stated objectives were fulfilled (see 'goal-centred judgment above), stakeholders could also be asked to rate the extent of fulfilment of a list of generic ISSP objectives. The word 'generic' means 'characteristic of a genus or class; applied to a large group or class' (Concise Oxford Dictionary). Thus, 'generic ISSP objectives' are goals for IS planning that practice and/or research have identified as being commonly adopted, that is, they supposedly are characteristic of the IS planning process.

Generic objectives have been used to assess ISSP success for a considerable period of time. For example, Pyburn (1983, pp. 3-4) asked his respondents to indicate the extent to which four common objectives were addressed by their ISSP process. A similar approach was subsequently adopted by many researchers (e.g. Earl 1990, p. 271; Premkumar & King 1994a, p. 104; Raghunathan & Raghunathan 1994, p. 329; Lederer & Sethi 1996, p. 46; Segars & Grover 1998, p. 146). However, the number and variety of 'generic' objectives employed in these studies indicate that there is certainly no general agreement as to what constitutes 'common' objectives for ISSP. Nevertheless, a synthesis of these studies suggests that ISSP is concerned with at least the following:

- aligning IT strategies with business goals (reactive role) ;
- gaining a competitive advantage from IT (proactive role);
- identifying IT resource requirements;
- developing IT policies and architectures.

Thus, the first part of the normative assessment of ISSP success can be achieved by asking stakeholders the extent to which their IS strategic planning addressed the above four 'generic' objectives.

Common ISSP Problems

For the second part of the normative assessment of ISSP success, the benchmark that was adopted was that of

avoiding problem areas in the planning approach (i.e. in the method, process and implementation). It was proposed by Ramanujam et al. (1986) as a suitable ISSP success metric and subsequently used in an in-depth study of ISSP methodologies by Lederer and Sethi (1988, 1991, 1992a, 1992b), and later by Raghunathan and Raghunathan (1994, p. 329) as one of their eight planning objectives.

As the studies by Lederer and Sethi have been the most comprehensive undertaken in this area, the 18 problems (1991, p. 113) that their research distilled from their original list of 49 (1988, pp. 450-1) were adapted in this study for use as the second benchmark of ISSP success. Stakeholders could be asked as part of a written quesstionnaire to indicate the extent to which the problems were encountered during/after their organisation's ISSP study.

Assessment of ISSP Process Capability (comparative judgment)

A review of the strategic business planning and IS planning literatures uncovered four main approaches for assessing planning system capability:

- the extent of analysis of the major business and IT inputs to the ISSP process (Boynton & Zmud 1987; Karimi 1988; Premkumar & King 1994a; Ward & Griffiths 1996);
- the maturity level of the organisation's planning process (Bhabuta 1988; Hirschheim et al. 1988; Earl 1989, p. 86; Galliers & Sutherland 1991);
- the stakeholders' perceptions of the success of the ISSP process (Pyburn 1983; Galliers 1987a; Premkumar & King 1994a, Segars & Grover 1998);
- a comparison with other organisations' ISSP process (Cameron & Whetton 1983; Venkatraman & Ramanujam's 1987; King 1988; McNurlin & Sprague 1998).

Extent of Analysis

In their model of the ISSP process, Ward and Griffiths (1996, p. 129) depict its inputs as the external and internal business and IS/IT environments. Based mainly on the earlier work of Boynton and Zmud (1987) and Karimi (1988), the extent of planning analysis of each these inputs can be measured using the following six items:

- IS related business opportunities and threats in the external environment;
- business strategies and their linking to IS strategies;
- IT trends and their effect on the organisation;
- current uses of IT in the organisation;
- development of organisation-wide IS/IT architectures;
- level of integration of software systems.

Both primary (via interviews) and secondary (analysis of documents) data are suggested to assess the above items.

Maturity Level

Extant research suggests that firms learn how to undertake ISSP in an evolutionary manner, that is, their planning goes through stages. A number of ISSP 'maturity' or 'stages' models have been proposed (e.g. Bhabuta 1988, p. 1.76; Hirschheim et al. 1988, p. 82; Earl 1989, p. 86; Galliers & Sutherland 1991, p. 93), all depicting identifiable stages through which organisations' IS planning evolves over time. While all four models are of interest in the evaluation of ISSP, only the first (Earl's) and the last (Galliers') focus specifically on the evolution of the ISSP approach. Galliers' model, being the more comprehensive of the two, best meet the objective to categorise the stage of development of an organisation's ISSP approach.

