

December 2004

Using Grounded Theory in the Analysis of Literature: The Case of Strategic Information Systems Planning

Irwin Brown
University of Cape Town

Dewald Roode
University of Cape Town

Follow this and additional works at: <http://aisel.aisnet.org/acis2004>

Recommended Citation

Brown, Irwin and Roode, Dewald, "Using Grounded Theory in the Analysis of Literature: The Case of Strategic Information Systems Planning" (2004). *ACIS 2004 Proceedings*. 113.
<http://aisel.aisnet.org/acis2004/113>

This material is brought to you by the Australasian (ACIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ACIS 2004 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

Using Grounded Theory in the Analysis of Literature: The Case of Strategic Information Systems Planning

Mr Irwin Brown
Prof Dewald Roode
University of Cape Town

Department of Information Systems
University of Cape Town
South Africa

Email: ibrown@commerce.uct.ac.za

Email: droode@commerce.uct.ac.za

Abstract

Strategic Information Systems Planning (SISP) has been widely researched, yet continues to be ranked as a key concern to IS managers. There have thus been calls for a strong theory to underpin SISP. In this study a theory is developed by integrating the findings from several major research studies published in the academic literature. The method employed is the grounded theory method, which is a qualitative research approach whose goal is specifically the generation of theory from data. The resultant theory possesses some unique characteristics as a result of using the grounded theory method.

Keywords

Strategic Information Systems Planning, SISP, Grounded Theory, Literature analysis, Theory in IS

INTRODUCTION

Strategic information systems planning (SISP) has been defined as the process of identifying a prioritised portfolio of information systems, strategic or otherwise, as well as the resources, organisational structure and management of change considerations necessary for implementation (Baker, 1995). It has been the subject of research for many decades and has remained a key IS management issue across the globe (Watson et al., 1997).

Lederer and Salmela (1996) note that research in SISP has been hampered by the lack of a strong theory to underpin it, and therefore, through literature analysis propose a variance model together with a set of hypotheses, as the basis for describing a theory of SISP. Brown (2004) extends this work through literature analysis and quantitative meta-analysis, and finds other relationships and hypotheses, in addition to those set out by Lederer and Salmela (1996). Baker (1995) alternatively describes a systems theory of SISP, which takes a processual view, and incorporates feedback as an important element of the SISP system. Lamprecht and Roode (1999) use structurational theory as the basis for describing SISP, and in so doing define it as “a continuous, emergent process through which individual IS users attempt to steer the direction of social system production and reproduction” (p. 1).

This demonstrates that there is not one, but several competing theories of SISP being promulgated, these varying in their degree of similarity and difference. In this paper, an attempt is made to define an overarching theory for SISP based on contemporary academic research literature. However, unlike previous studies that have attempted to do the same, a method whose specific purpose is to build theory is employed. This method is known as the grounded theory method (Bryant, 2002), and attempts to develop theory that is grounded in data gathered through the research process (Strauss and Corbin, 1998).

The data in this case will be the contemporary literature, which, while not common in grounded theory studies, has been done before (e.g., Le Roux, 2001). Since there are such a plethora of studies on SISP (Brown, 2004), only those that attempt to holistically examine the subject were targeted as the primary data for grounded theory analysis. Other SISP studies, nevertheless, were not totally excluded, as they served as a basis for comparative analysis. The advantage of using the grounded theory method in literature analysis, as opposed to alternatives such as meta-analysis, is that with meta-analysis, correlation coefficients or other such statistical data needs to have been reported on, thus leading to exclusion of studies, particularly qualitative studies, where such data is not reported. With grounded theory analysis, on the other hand, findings from both qualitative and quantitative studies can be included. Previous conceptual studies that have attempted to develop theory using some other means of analysing the literature were not included in this analysis, as these represent alternative ways of

achieving the same end. A specific, systematic methodology is being attempted in this study, which may or may not result in the same end result.

This study is in part a response to the call for more conceptual and theory-building research in IS (Webster and Watson 2002, Weber 2003). In particular, Weber (2003) calls for theory building skills to be improved in the IS discipline, and for more theory-building research to be undertaken. Support for these assertions comes from Glaser and Strauss (1967) who note that for the development of a field of knowledge, it is important to generate theory about phenomena, rather than just come up with a set of findings about it.

In the next section, the view of theory taken in this study will be outlined, following which the grounded theory methodology will be described. Thereafter, the results of applying grounded theory to literature will be delineated, before a discussion of these results, as well as of limitations and ideas for future research. Finally, we draw some conclusions.

