2009

The development of an evaluation model of e-commerce websites for the Taiwanese airline industry

Zijad Pita
RMIT University, Melbourne, zijad.pita@rmit.edu.au

France Cheong
RMIT University, france.cheong@rmit.edu.au

Brian Corbitt
RMIT University, brian.corbitt@rmit.edu.au

MAJOR ISSUES IN SISP: INSIGHTS INTO THE MAIN REASON OF SISP FAILURE

Pita, Zijad, RMIT University, Building 108, Level 17, 239 Bourke Street, GPO Box 2476V, Melbourne, VIC 3001, Australia, zijad.pita@rmit.edu.au

Cheong, France, RMIT University, Building 108, Level 17, 239 Bourke Street, GPO Box 2476V, Melbourne, VIC 3001, Australia, france.cheong@rmit.edu.au

Corbitt, Brian, RMIT University, Building 108, Level 17, 239 Bourke Street, GPO Box 2476V, Melbourne, VIC 3001, Australia, brian.corbitt@rmit.edu.au

Abstract

The 'SISP community' is an evolving environment, which generally learns from the past. However, the lesson that top management commitment is a key determinant of SISP success has not been learnt. Regardless of the industry type or size, a lack of real commitment from senior management is still the main reason for the SISP formulation and implementation failure. The study introduces the SISP Stakeholders' Designation construct to analyze commitment and participation of the available SISP resources in the light of maximising success of SISP. Also the association between organisational learning and management commitment to SISP is examined. A postal survey of top management from 260 Australian companies revealed that obtaining high-level stakeholder engagement is critical to SISP success. The study presents optimal roles and level of engagement for the SISP Stakeholders' Designation. It was found that if every managerial stakeholder's designation is committed to SISP in all its phases it may result in wasting of valuable time and resources. The findings point to SISP learning reviews as a significant antecedent for managerial commitment to SISP.

Keywords: SISP success, top management commitment and participation, organisational learning.

1   INTRODUCTION

Organisations respond towards the pronounced need for strategic planning of IT/IS resources when they are critically dependent on IT/IS (Palvia & Palvia 2003). The need for Strategic Information Systems Planning (SISP) is present in small and large organisations (Porter 1998). It is nearly impossible to find an IS strategist who did not raise management commitment to SISP as an issue. The most general lesson to be learned from the more successful SISP cases is that when SISP has management commitment, success is almost guaranteed (Kearns 2006). Despite that, there is equal evidence that a top management support for SISP process in many firms is only declarative, and hence that is one of the reasons for SISP failure (Hartono 2003). Not believing in SISP ability to create a competitive advantage, drive revenue and innovation, could be a reason for top management lacking of real action. Or perhaps, excessive organizational commitment to SISP is detrimental (Basu et al. 2002). In any case, at present, business profitability is noticeably in decline, and accountability is a major requirement for SISP practitioners (Pisello 2001). The successful CIO can be a strategic business partner rather than an infrastructure provider and if the CIO holds strategic responsibilities he/she may significantly contribute to the organisation's expansion and growth (Dearstyne 2004). Otherwise, IT practitioners could be the obstacles to implementing business solutions.

Little empirical research exists that examines involvement and commitment of SISP stakeholder's like top managers, senior business, IT and user managers, IT computing personnel and users. In addition, because of very conceptual nature of the SISP studies, the relations among SISP stakeholders remains hidden on the variable level. Previous research (Basu et al. 2002) suggested further investigation in

this area, in particular, senior management involvement and the impact of additional matters like organizational learning on SISP success. This study is an empirical work conducted in that direction using data obtained from a large scale survey of 2000 Australian companies. Thus, close examination of the role of SISP stakeholders can provide valuable insights not available elsewhere.

The purpose of this paper is: (1) to confirm that traditionally the lack of commitment from top management (Lederer & Sethi 1988, Ward & Griffiths 1998, Teo & Ang 2001) is still the main reason for SISP failure (2) to examine the relationships between SISP stakeholder's participation/commitment and SISP (3) to examine the association between learning reviews experience and top management commitment to SISP.

This paper proceeds as follows. After an overview of SISP problems, some key stands from SISP literature are presented to be able to form hypotheses and a context within which the survey results may be interpreted. The methodology section follows to explain the collection and analysis of data. Finally, a summary of the survey results and the possibilities for further research is presented.

2 THEORETHICAL BACKGROUND

SISP is needed to produce a strategic plan that addresses the future needs for IT/IS in accordance with the business objectives in formal or less formal ways (Hackos 1997). However, over half of SISP plans formulated are never implemented, or fail to achieve their goals and objectives (Flavel & Williams 1996). The reasons for SISP failure remain fairly constant over the years. A summary of SISP problems (Yeo 2002, Cerpa & Verner 1998, Lederer & Sethi 1992, Ward & Griffiths 1998, Willcocks 2000) has been compiled in Table 1 (problems are not ranked). The reasons for SISP failure very well correspond to the top five management concerns: IT and business alignment, attracting, developing, and retaining IT professionals, security and privacy, IT strategic planning, business process reengineering (Luftman 2006).

SISP Problems	
Lack of management commitment and involvement	Inappropriate planning horizons
Misalignment of SISP and business goals	Rapid change of technology
Problems with resources (recruiting & education)	Intercommunication
Security and privacy issues	Inadequate project risk analysis
Quality of the plan inadequate	Measuring benefits

Table 1.   The Key SISP Barriers.