Earl (1989) depicted the evolution in organisations' use of ISSP over five stages by calling attention to the following five factors: task, objective, direction/involvement, methodological emphasis, and planning context. He argues that organisations typically begin their planning with a bottom-up mapping of applications coverage and IT utilisation. Over the next few stages, the focus increasingly shifts from technology to management concerns, resulting in the IS strategy being aligned with business needs and the planning becoming more detailed. Eventually the stage is reached where the business-IT strategy connection is fully understood and achieved and the need for multiple methodologies is accepted.

Galliers (in Galliers & Sutherland 1991, p. 93) added an extra stage (a supplementary first stage of planning, which '… is essentially *ad hoc* in nature'), and a sixth factor (the *focus* of the planning effort). He argues that there has been a tendency for the focus of ISSP '… to change over the years from a predominantly isolated

information systems function orientation, through an organisational focus, to a competitive, environmental focus' (p. 93).

It is suggested that the organisation's ISSP maturity stage be assessed using both primary (via interviews) and secondary (analysis of documents) data.

Stakeholders' Perceptions

The level of success of the ISSP process as determined by the perceptions of stakeholders has been used extensively in ISSP research (e.g. Pyburn 1983; Galliers 1987a; Premkumar & King 1994a; Lederer & Sethi 1996; Ward & Griffiths 1996; Doherty et al. 1999; Segars & Grover 1998, 1999). Accordingly, it is suggested that the third part of the 'comparative judgment' assessment of ISSP success be accomplished by asking stakeholders to provide their perceptions of the success of their organisation's IS strategic planning process. It will be best assessed qualitatively via interviews, and 'quantitatively' in a questionnaire to be completed by the stakeholders.

The following eight criteria gleaned from the research literature (King 1983, 1988; Pyburn 1983; Galliers 1987a; Earl 1990; Ward et al. 1990; Premkumar & King 1991, 1992; Lederer & Sethi 1996) were selected for the perceptions framework:

1   the extent ISSP made clear the role of IT;
2   the extent ISSP made clear the direction that IT should take;
3   the extent ISSP made clear the resources that would be required;
4   executive management's overall rating of the success of the IS planning process;
5   senior user management's overall rating of the success of the IS planning process;
6   senior IT management's overall rating of the success of the IS planning process;
7   users' overall rating of the success of the IS planning process;
8   stakeholders' own overall ratings of the success of the IS planning process.

Comparison With Other Organisations

The assessment of planning effectiveness by comparing the target organisation's planning process with the planning undertaken in other organisations has been a recommended metric for a considerable time (e.g. Cameron & Whetton 1983; King 1983, 1984a, 1988; Venkatraman & Ramanujam's 1987). In attempting to operationalise the construct, King (1988, p. 106) suggested that 'It is relatively easy to estimate "industry standards" as well as standards for "well-managed" firms to which a firm might wish to be compared'. Just how easy it is to derive the standards to be used in the comparison is a moot point. Nevertheless, if they can be obtained, they obviously provide a useful additional metric in any multi-dimensional assessment of ISSP success.

CONCLUSION

In summary, to cope with the complexity of the dependent variable, ISSP success, this study's findings suggest it be operationalised using both:
- multi-dimensional assessment - using internal and external benchmarks:
  internal: its specific goals, process benefits, maturity level, quality of the planning process;
  external: generic ISSP goals, avoidance of common ISSP problems, ISSP performance of another organisation; and
- multiple stakeholder analysis - as ISSP serves a variety of interest groups:
  representatives of the ISSP stakeholder set (planners, executive and line managers, IS development staff, and other users) in each organisation.

The resulting framework (see table 2 above) enables a more comprehensive empirical assessment of ISSP success than any that could be located in previous research. Distinguishing features of this study's approach to the assessment are the measurement of four dimensions of ISSP (previously, at most two had been evaluated), and the inclusion of each organisation's actual ISSP objectives (rather than generic goals) in the goal-centred assessment (generic goals were also evaluated, but as part of normative judgment).

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