DEFINITION OF THEORY ASSUMED

Checkland and Howell (1998) highlight the need for a close working relationship between theory and practice in IS, where theory informs practice, and theory is informed by practice. That the two are not working as harmoniously as would be expected is reflected in perennial debates on rigour versus relevance in IS research (Kock et al., 2002).

Given the diversity of opinion about what theory is, and what its components are, the definition provided by Strauss and Corbin (1998) is that which is assumed in this article, i.e., a theory is “a set of well-developed concepts related through statements of relationship, which together constitute an integrated framework that can be used to explain or predict phenomena” (p. 15). This definition is similar to that ascribed to by Weber (2003).

GROUNDING THEORY METHOD (AS ESPOUSED BY STRAUSS AND CORBIN, 1998)

Grounded theory has been defined as theory that is derived from data systematically gathered and analysed through the research process (Glaser and Strauss, 1967). At the core of the method are three coding procedures:

Open Coding – The process through which concepts are identified, these being elaborated through definition of their properties and dimensions. The properties of a concept are the characteristics that define it and give it meaning, whilst a dimension is the range along which a property varies. Lower order concepts are usually grouped into a higher order concept called a category.

Axial Coding - The process of relating categories to other categories, termed “axial” because coding occurs around the axis of a category, linking categories at the level of properties and dimensions. In axial coding, a paradigm model is employed to help link structure and process. The paradigm model is made up of causal conditions (those concepts which cause or influence a phenomenon), intervening conditions (those that limit the impact of causal conditions on a phenomenon), contextual conditions (sets of conditions that intersect dimensionally to create a context), actions/interactions (which maybe strategic or routine), and consequences of actions/interactions.

Selective Coding – The process of integrating and refining the theory. Included in this phase is the identification of a central category(ies), and organisation of other categories around these, trimming away excess categories, and defining more clearly poorly defined categories.

Although the coding is depicted as consisting of three major steps, these are typically not performed linearly. In reality, there is a constant iteration between the three steps, as new data is analysed, and new insights emerge. The process usually continues until saturation point is reached – i.e., no new information emerges, or that which does emerge does not add much to the explanation at that point in time.

GROUNDING THEORY IN THE ANALYSIS OF SISP LITERATURE

In commenting on the use of technical literature as a data source, Strauss and Corbin (1998) note that literature can be used as a secondary source of data, and that published descriptive materials often give very accurate descriptions of reality. On the other hand, they warn against being too steeped in the literature, as this will limit the ability to think creatively about new concepts and categories emerging from data gathered through field work. This study differs from conventional grounded theory analysis, however, in that the literature serves as the only source of data. In selecting articles, the guiding principle was to identify as much as possible those that address SISP holistically, rather than those focusing on only one or two concepts and/or relationships. In total, 27 articles formed the basis for data analysis, these ultimately representing the writings of some of the major researchers in SISP over the past decade or so (e.g., Galliers, Lederer and Sethi, King, Teo). The papers

analysed are indicated in the References section. Other articles were not totally excluded, as they served as a basis for comparative analysis and verification, and as sources for “in vivo” concepts (Strauss and Corbin, 1998).

Open Coding

During the first iteration of open coding, 480 concepts were identified. By comparative analysis, and removal of duplicates, these were reduced to 179. The concepts were then grouped into higher order categories. There were initially 17 categories identified, but for the sake of parsimony these were reduced to 9.

Axial Coding

During axial coding, each category was delineated in terms of its properties and dimensions and its relationship with other categories established. Other articles were referred to in order to clarify the definition of concepts and categories. As noted by Strauss and Corbin (1998), each category may serve as one or more of either a causal condition, intervening condition, action/interaction or consequence. The major categories identified, together with their main properties (and dimensions) are listed in Table 1 below.