It is not only difficult to convince management to implement SISP, but is also difficult to convince them even to fund the initial SISP study (Lederer & Sethy 1999). The reason may be that top management may not understand the plan or they are not confident in IT's ability to carry out SISP. Higher levels of managerial IT knowledge have positively influenced the extent of IT use, but top managers do not view information as a business resource to be managed for long-term benefit (Ward et al. 1998). They only appreciate it critically, when they cannot get what they need. As a result, the work is often delegated to 'experts' and thus managers are increasing the risk of losing control over IT applications. The applications turn out to be independent of the strategic context of the organization as a whole. Localized justification of investments can produce benefits that are actually counterproductive when overall business goals are considered (Ward et al. 1998). If control is lost, in particular, if the control of IS/IT investments is left to individuals or departments often striving to achieve incompatible objectives through IS/IT, the outcome can be disastrous (Broadbent & Weill 1997). Thus, top management involvement in IS/IT planning is crucial.

When the CEO and other top managers understand the value and potential of IS/IT assets for competitive advantage they provide support for SISP as allocation of quality resources. Commitment of the CEO to SISP would provide better knowledge about organisational objectives and can lead to a greater alignment between IS and organisational strategies (Kearns 2006) and consequently to greater

SISP success. While this alignment is necessary, it may not be sufficient to support the 'simple' explanation that the real planning or implementation problems are usually due to a lack of executive commitment. The reason is because it has been suggested that excessive top management commitment to SISP impedes SISP as it promotes excessive planning and provoke excessive bureaucracy (Basu et al. 2002). Therefore, these conflicting results are a great deal of confusion and the reason worth investigation of the optimal levels of top management commitment to SISP. This study acknowledges that SISP, as a highly political process, has complex interrelations between stakeholders of which a detailed investigation is a study per se. The aim of this research is to assess the stakeholders' phenomena that are open to direct observation. Management commitment is one of them and the study in the light of overall SISP success tests the following hypothesis:

H1   SISP is more successful if: a) the CIO is committed to SISP from start to finish; b) the CEO is committed to SISP only at the start; c) the senior business management is committed to SISP from start to finish; d) the middle business management is committed to SISP from start to finish; e) the IS management is committed to SISP at implementation phase

In the terms of taking responsibilities for setting up the IT strategic directions, top management involvement is seen as unavoidable (Basu et al. 2002). However, IT professionals and business managers find it difficult to communicate and focus on improving their communications often caused more problems than it addressed (Luftman 2005). Very often they have a very different perspective on organisational values and how best to implement SISP. Implementation of SISP is not a trivial process and letting IT managers lead the SISP projects is seen as a potential obstacle to successful SISP implementation. The importance of the managerial role of IT managers is not in question, but IT has no ability to address the policy, procedures and organizational issues critical for successful business (Brown 1992). On the other hand, IT professionals are the only ones who really understand the IT process analysis. Thus, the question of what would be appropriate role of SISP participants can be raised. This study investigates the current stakeholders' roles in Australian SISP practice and tests the following conclusions:

H2   SISP is more successful if: a) the CIO has a champion role; b) the CEO has a sponsor role; c) senior business management have a supporting role; d) IS management have an active leadership role

Successful SISP seems to require users and managers working in partnership with the IS function (Luftman 2005). Integration of inputs from all stakeholders should be an ongoing activity as their creative energy can help in generating more innovative strategies. Therefore, a participative SISP should enrich the SISP content (Ismail et al. 1996) and consequently will have a positive effect on overall SISP success. However, Ismail et al. (1996) also pointed to potential obstacles to stakeholders' involvement. Many participants may slow down the planning process or have some other negative influence. Also, an obstacle to a participative SISP can be a managerial misalignment. A typical organisation has many types of managers who are suppose to collaborate but they often compete with each other (Goranson 2003). When they collaborate, i.e. if SISP is initiated by top management and IS management coalition, it would significantly add value to the SISP process (Spremic & Strugar 2002). In addition, when top management rather than IS management initiates the SISP study, more environmental assessment is done (Chi et al. 2005). Spremic et al. (2002) found that the main initiators of SISP in Croatian organisations are IS management (33%) and top management (27.5%). They relate the high rate of SISP failure to the lack of line management initiating SISP. Flynn et al. (1993) found that more often SISP was initiated by the IT department than management (22% against 55%). Full integration or 'partnership' (Luftman 2005) of IS and business is seen as an imperative to avoid the barriers of a managerial misalignment, therefore it is hypothesised that:

H3   If SISP is initiated by business management and IS management coalition, it will be more successful.

The quality of people (intellectual capital) involved in the SISP process in terms of the ability to think innovatively, having adequate skills, knowledge, and experience is a key contributor to SISP. Appropriate business management knowledge of IT is significant for ensuring their commitment to

IT/IS projects (Kearns & Lederer 2000) and vice versa, IT management need to possess business acumen to improve strategic IT alignment with business (Teo & King 1997b). Learning from past experience and sharing knowledge is an important method of directing future SISP activities. Regular change reviews and learning reviews will enable better communication, knowledge sharing and improve likelihood of SISP success (Pai 2006). This discussion provides the basis for:

H4   Learning reviews positively influence management commitments towards SISP.