Table 1: Categories, Properties and Dimensions

Category	Major Properties (and Dimensions) (example of Source)
Business Planning System	Level (Operational to Strategic) (Lederer and Sethi, 1991) Quality (Non-existent to Detailed) (Premkumar and King, 1991) Business Plan Status (Obsolete to Up to date)
External Environment	Uncertainty (Low to High) (Teo and King, 1997) IT Activity Intensity (Low to High) (Ranganathan and Sethi, 2000)
IS Function Characteristics	IS Role (Operational to Strategic) (Premkumar and King, 1994) Business/IS Competence (Low to High) (Teo and King, 1997) Formalisation (Informal to Bureaucratic) (Ranganathan and Sethi, 2002) Structure (Decentralised to Centralised) (Ranganathan and Sethi, 2002)
Organisation Characteristics	Culture (Non-planning to Planning) (Sahraoui, 2003) Dynamism (Static to Rapid) (Teo and King, 1997) Political Turbulence (Low to High) (Galliers et al. 1994) Formalisation (Informal to Bureaucratic) (Sabherwal and King, 1995) Structure (Decentralised to Centralised) (Cerpa and Verner, 1998)
SISP Process	Adaptation (Rigid to Flexible) (Segars and Grover, 1999) Rationality (Low to High) (Segars and Grover, 1999) Rational-Adaptation (Imbalanced to Balanced) Quality (Poor to Detailed) (Premkumar and King, 1994) Integration with business planning (None to Full) (Teo and King, 1997) Goal Clarity (Ambiguous to Well-defined) (Sillince and Frost, 1995) Alacrity (Drawn out to Rapid pace) (Lederer and Sethi, 1998)

Category	Major Properties (and Dimensions) (example of Source)
SISP Stakeholder Profile	Cohesion (Loose to Tight) (Galliers et al., 1994) Involvement (Low to High to Excessive) (Basu et al., 2002) Representivity – Horizontal (IT to Cross-functional) (Segars and Grover, 1999) Representivity – Vertical (Top only to Broad) Role definition (Ambiguous to Clear)
IS Plan Implementation	Difficulty (Major to Minor) Extent (Minimal to Full) (Gottschalk, 1999) Rate (Below par to On Track) (Gottschalk, 1999) Mechanism Quality (Poor to Enabling) (Premkumar and King, 1994)
SISP Outcomes	Satisfaction (Planner only to Broad-based) (Lederer and Sethi, 1996) Effectiveness (Unfulfilled objectives to Fulfilled) (Premkumar and King, 1994) Capability Improvements (None to Major) (Segars and Grover, 1999) IS contribution to performance (Minor to Major) (Premkumar and King, 1991) IS Function performance (Poor to Improved) (Cohen, 2002)
- Alignment	Business – IT lag (Small to Large) Business/IS plan consistency (poor to excellent) (Reich and Benbasat, 1996) Business/IS understanding (Divergent to Mutual) (Reich and Benbasat, 2000) Business/IS commitment (Divergent to Mutual) (Reich and Benbasat, 2000)
- IS Plans	Comprehensiveness (Shallow to Extensive) (Lederer and Sethi, 1996) Currency (Obsolete to Up to date) Flexibility (Rigid to Changeable) Perspective (IT to Top Management) (Hann and Weber, 1996)
Management Mindset about IS/SISP (Le Roux, 2001)	Commitment (Weak to Strong) (Galliers et al., 1994) Attitude (Negative to Positive)

It was found that in many instances there were multiple relationships between categories, due to each category having multiple properties, and the different properties relating in different ways. Thus, a simple model, showing single lines between categories is misleading, as each line may represent several relationships.

Selective Coding

In the selective coding phase the central phenomena were identified, and the categories were then integrated around these. Consistent with much of the conventional literature the central phenomena were SISP process, IS Plan Implementation and Outcomes, in particular that of Alignment - a major sub category.

THEORETICAL OUTCOME OF ANALYSIS

Strauss and Corbin (1998) suggest that a theory may be represented as a well-defined set of propositions or hypotheses, or as a running theoretical discussion. Given the complexity and richness of SISP, it was decided to describe the generated theory firstly with a high-level diagram showing the main categories and relationships, (see Figure 1) followed by a detailed story line, with key references in support of the major assertions.

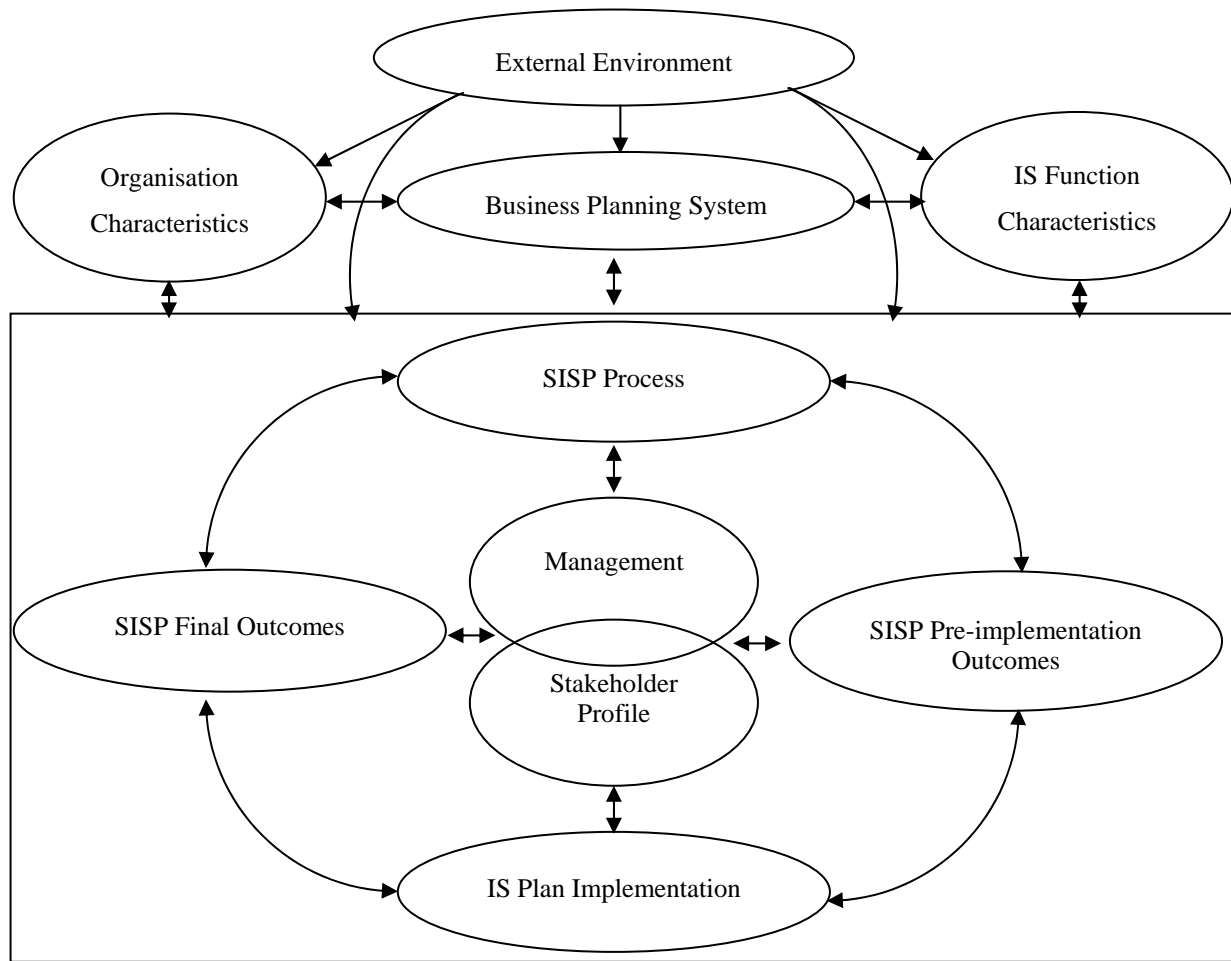


Figure 1: Grounded Theory of SISP

Justification

- In an *external environment* characterised by high uncertainty, and high IT activity intensity, *organisations* are faced with rapid, often IT-induced changes, and organisational turbulence, as well as increased decentralisation and geographic dispersion, fuelled in no small part by globalisation. A major concern of executives, then, is maintaining *alignment* between investments in IS, and business goals and strategies (Salmela et al., 2000). *SISP* is a means of dealing with this uncertainty and lack of alignment, by getting *management* and other *stakeholders* to decide and agree on how IT can be used to either support business strategy, or impact business strategy (Salmela and Spil, 2002).

Process and Implementation issues

- The *SISP process* should thus be closely integrated with *business planning* (Teo and King, 1997), but in the context of *environmental* uncertainty, the *business planning system* quality may be negatively impacted, becoming obsolete very quickly, and in some cases being non-existent, except in the minds of executives (Reich and Benbasat 1996, Fink 1994).
- The *SISP process* will have characteristics of rationality and adaptation, dependent on the planning culture within the *organisation*, and the level of formalisation and centralization (Ranganathan and Sethi 2002, Segars and Grover 1999). These *organisational* characteristics furthermore may influence the equivalent characteristics within the *IS function*.
- The preferred style of *SISP process* that fits with the *organisational* culture may need to be adjusted in the light of *external environment* uncertainty (Sabherwal and King, 1995). Where there is high uncertainty, *organisations* that favour a rational rigid *SISP process* may have to adopt some level of adaptation to fit with the *environmental* realities, as an overly rational *process* may take too long to complete, resulting in negative *outcomes*, such as grand plans that are obsolete by the time they are

complete, leading to *implementation* of other IS not on the plan (unplanned implementations) (Lederer and Sethi, 1996).