3   SISP SUCCESS (THE LACK OF FAILURE) AND CONCEPT OF SISP STAKEHOLDERS' DESIGNATION

Multi-dimensional, multi-item measures of SISP success were proposed in the SISP literature. However, these dimensions of SISP success were examined and it was found that two dimensions: improvements in SISP capability and fulfilment of SISP objectives were not fully supported because of an overlap of these two concepts, suggesting the use of either of these dimensions (Warr 2006). As organisations do not have a single predominant SISP objective, SISP success as a composite of related perceptual items would relay on their average value and should be treated with caution. Thus, Basu et al. (2002) suggested the use of a single item measure for dependent variables. This study measured SISP success explicitly and operationalised it as a single item which measured the respondent's perception of the overall SISP success. It is acknowledged that this measure can be biased, but some other researches (Pyburn 1983, Hartono et all. 2003) also used single items. SISP success is measured by directly asking the executives (business 31%, IT 69%) questions about their perception of SISP achieving its objectives. Other studies confirmed an insignificant error between the use of a single overall measure of success from the respondent and a multi-item measure (Warr 2006).

The extent to which powerful organisational actors are involved and committed to SISP will increase the success of SISP. Many studies (Ismail et al. 1996, Ruohonen 1991) categorise and characterise stakeholder groups for SISP. Generally, organisational stakeholders include business owners, data owners, developers and technical operational staff. SISP participants can be broadly characterised as managerial, IT non-managerial and other stakeholders like vendors and users. This study identifies managerial SISP stakeholders' designations as: CEO, CIO, senior business management, middle business management and IS management group. Also, stakeholders' designation is assessed through participation of other available resources, such as consultant, systems analysts, vendors, users and computer operations personnel. Participants are differentiated by the roles they have in the SISP process. For example, managerial members involved in SISP can have different roles, but top executives are supposed to have a champion role (Basu et al. 2002). Other roles are identified as supporting (assisting in all SISP activities), sponsorship (committing capital, personal time as well as resources for SISP, and making decisions with or without approval from higher-levels), and active leadership (guidance and empowering SISP team to higher levels of performance).

4   RESEARCH METHOD

This study uses only subset of data collected from an Australian-wide survey for a large study on SISP assessment and measurement. Data collection was completed by the end of 2003. The use of older data to mirror the current happenings 'is not uncommon in SISP research because they tend to be relatively time invariable even though IT changes rapidly' (Newkirk & Lederer 2006). To ensure generalizability of our findings, the questionnaires were administered to CIOs and senior IT executives in various industry sectors. Targeted key informants were IT executives, as they are usually the most involved in SISP (Segars & Grover 1998). To asses the validity of the answers, questions regarding respondent's SISP involvement and experience in SISP were asked. A pilot survey was used to test the data collection method. The content of the questionnaire was discussed and refined through consultation with three prominent SISP practitioners being IT managers from three different industry types of organisations. A pilot survey

was completed with five organisations. The targeted companies were from government and private sectors, and they were small, medium and large in size. From a population of 2000 questionnaires sent, a reasonable number of questionnaires (260) with complete data were received. 86 surveys were received from companies that do not perform SISP but they supplied valuable data which is used to analyse the characteristics of organisations that do not perform SISP. This response rate (17.3%) is considered high as the chosen method of collecting data usually has a low response rate (Kress 1988).

Different statistical techniques were used to analyze the data. To calculate the strength of a relationship, Spearman's correlation coefficient, rho (r) was used for ordinal variables (Cavana et al. 2001) where data were not normally distributed. By convention, values of 0.15 or higher for rho are accepted as an indication of the strong relationships. Structural Equation Modelling (SEM) was used to confirm theoretical constructs that cannot be observed directly by explaining how the measured and latent variables are related to one another. Fit indexes, recommended by Byrne (2001), are reported but not discussed here as they are widely described in the statistical literature. Reliability of scales was checked for inter-correlation among their items using principal component factor analysis (PCA). The results of reliability tests are reported in Appendix A (Table 0.1).

5 DATA ANALYSIS AND DISCUSSION

Received responses indicated that about 24% of Australian organisations do not perform SISP at all. This study found that organisations that attempt IS planning in Australia in about 17% cases perform SISP regularly, 15% of them were developing SISP at the time the survey was conducted, 38% have irregular SISP, while about 31% of organisations have some form of IS planning.

Having 92.0% of respondents as active contributors to SISP, with 81.6% of them having more than 11 years of industrial experience, 89.6% having more than 6 years experience in the IS area, gave full credibility and confidence to the survey answers. The majority of respondents came from the manufacturing (18.4%), followed by public administration (11.5%), and banking (financial) services (9.2%). Industry types are grouped according to the size of the company: small (annual turnover < $10 million), medium (turnover between $10 and $500 million) and large for turnover of more than $500 million. Thus, respondents were: 5.7% from small, 62.1% from medium and 32.2% from large companies. About half of the surveyed companies have 100 to 1000 employees and 43.7% of companies have less than 10 IS employees. Only 36.8% of companies have more than 50 IS employees where about half of these companies employ more than 200 IS employees. The literature review revealed that SISP increases directly with the total number of employees (Groznik & Kovacic 2000, Teo et al. 1997a). The existence of relationships (Chi-Square=31.722, df=6, p<0.05) was found in the case of the regular SISP planning. Thus, organisation size in terms of number of employees is a significant antecedent for conducting SISP.

Participants positions were: CEO (4.60%), CIO (33.33%), Information Systems Manager (35.63%), Divisional Manager (3.45%), Accounting Manager (3.45%), Financial Controller (4.60%) and General manager finance & administration1 (4.94%).

5.1 Key Reasons for SISP Formulation and Implementation Failure in Australia

The key reasons for the failure of SISP in Australian organizations are shown in Table 2. The rank position was calculated by ordering the mean values obtained as responses to the questionnaire in regard to the importance of the reason for SISP formulation and implementation failure (from (1) no importance to (5) crucial). The reasons for the SISP implementation and formulation do not differ significantly. The main reason for the SISP formulation and implementation failure in Australian organizations is the lack of commitment from senior management and the third and fourth failure reasons are also related to management (the 'lack of senior management involvement' and 'IS

management is not part of the corporate planning process'). This is very much in line with the recent SISP literature (Palvia et al. 2003).

Budget limitation, as the second key reason for SISP formulation failure, at first was somewhat unexpected, but after finding that responses of business executives on their thoughts about IS/IT adding value to the business were only 32% positive, this became more clear. Misalignment with business objectives is the number one ranked management concerns (Luftman 2006) but this study found it to be the fifth reason for SISP formulation failure and as the second reason for SISP implementation failure. This may sound unexpected but on the contrary, when the common rationale for failures is known and widely publicized as IT - business misalignment, SISP actors focused their activities to avoid those barriers, which led to the reduction of SISP failures caused by misalignment at least in the plan formulation phase.

Rank by Means	Key Reason for SISP Formulation Failure	Mean	Std Dev	Key Reason for SISP Implementation Failure	Mean	Std Dev
1	Lack of commitment from senior management	1.99	1.54	Lack of commitment from senior management	1.78	1.42
2	Budget limitation	1.87	1.29	Lack of alignment with business objectives	1.67	1.35
3	Lack of senior management involvement	1.85	1.44	IS management is not part of the corporate planning process	1.66	1.34
4	IS management is not part of the corporate planning process	1.76	1.41	Lack of senior management involvement	1.64	1.27
5	Lack of alignment with business objectives	1.70	1.30	Budget limitation	1.63	1.20
6	Inadequate framework used for setting IT investment priorities	1.69	1.23	No adequate knowledge and expertise	1.62	1.19
7	Inappropriate planning horizons	1.66	1.14	Inadequate framework used for setting IT investment priorities	1.60	1.25
8	No learning from past experience	1.63	1.15	No motivation for the initialisation of SISP reviews	1.60	1.21
9	No adequate knowledge and expertise	1.61	1.21	Inappropriate planning horizons	1.55	1.12
10	No motivation for the initialisation of SISP reviews	1.60	1.20	Failure to consider the external business environment	1.53	1.16

Table 2   Key Reasons for the SISP Formulation and Implementation Failure.

Also, 'problem with resources', a highly ranked management concern is not highly ranked as a reason for SISP formulation failure – it occupies the ninth position. A possible explanation is that the normal SISP evolution process added to the knowledge and experience of those involved and the popularity of IT attracted many students over last decades. These are now manifesting in terms of higher availability of IT resources. These factors elevated the problem, but the lack of adequate expertise is still considered as one of the ten most important reasons for SISP failure.

The study tested the relationship between the reason for SISP failure and the company size and found no relationship (r <0.15, p>0.05). SISP failures occur in any size of organization. This finding reinforces the result of the study of Flynn and Goleniewska (1993).

5.2   SISP Stakeholders' Designation

The SISP Stakeholders' Designation construct is assessed through the analysis of participation and commitment of the available SISP resources in the light of enhancing SISP success. The survey results suggest that managerial commitment in Australian SISP practice is not so pronounced. About 35% of organizational management has no commitment towards SISP, about 6.3% is committed only at the

start of the SISP process, and about 13.3% of management is committed only during the implementation phase. As an average, 46.7% of the managerial structure is committed from start to finish of the SISP process. The highest percentage is related to the commitment of CIOs. They are dedicated to SISP from start to finish in 65.52% of cases. Also, the survey results showed that IT required skills are generally available at an average rate of 82%.

The Stakeholder's Designation construct is operationalised by four latent factors (Figure 1). The PCA demonstrates that the original segregation between SISP participation and commitment is not fully supported. There is some overlapping between those two factors. Generally, management participation is considered as a commitment to SISP; while for stakeholders, such as users, vendors, consultants, etc., participation is distinguished from commitment. Certainly, the participation of users cannot be taken as their commitment to SISP. It is important to point out that CEOs' contribution to SISP emerged as a latent factor on its own, indicating the importance of CEO involvement in SISP. The structural path analysis confirms that the most important factor to SISP is the commitment of organizational management and the least important factor is who the SISP initiator is. Using SEM, the goodness-of-fit statistics shown in Table 3 confirm that this model fits the data well.