- Those *organisations* favouring a more adaptive, incremental *SISP process* may have to adopt some level of rationality, as inadequate analysis (lack of detail, poor quality) in the *SISP process* will result in negative *outcomes*, such as plans that are not useful, requiring further planning, before *implementation* can take place (Lederer and Sethi, 1992).
- With a good quality *SISP process*, having the right balance between rationality and adaptation, positive *outcomes* should follow, including effectiveness (fulfilled objectives), major improvements in planning capabilities, an extensive, up-to-date, flexible plan reflective of the top management perspective, broad-based satisfaction amongst stakeholders, and a plan useful for *implementation* (Segars and Grover, 1999).
- A good quality, comprehensive and alacritous, rational-adaptive *SISP process* that addresses implementation issues results in positive pre-implementation *outcomes*, which in turn set the stage for enabling *implementation* mechanisms, and an implementation process with reduced difficulties, that proceeds according to schedule at the appropriate rate, to the full extent, with a reduced chance of unplanned implementation (Segars and Grover 1999, Lederer and Sethi 1998, Premkumar and King 1994). Notwithstanding, these *outcomes* are negatively impacted by uncertainty in the *external environment*, dynamism and turbulence in the *organisation*, and a poor quality *business planning system* (Sillince and Frost, 1995). A good quality *SISP process* mitigates against these negative impacts.
- Furthermore, a representative, competent, highly involved *stakeholder profile*, a mature and strategic *IS function*, and a *management* that has a positive attitude and is strongly committed to implementation, reduces *implementation* difficulties, and enhances the chance of implementation success (Galliers and Baker 1995, Galliers 1993).

Stakeholder and Management issues

- The *SISP stakeholder profile* should be vertically representative at the strategic level, so that the *SISP process* can be integrated with the current strategic direction executives are pursuing (Galliers, 1993). In dealing with *environmental* uncertainty, *organisation* dispersion, decentralisation and turbulence, the *stakeholder profile* should also be horizontally representative, containing both IS personnel and the diverse business interests.
- Where there is tight cohesion, clear role definition, a highly visible project champion, *SISP* skill competence, a good attitude, and sufficient commitment from the diverse interests represented in the *stakeholder profile*, the *SISP process* will have well-defined goals and be of good quality. A *process* that is too detailed and lacking in alacrity, i.e., being drawn out, is likely to require excessive top *management* involvement, leading, however, to *management* developing a negative attitude towards *SISP*, and weakening their commitment level (Salmela et al. 2000, Lederer and Sethi 1996, Galliers and Baker 1995, Galliers et al. 1994, Lederer and Sethi, 1992).
- Ultimately, where *management* has a positive attitude towards *SISP*, and is strongly committed to the process, the quality of *SISP process* is better (Premkumar and King, 1994), the *stakeholder profile* is of the required skill competence, and representivity is likely.
- An improved degree of *alignment* should also result, evident by congruence and consistency between business and IS plans, and on the social level, a climate of trust between business and IS, open communication channels, shared views, and mutual commitment to and understanding of business and IS mission, objectives, and plans (Reich and Benbasat, 2000).
- Once again, however, the vagaries of an uncertain *external environment*, and dynamism and turbulence within the *organisation* act in concert to raise *implementation* difficulties, slow the rate of implementation, reduce the chance of full implementation, and necessitate that IS previously unplanned be implemented. They also require that *IS plans* be revised in the light of new conditions (Cerpa and Verna 1998, Fink 1994).

IS Function

- A mature and competent *IS function*, where IS plays a strategic role may help to offset the shortcomings posed by a poor quality, obsolete *business planning system*, as the requisite skill for developing and articulating business strategy as part of the *SISP process* will be available. This will

be especially so where the *IS function* participate in the strategic business planning for the organization (Premkumar and King, 1994).

- A mature and competent *IS function* is able to influence the achievement of the right balance between rationality and adaptation in the *SISP process* (Sabherwal and King, 1995); however, this may be mitigated by the conditions of uncertainty in the *external environment*, and turbulence and dynamism in the *organization*.

Outcomes

- After successful *implementation*, positive *outcomes*, and *alignment* previously achieved should be reinforced, with additional *outcomes* being a flexible IT infrastructure that does not lag too far behind business changes, improved *IS function* performance, and greater IS contribution to *organisation* performance (Ang et al. 1995, Cohen 2002, Premkumar 1991).
- These positive outcomes are offset by uncertainty in the *external environment* and *organisation*, but in the end if the net *outcomes* are positive, these contribute to developing also a positive *management* mindset about SISP, a better quality *business planning system*, and improved skills and competence amongst the *stakeholder profile*.
- With a more adaptive, incremental *process* evaluation and revision occurs on an almost continuous basis, and can be formalised, and made more rational in *organisations*, by such processes becoming embedded into *organisational* routines and structures (Galliers and Baker, 1995).