Model	χ^2	DF	P	χ^2/DF	RMR	GFI	AGFI	NFI	RMSEA	CFI
SISP –Stakeholder's Designation	100.64	52	0.000	1.93	0.04	0.93	0.87	0.91	0.07	0.95

Table 3   SISP Stakeholder's Designation Model Fit Summary
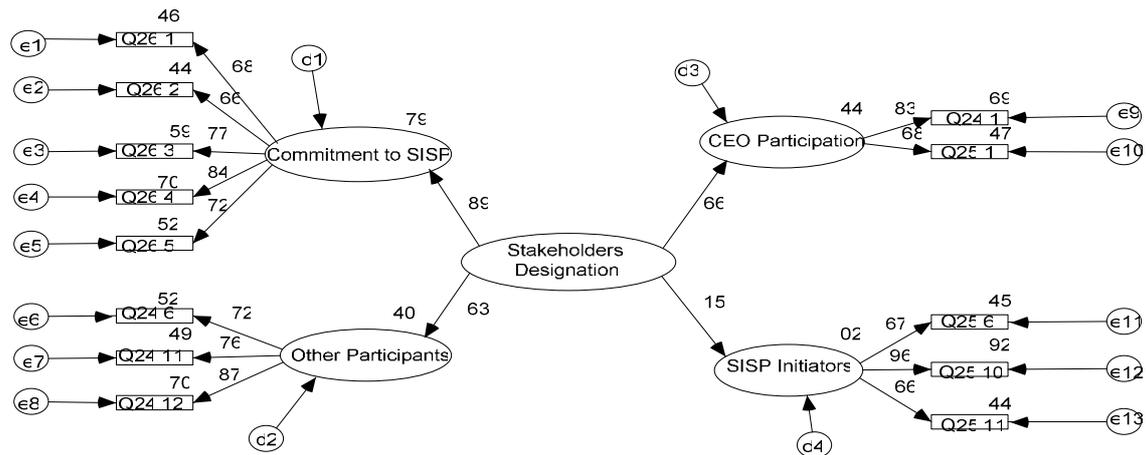

Figure 1   Stakeholder's Designation: Measurement and Structural Model.

5.3   Commitment to SISP

Hypothesis H1 is tested in two steps. First, a nonparametric correlation test is used to generally confirm the existence of the relationships between top management commitment and SISP success. Secondly, the mean values are compared to discover SISP maximums for various levels of commitment. Correlation statistics (r=0.55, p<0.001) generally support H1. The SISP success means for various levels of commitment are graphically presented in Figure 2. H1 (a), (d), (e) are fully supported. If senior business management is committed to SISP from start to finish, the success of SISP may not be greater than if their commitment is only at the implementation of SISP, hence H1 (c) is not supported. Figure 2 also shows that CEO's commitment is more important in the implementation phase than at the start of the SISP process, thus H1 (b) is not supported. Hypothesis H1 can be interpreted that while top management commitment to SISP is generally positively related to SISP, it could be wasting of time and resources if every managerial stakeholder's designation is

committed to SISP in all its phases. Also, obtaining a management support in the implementation phase is more important than at the start of SISP.

Gottschalk (1999) found a relatively lack of importance of management support for the implementation of SISP, which is quite the opposite of the findings in this study. This study can offer several explanations for the present results. Firstly, there is no guarantee that a good plan will be adequately translated into action plans (Hartono et al. 2003, Teo & Ang, 2001). Furthermore, high SISP failure rates and the promoted importance of SISP success may influence greater support from management during implementation to ensure success of SISP. Finally, only implemented SISP can be (more or less) successful, but non-implemented SISP plan (regardless of its quality) is 100% failure.
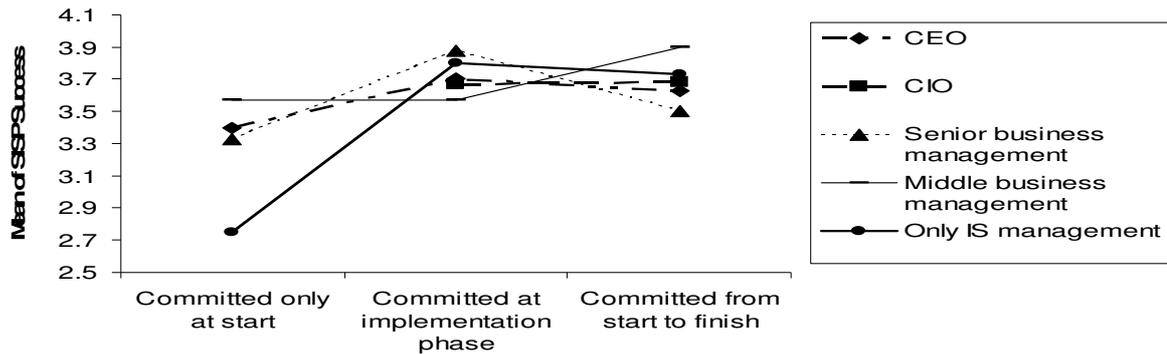

Figure 2   SISP Success and Managerial Commitment Relationships (categorical).

Basu et al. (2002) found that organisational commitment predicted SISP success in an inverted-U relationship, i.e. as organisational commitment increases, SISP success increases until it reaches a maximum; as organisational commitment continues to increase, success decreases. A close lookup of the variables in a quadratic regression model (the square of independent variables used) revealed that in this study only senior business management commitment predict SISP success with an inverted-U shape relationship (Table 4). This could be because they increase the level of bureaucracy, which impede SISP. Therefore, strong devotion from the CIO and CEO does not impede SISP. Maximum SISP success is achieved if the CIO is committed from start to finish of SISP.

Inverted U-model	R	Adjusted R Square	S.E.	Beta	t	Sig
CEO commitment	0.43	0.18	0.57	-1.13	-1.84	0.07
CIO commitment	0.51	0.26	0.55	-1.16	-0.88	0.38
Senior business mngmnt commitmnt	0.42	0.17	0.58	-2.03	-4.08	0.000*
IS management commitment	0.51	0.25		0.45	0.59	0.55

* Correlation is significant at the 0.01 level (2-tailed).

Table 4   Regressions between SISP Success and Managerial Commitment.

Managerial commitment increases as the size of the company increases. This relation is statistically significant (r=.34, p<0.01). When this relationship is inspected at an item level it was found to be a non significant coefficient for the CEOs. This is possibly because this designation does not commonly exist in small and medium organisations. There is no similar study to compare this result as the SISP literature mainly investigates the SISP phenomenon in large companies.

5.4   SISP Participation

The survey data shows that the highest SISP participants are CIOs (mean 3.14, std. dev. 1.49) and IS managers (mean 2.95, std. dev. 1.32), which is widely supported in the SISP literature (Teo et al.

1997a). Champion, sponsor and active leadership roles are the most pronounced roles for CIOs. The CEO has mainly more a sponsor and than a champion role. The data shows that other IS managers mostly have a champion or an active leadership role while senior business managers have a sponsor and an active leadership role most of the time.

It was found that only management participation is significantly correlated to SISP success (r=.55, p<0.01). The influence of IT personnel as systems analysts, developers, programmers and other computer operations personnel on SISP success is not support. Consultants did not influence SISP success; perhaps they had not carried the significant SISP roles. This scale was assessed at an item level and a weak but significant relationship for users participation (r=.183, p<0.05) was found. This is in agreement with the findings which suggested the involvement of users in SISP (Palanisamy 2005), and that computer experts should not handle SISP (Lederer et al. 1999). Still other stakeholders, not explicitly targeted by the study, could be influencing SISP success (r=0.18, p<0.05). Finding that SISP participants are mainly from senior management does not diminish the findings of Ismail et al. (1996), it simply could mean that wider SISP participation needs to be promoted in Australia. Also, the highest SISP success mean value is associated with the CIOs and IS managers' participation in SISP.

The correlation statistics generally support H2 (r=.55, p<0.01). The mean values depicted graphically (Figure 3) partially support H2: H2(a) and H2(b) are supported as the highest mean for SISP success is achieved if the CIO and CEO have a champion and a sponsor role respectively. H2(c) is rejected as the highest mean for SISP success is achieved if a champion is selected from senior business management. H2(d) is also rejected on a ground that IS management is more successful in a sponsorship role rather than in an active leadership role. These results are somewhat unexpected. They show that if the champion is elected from IS management, SISP may not be so successful, which could not be said for senior business management. On the contrary, if the champion is elected either from senior business management or if that role is fulfilled by the CIO, the SISP success rate may be equal.
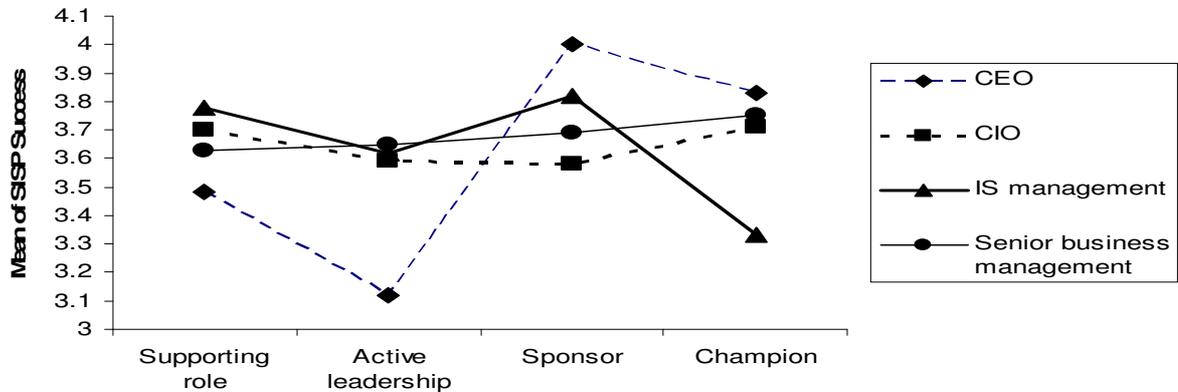

Figure 3   SISP Success & Main SISP Participants and their Roles (means.)

SISP management participation is statistically significantly correlated (r=.25, p<0.05) with company size. Large organisations are more associated with SISP success in comparison with small or medium sized companies. As SISP success is influenced by participation, small and medium sized companies should promote more participative SISP.