DISCUSSION AND IMPLICATIONS

The theory explicated above integrates the major research findings around SISP as espoused in major academic research journals. Its major contribution is in the integrated view it represents. There has been much debate as to whether organisations should pursue a comprehensive rational SISP process, or an incremental process, especially in the context of a turbulent environment (Salmela et al., 2000). The above theory accommodates both approaches, and reveals that essentially each perspective represents a different pattern of the same theory, with variations only in the dimensions of certain properties, such as rationality and adaptation of the process. This view is confirmed by the work of Segars and Grover (1999), who identify profiles of SISP that represent alternative underlying schools of thought. All profiles, however, can be distinguished by examining how they differ in terms of their levels of rationality and adaptation. Interestingly Segars and Grover (1999) find the profile that is high in both rationality and adaptation to be the most successful, which as suggested by the theory above might be the most suitable in the current context of a dynamic, turbulent and uncertain environment.

Those who argue for SISP as an emergent rather than a deliberate process, view strategy formulation and implementation as closely integrated, and refer to it as strategy formation (Baker, 1995). This view can once again be accommodated in the above theory by playing down the role of pre-implementation outcomes such as IS plans, drawing the formulation and implementation activities closer together. In this way the theory is similar to that suggested by Baker (1995). It also bears some resemblance to the Lederer and Salmela (1996) framework, but is much richer in the description of relationships, and does not assume that all relationships represent causality (cause and effect). Rather, as pointed out by Strauss and Corbin (1998), in grounded theory analysis the concern is not so much with causality, but with various conditions and how they interact to create events that lead to actions.

Another important difference from the Baker (1995) model is the greater importance assigned to human agents through the inclusion of the following two categories – stakeholder profile, and management mindset about IS/SISP. Baker (1995) refers to these as inputs into the planning process. In the Lederer and Salmela (1996) framework, these are accommodated in the resources category. However, this analysis has revealed that to a great extent the predominant drivers in SISP are the human agents, thus the explicit recognition of the two main categories - stakeholders and management. Other resources such as informational input proceed from the business planning system, whilst financial resources are determined to a large degree by the management mindset about SISP. Technical resources (e.g., CASE tools) depend mainly on the methodology employed, a concept subsumed in the SISP process category. This recognition of the human agents as the predominant drivers of SISP is not surprising, given the qualitative and interpretive nature of the grounded theory approach, but, we believe it to be an important distinction from previous work. To accord human agents the subservient roles of inputs or resources to processes having an existence of their own disregards the very fabric of the human nature of all activities related to SISP.

LIMITATIONS AND FUTURE RESEARCH

The research has been limited to examining only the academic literature, and thus represents theory as articulated by major research studies over the past decade or so. A further limitation has been the detailed examination of only 27 articles. Other possible candidate articles address only a few concepts or categories, however, and thus do not represent a broad over-arching view of SISP. Nevertheless, these were not totally excluded, as such studies were still useful in confirming and validating the existence of concepts and categories, and the relationships identified. For example, organisational planning culture has recently been suggested as an important concept to consider (Sahraoui, 2003), thus providing support for the attention given it in the theory above.

Some may perceive the theory as being too dense and rich, and somewhat lacking in parsimony. However, it is the view of the researchers that over-simplification of a complex phenomenon such as SISP, for the sake of parsimony, can lead to theory that is too abstract to be of any practical use. Focusing on only one or two categories and examining them in greater detail is rather the correct strategy to achieve simplification.

The mechanistic manner in which the grounded theory was employed may also be criticised. However, the prescriptions of Strauss and Corbin (1998) provide useful guidelines for researchers, something often lacking in many qualitative or interpretive research methodologies.

Future research might extend this work by also including articles from the practitioner literature. Alternatively, data can be gathered through interviews with IS planners, or through case studies of organisations that carry out SISP. This additional data may either confirm and strengthen the above theory, suggest additional categories and relationships, or could even result in the development of alternative theories about SISP.

CONCLUSION

SISP has been widely researched, yet remains a key concern for IS management. It is useful, therefore, at this juncture to analyse the cumulative body of literature to ascertain what theory is suggested by it. Using grounded theory as the method, a general theory of SISP has been developed, which, while similar in some ways to SISP theory generated through conventional literature analysis, is also unique. A simplistic critique of our work might be that it just combines all that has been said before into one complex theory. Such a viewpoint does not recognize the fact that the use of grounded theory analysis enabled us to synergistically combine these known results, and that the whole is indeed greater than the sum of the parts.

The uniqueness achieved by using grounded theory analysis is reflected in a clearer definition of categories through the process of identifying properties and dimensions, and a much richer description of relationships, through the recognition that causality is not the only type of relationship. Of greater importance from a grounded theory perspective, is the different types of conditions, whether causal, intervening or contextual, and how they interact to produce actions/interactions and, subsequently, consequences relevant to phenomena. This type of rich theory might be more reflective of reality than a theory that is over-simplified for the sake of parsimony.

The entirely different way in which human agents are seen in our theory still needs further scrutiny and development, but we expect this to become one of the most important contributions. Looking ahead, we expect that the emergent nature of SISP will be brought into sharper focus through our further work. The structure provided by the theory presented here, seen as rules and resources in a structural way (Giddens, 1984) and the activities of individual human agents mutually would constitute such a redefined SISP.

REFERENCES

- * Denotes key papers used for grounded theory analysis
- * Ang, J., Shaw, N. and Pavri, F. (1995). Identifying strategic management information systems planning parameters using case studies. *International Journal of Information Management*, 15(6), 463-474.
- Baker, B. (1995) The role of feedback in assessing information systems planning effectiveness. *Journal of Strategic Information Systems*, 4(1), 61-80.
- Basu, V., Hartono, V., Lederer, A. and Sethi, V. (2002). The impact of organisational commitment, senior management involvement and team involvement on strategic information systems planning. *Information and Management*, 39, 513-524.
- Brown, I. (2004). Testing and extending theory in strategic information systems planning through literature analysis. *Information Resources Management Journal*, 17 (4), 20-48.
- Bryant, A. (2002). Re-grounding grounded theory, *Journal of Information Technology Theory and Application*, 4(1), 25 – 42.

* Cerpa, N. and Verner, J. (1998) Case study: The effect of IS maturity on information systems strategic planning. *Information and Management*, 34(4), 199-208.

Checkland, P. and Holwell, S. (1998). *Information, Systems and Information Systems – Making sense of the field*, Wiley, Chichester.

Cohen, J. (2002). Information systems strategic planning and IS function performance: An empirical study. *South African Computer Journal*, 28, 44-53.

* Doherty, N., Marples, C. and Suhaimi, A. (1999) The relative success of alternative approaches to strategic information systems planning: an empirical analysis. *Journal of Strategic Information Systems*, 8, 263-283.

* Earl, M. (1993) Experiences in strategic information systems planning. *MIS Quarterly*, 17(1), 1-21.

* Fink, D. (1994) Information systems planning in a volatile environment. *Long Range Planning*, 27(6), 108-114.

* Flynn, D. and Goleniewska, E. (1993) A survey of the use of strategic information systems planning approaches in UK organisations. *Journal of Strategic Information Systems*, 2(4), 292-319.

Line

* Flynn, D. and Hepburn, P. (1994) Strategic planning for information systems - a case study of a UK metropolitan council. *European Journal of Information Systems*, 3(3), 207-217.

* Galliers, R. (1991) Strategic information systems planning: myths, realities and guidelines for successful implementation. *European Journal of Information Systems*, 1(1), 55-64.

* Galliers, R. (1993) Towards a flexible information architecture: integrating business strategies, information strategies and business process redesign. *Journal of Information Systems*, 3, 199-213.

* Galliers, R. and Baker, B. (1995) An approach to business process reengineering: The contribution of socio-technical and soft OR concepts. *INFOR*, 33(4), 263-278.

* Galliers, R., Pattison, E. and Reponen, T. (1994) Strategic information systems planning workshops: Lessons from three cases. *International Journal of Information Management*, 14, 51-66.

Giddens, A. (1984) *The Constitution of Society*, Polity Press, Cambridge.

Glaser, B. and Strauss, A. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Aldine, New York.

Gottschalk, P. (1999). Implementation predictors of strategic information systems plans. *Information and Management*, 36, 77-91.

* Hann, J and Weber, R. (1996) Information systems planning: A model and empirical tests. *Management Science*, 42(7), 1043-1064.

Kock, N., Gray, P., Hoving, R., Klein, H., Myers, M. and Rockart, J. (2002). IS research relevance revisited: subtle accomplishment, unfulfilled, promise, or serial hypocrisy? *Communications of the Association for Information Systems*. 8, 330 – 346.