5.5   SISP Initiators

This study found that top management initiates SISP in 41.81% of cases (CIO - 28.25% and CEO - 13.56%). Senior business management more often initiated SISP than IS management and in their coalition, SISP was initiated only in 8.47% cases. The result that senior business management more

often initiated SISP (18.1%) than IS management (15.8%) is not consistent with the earlier findings of similar studies. IS management is expected to play a leading role in SISP, as confirmed by the survey results of Teo et al. (1997a). Perhaps, a high percentage of SISP initiation by CIOs' is a compensation for the somewhat lower than expected percentage of SISP initiation by IS management. This research fails to support hypothesis H3 i.e. SISP is more successful if it is initiated by a senior business manager and an IS management coalition. The correlation shows positive and significant relationships only between the CIOs (rho =0.22, p<.005) and CEOs (rho =.28, p<.001) as initiators and SISP success. The underlying data show that SISP success can be as much as doubled if it is initiated by CIOs (mean .57 std. err. 0.038) rather than CEOs (mean 0.28, std. err. 0.034).

5.6   Organisational Learning

The sharing of experience and knowledge from SISP learning reviews is positively and strongly correlated (r=.79, p<0.01) with commitments of management designations and consequently has an impact on SISP success. This statistics confirmed H4. Thus, when attendees of reviews have an opportunity to share learning about SISP they become more compelled to the process they better understand and they are capable to influence. Possibly, their communication and cooperation improve which reaffirm their commitment.

The scale mean value (2.62 on a 1 to 5 point Likert scale, std. dev. 1.43) shows that Australian organisations do not perform the learning meetings a great deal. Only about 36% of the population positively answered the question on the learning review. This could be probably one of the main reasons for the lack of managerial commitment to SISP. Consequently, if an organisation pays more attention to organisational learning, in particular to the sharing of experience on SISP, more commitment from managerial structure could be expected. Therefore, this study adds further validation to the work of Pai (2006), where the relationship between knowledge sharing and SISP in Taiwan was investigated.

6   CONCLUSION AND FURTHER RESEARCH

This study confirmed that the lack of managerial commitment and involvement are still the main reason for SISP failures. To make SISP deep and far reaching, the planning modules such as a commitment plan should be part of the SISP study. In a time of limited resources, eliminating unnecessary duplication of efforts and delegating clearly defined and most suitable roles to SISP stakeholder's will lead to more successful SISP. While top management commitment to SISP is necessary in all SISP phases, obtaining their support in the implementation phase is more important than at the start of SISP. Practitioners may find it of interest that SISP success can be as much as doubled if it is initiated by CIOs rather than CEOs. In that case, CIOs would most likely have a champion role, they would more actively participate in business planning, gain better understanding of business needs and more successfully promote strategic aspects of SISP. The findings also point to lack of SISP learning reviews which are a significant antecedent for managerial commitment to SISP.

Future research may involve multiple respondents from the same organization to ascertain top management's perception of SISP. This study used general description of SISP variables. Perhaps, the use of more specific scales could reveal different results. If future research is associated with specific types of organisations, their results could be extended into fine granularity and greater comprehensiveness. SISP is one of the processes within the overall IT governance and understanding influence and causality of other factors on managerial commitment to SISP would lessen the barriers to SISP success.

APPENDIX A

Description	No of Items	Alpha	KMO	Total variance	Scale/ Av. Rating	Note

Q24 SISP participants	10	.83	.78	70.2%	1 to 5/2	Items dropped:Q24.5, Q24.10 Factors:F24_1(4),F24_2(3), F24_3(3)
Q25 SISP initiators	9	.67	.55	61.7%	0 to 1/.19	Items dropped:Q25.4, Q25.6 Factor:Q25_f1(4),Q25_f2(3), Q25_f3(2)
Q26 Commitment to SISP	5	.86	.81	77.3%	1 to 4/1.72	Factor:f26_1
Q30 Learning Reviews	4	.97	.86	92.34%	1 to 5/2.62	Factor:f30_1
Q38 SISP formulation failure	21	.983	.88	75.3%	1 to 5/1.61	Factors:F38_1
Q39 SISP implementation failure	19	.986	.79	79.9%	1 to 5/1.52	Items dropped: Q39.8,9,19,20 Factors:F39_1
Q42 Overall SISP success	5	.872	.78	66.9%	1 to 5/3.32	Factor:F42_1

Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (cut off point >0.5)

Table 0.1   Reliability and PCA Summary for Scales Used for Statistical Analysis

References

Basu, V. and Hartono, E. and Lederer, A.L. and Sethi, V. (2002). The impact of organisational commitment, senior management involvement, and team involvement on strategic information system planning. Information & Management, 39, 513-524.

Broadbent, M. and Weill, P. (1997). Management by Maxim: How Business and IT Managers Can Create IT Infrastructures. Sloan Management Review, 38 (3), 77-91.

Brown, A. (1992). Creating Business-based IT Strategy. Chapman & Hall, London.

Byrne, M.B. (2001). Structural Equation Modelling with AMOS: Basic Concepts, Applications, and Programming. Lawrence Erlbaum Associates, London.

Cavana, R.Y. and Delahaye, B.L. and Sekeran, U. (2001). Applied business research – qualitative and quantitative methods. John Wiley and Sons Australia, Ltd.

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

Chi, L. and Newkirk, K.G.and Lederer, A.L. and Sethi, V. (2005). Environmental assessment in strategic information systems planning. International Journal of Information Management, 25 (3), 253-269.

Dearstyne, B.W. (2004). Strategic Information Management: Continuing Need, Continuing Opportunities. Information Management Journal, 38 (2), 28.