Lamprecht, C. and Roode, J.D. (1999). Cultivating a strategic information systems environment – a structural model of strategic information systems planning, *Unpublished Research Report*, University of Pretoria.

Lederer, A. and Salmela, H. (1996) Toward a theory of strategic information systems planning. *Journal of Strategic Information Systems*, 5, 237-253.

* Lederer, A. and Sethi, V. (1991) Critical dimensions of strategic information systems planning. *Decision Sciences*, 22(1), 104-119.

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

* Lederer, A. and Sethi, V. (1996) Key prescriptions for strategic information systems planning. *Journal of Management Information Systems*, 13(1), 35-62.

* Lederer, A. and Sethi, V. (1998) Seven guidelines for strategic information systems planning. *Information Strategy: The Executive's Journal*, 15(1), 23-29.

Legrís, P., Ingham, J. and Collerette, P. (2003) Why do people use information technology? A critical review of the technology acceptance model. *Information and Management*, 40, 191 – 204.

Le Roux, D. C. (2001). *Towards Understanding Dissatisfaction with Explanations of IT Value*, Unpublished PhD Report, University of Pretoria.

* McGrath, G., Dampney, C. and More, E. (1994) Planning for information systems integration: Some key challenges. *Journal of Information Science*, 20(3), 149-160.

* Ormerod, R. (1996) Putting soft OR methods to work: Information systems strategy development at Richard's Bay. *Journal of the Operational Research Society*, 47(9), 1083-1097.

* Premkumar, G. and King, W. (1991) Assessing strategic information systems planning. *Long Range Planning*, 24(5), 41-58.

* Premkumar, G. and King, W. (1994) Organisational characteristics and information systems planning: An empirical study. *Information Systems Research*, 5(2), 75-109

Ranganathan, C. and Sethi, V. (2000). External IT environment: Dimensionality and measurement, *Proceedings of the 21st International Conference on Information Systems*, Brisbane, Australia, 594 - 600.

Ranganathan, C. and Sethi, V. (2002). Rationality in strategic information technology decisions: The impact of shared domain knowledge and IT unit structure. *Decision Sciences*, 33(1), 59-86.

Reich, B. and Benbasat, I. (1996) Measuring the linkage between business and information technology objectives, *MIS Quarterly*, 20(1), 55-79.

* Reich, B. and Benbasat, I. (2000) Factors that influence the social dimension of alignment between business and information technology objectives. *MIS Quarterly*, 24(1), 81-113.

* Sabherwal, R. and King, W. (1995) An empirical taxonomy of the decision-making processes concerning strategic applications of information systems. *Journal of Management Information Systems*, 11(1), 177-214.

* Salmela, H., Lederer, A. and Reponen, T. (2000) Information systems planning in a turbulent environment. *European Journal of Information Systems*, 9(1), 3-15.

Salmela, H. and Spil, T. (2002). Dynamic and emergent information systems strategy formulation and implementation. *International Journal of Information Management*, 22, 441 – 460.

Sahraoui, S. (2003). Learning through planning: Conceptual definition, and empirical validation of a planning culture construct, *Journal of End-User Computing*, 15(2), 37 – 53.

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

* Sillince, J. and Frost, C. (1995) Operational, environmental, and managerial factors in non-alignment of business strategies and IS strategies for the Police Service in England and Wales. *European Journal of Information Systems*, 4(2), 103-115.

Strauss, A. and Corbin, J. (1998). *The Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. Sage, London.

* Teo, T. and King, W. (1997) Integration between business planning and information systems planning: An evolutionary-contingency perspective. *Journal of Management Information Systems*, 14(1), 185-214.

* Teo, T. and King, W. (1999) An empirical study of the impacts of integrating business planning and information systems planning. *European Journal of Information Systems*, 8(3), 200-210.

Watson, R., Kelly, G., Galliers, R. and Brancheau, J. (1997) Key issues in information systems management: An international perspective, *Journal of Management Information Systems*, 13(4), 91-115.

Weber, R. (2003). Editor's Comments. Theoretically speaking, *MIS Quarterly*, 27(3), iii – xii.

Webster, J. and Watson, R (2003). Guest Editorial - Analysing the past to prepare for the future: Writing a literature review, *MIS Quarterly*, 26(2), xiii – xxiii.

COPYRIGHT

Irwin Brown and Dewald Roode © 2004. The authors assign to ACIS and educational and non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The authors also grant a non-exclusive licence to ACIS to publish this document in full in the Conference Papers and Proceedings. Those documents may be published on the World Wide Web, CD-ROM, in printed form, and on mirror sites on the World Wide Web. Any other usage is prohibited without the express permission of the authors.