Flavel, R. and Williams, J. (1996). Strategic Management. Prentice Hall, New York.

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

Goranson, T. (2003). Capability improvement. In Handbook on enterprise archictecture (Bernus, E. and Nemes, L. and Schmidt, G. Ed), p 282, Springer Berlin

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

Groznik, A. and Kovacic, A. (2000). Comparative study of SISP practices in Slovenia and Singapore. In Proceedings of the 2000IEEE International Conference, Singapore, 2, p. 604-609.

Hackos, J. T. (1997). From Theory to Practice: Using the Information Process-Maturity Model as a Tool for Strategic Planning. Technical Communication, June, 369-381.

Hartono, E. and Lederer, A.L. and Sethi, V. and Zhuang, Y. (2003). Key Predictors of the Implementation of Strategic Information Systems Plans. The Data Base for Advances in Information Systems, 34 (3), 41-53.

Ismail, I. and Winder, R. (1996). Incorporating Stakeholder Participation into Strategic Information Systems planning. Research Note RN/96/122, Department of Computer Science, University College, London.

Kearns, G.S. and Lederer, A.L. (2000). The effect of Strategic alignment on the use of IS-based resources for competitive advantage. Journal of Information Systems, 9, 256-293.

Kearns, G. S. (2006). The effect of top management support of SISP on strategic IS management: insights from the US electric power industry. Omega, 34(3), 236 – 253.

Kress, G. (1988). Marketing Research, 3rd ed, Englewood Cliffs, N. J, Prentice-Hall, 84.

Lederer , A.L. and Sethi, V. (1988). The Implementation of Strategic Information Systems Planning Methodologies. MIS Quarterly, 12(3), 445-461.

Lederer, A.L. and Sethi, V. (1992). Root Causes of Strategic Information Systems Planning Implementation Problems. Journal of Management Information Systems, 9 (1), 25-45.

Lederer, L.A. and Sethi, V. (1999). The Information System Planning Process-Meeting the challenges of information systems planning. In Strategic Information Management - Challenges and Strategies in Managing Information Systems (Galliers, R.D. and Leidner, D.E. and Baker, B.S.H. Ed.), p. 249-271, Butterworth Heinemann, Oxford.

Luftman, J. (2005). Key issues for IT executives. MIS Quarterly Executive, 4 (2), 269–285.

Luftman, J. (2006). Key Issues for IT Executives 2005 MIS Quarterly Executive, 5 (2), June 2006

Newkirk, H. E. and Lederer, A. L. (2006). The effectiveness of strategic information systems planning under environmental uncertainty Information & Management 43 (4), 481–501.

Pai, J.C. (2006). An empirical study of the relationship between knowledge sharing and IS/IT strategic planning (ISSP). Management Decision, 44 (1), 105-122.

Palvia, P.C. and Palvia, S.C. (2003). Information Systems Plans in Context: A Global Perspective. In Strategic Management- Challenges and Strategies in Managing Information Systems (Galliers, R.D. and Leidner, D.E. Ed.), Butterworth Heinemann, Oxford.

Palanisamy, R. (2005). Strategic information systems planning model for building flexibility and success. Industrial Management and Data Systems, 105 (1), 63-81.

Pisello, T. (2001). Return on investment for Information Technology Providers. Information Economics Press New Canaan, Connecticut, Alinean, LLC.

Porter, M.E. (1998). Creating Tomorrow's Advantages. In Rethinking Future (Gibson, R. Ed.), p.55-58, Nicholas Brealey London.

Pyburn, P. J. (1983). Linking the MIS Plan with Corporate Strategy: An Exploratory Study. MIS Quarterly, 7 (2), 1-14.

Ruohonen, M. (1991) Stakeholders of Strategic Information Systems Planning: Theoretical Concepts and Empirical Examples. Journal of Strategic Information Systems, 1(1), 15-28.

Segars, A.H. and Grover, V. (1998). Strategic information system planning: an investigation of the construct and its measurement. MIS Quarterly, 22 (2), 139-163.

Spremic, M. and Strugar, I. (2002). Strategic IS planning practice in Croatia Organisational and managerial challenges, International. Journal of Accounting Information Systems, 3, 183-200.

Teo, T.S.H. and Ang , J.S.K. (2001). An examination of major IS planning problems. International Journal of Information Management, 21 (6), 457-470.

Teo, T.S.H.and Ang, J.S.K. and Pavri, F.N. (1997a). The state of strategic IS planning practices in Singapore. Information & Management, 33, 13-23.

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

Ward, J. and Griffiths, P. (1998). Strategic Planning for Information Systems. John Wiley & Sons, New York.

Warr, A. (2006). Strategic IS Planning in UK Organisations: Current Approaches and their Relative Success. In Proceedings of the 14th European Conference on Information Systems, Gutenberg.

Willcocks, L. (2000). Evaluating the Outcomes of Information Systems Plans – Managing information technology evaluating technologies and processes. In Strategic Information Management-Challenges and Strategies in Managing Information Systems (Galliers, R.D. and Leidner, D.E. and Baker, B.S.H. Ed.), Butterworth Heinemann, Oxford.

Yeo, K.T. (2002). Critical failure factors in information system projects. International Journal of Project Management, 20, 241-246.