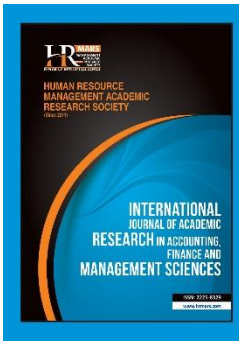


INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN ACCOUNTING, FINANCE AND MANAGEMENT SCIENCES

HRMARS MANAGEMENT ACADEMIC RESEARCH SOCIETY
EXPLORING INTELLECTUAL CAPITAL

www.hrmars.com
ISSN: 2225-8329

Contingency Model for Estimating Strategic Information Systems Planning

Fakhraddin Maroofi, Fatemeh Kahrariani

To Link this Article: http://dx.doi.org/10.6007/IJARAFMS/v2-i4/9975 DOI:10.6007/IJARAFMS /v2-i4/9975

Received: *03* November *2012,* ***Revised:*** *22* November 2012*,* ***Accepted:*** *11* December 2012

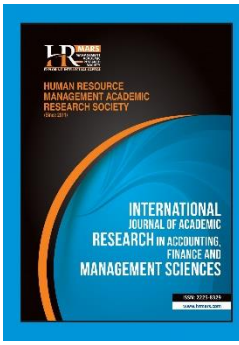
Published Online: 20 December 2012

In-Text Citation: (Maroofi & Kahrariani, 2012)

To Cite this Article: Maroofi, F., & Kahrariani, F. (2012). Contingency Model for Estimating Strategic Information Systems Planning. *International Journal of Academic Research in Accounting Finance and Management Sciences*, *2*(4), 40–53.

Vol. 2, No. 4, 2012, Pg. 40 - 53

http://hrmars.com/index.php/pages/detail/IJARAFMS | **JOURNAL HOMEPAGE**


INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN ACCOUNTING, FINANCE AND MANAGEMENT SCIENCES
HRMARS MANAGEMENT ACADEMIC RESEARCH SOCIETY
EXPLORING INTELLECTUAL CAPITAL
www.hrmars.com
ISSN: 2225-8329

Contingency Model for Estimating Strategic Information Systems Planning

Fakhraddin Maroofi
Department of Management University of Kurdistan Kurdistan, Iran
Email: f_maroofi@yahoo.com

Fatemeh Kahrariani
Department of Management Science and Research Branch Islamic Azad University Khouzestan, Iran
Email: fwa1361@gmail.com

Abstract
Our study investigated the SISP as a function of its key success factors in different contexts and SISP methods. We listed 515 CIO's responses our findings supported our research model: the combination of SISP context and method was found to have a moderating influence on the relationship between SISP KSFs and its success, the best predictor for the long-term success of the SISP process was based on the three-way interactions between SISP's KSFs, its method and its context. In addition, specific combinations of SISP method and SISP context were found to decrease or increase the size of the planning paradox.
Keywords: Strategic Information Systems Planning (SISP), Key Success Factors, Planning Method, Is Planning Paradox

Introduction

The dynamic and uncertainty nature of environment needs observation on levels, of the structural, business, to technological environment. The interactions of new designs of within organizations, such as moving from vertical integration to virtual organizations, allow the development of strategic alliances and partnerships that enable firms to focus on their core competencies. Organizations are changing in response to these needs by becoming flat, flexible, collaborative and information-intensive structures, by using IT. Mohdzain, Ward (2007) argue that the impact on strategic management has been produce the adoption of total system thinking, i.e., management strategy process and its components, thus, there is a need for early strategic planning activities to understand an idea of the Its (Salmela, Spil 2002). Sabherwal, Chau (2001) suggesting that Strategic information system planning (SISP) is the process of strategic thinking that identifies the IS attractive on which the firm can implement and enforce its long-term IT activities and policies.

It is a mechanism for satisfying that IT activities are arranged with the organization's progressing needs and strategies, SISP was identified as a critical management issue in the 1990s and is still ranked high as a critical issue today of key issues in IS management. With the spreading gradually of IT in the 2000s and increasing pressure on firms to face their IT assets, the importance of SISP has increased (Grover, Segars, 2005). Organizations are now investing in IS to achieve maximum benefits of IT.

Garg, Goyal, Lather (2008) state that the ISs are often unsuccessful due to lack of coordination between IS and business planning; huge parts in the procedures adopted by different enterprises in time, cost, and environmental factors and ignoring of IS project management activities in most enterprises, especially SMEs. While Cohen (2008) has shown that the important factor effect on IS planning, the incorporation of contextual factors has not been general and classification of the factors has not been made clear while some factors have only been superficially examined. As centralization increases, IT tends to control the planning process and, as a result, IS planning becomes more tactical than strategic and is controlled by IT infrastructure planning. Prior research suggested that the competitive environment, with its rapidly changing IT, may make worse the dangers of ineffective planning. Surveys have found that more than half of the parties involved in SISP are dissatisfied with the outcome. Researchers have studied SISP success, and its factors and problems, the effect of top management support (Kearns, 2006), SISP process (Newkirk & Lederer, 2006), IS planning methodologies and methods , business change, IT change, and their arrangement in a straight line (Newkirk & Lederer, 2008), and various other aspects of the planning process (King, Teo, 2000). Empirical research investigating the influence of IS planning on SISP success has been list of organizational characteristics or specific aspects, such as the need to conduct comprehensive planning in a turbulent environment, the external IT and business environment (Brown, 2008), environmental analysis (Chi et al., 2005), or the impact of the role of IS in the organization. Cunningham, RISE and reward, (2001); Basu, Hartono, Lederer, Sethi, (2002) have tried to identify the integration among the various design dimensions of the planning process, though there has been some discussion on the main dimensions of the SISP process and their impact on SISP success. These problems have led to state that contingency theory would be an appropriate mechanism with which to study SISP. We decided to study and test a new framework for appreciation SISP success, premising that a multidimensional examination could provide a successful process.

Background

The impact of variables on the success of the SISP process can be classified on one of three dimensions: 1) Key success factors including a variety of prescriptions that reflect the ''rational behavior'' of the SISP process. This studies focus on this dimension that examine the conditions that make the process more effective in studying the correlation between KSFs and SISP success. 2) There is a possible planning paradox; the success of the SISP process cannot simply predict from the KSFs, which may adversely affect the SISP process. The planning method including decision variables that show various alternatives for the planning style adopted during the SISP process. Organizations sometimes use a commercial methodology that prescribes the attributes of the planning method. The planning context including variables that show attributes of the organization and its environment. The importance between the planning method and the planning context has been emphasized in strategic management literature, including the area of strategic IT planning. Newkirk and Lederer (2006) suggest that greater SISP comprehensiveness predicted greater SISP success. In another study, they found that more strategy formulation uniformly predicted successful planning in

more uncertain environments, whereas strategic awareness generally predicted it in less uncertain ones. Many studies have examined one or two dimensions and tested their interactions and/or their mutual impact, but very few have included all three.

Research Model

In this study we use the conceptual framework (Figure 1) including three dimensions which tries to explain success in an SISP process. The research model is according to contingency theory, on the relationship between two variables moderated by a contingency variable. This studies concerning to strategic planning at the corporate level and applied in investigating IS management processes. It has been used to study the SISP process in relation to its fit with environmental characteristics, with the role of IS, and with corporate strategy. We defined the success of the SISP process as depending on two variables: 1) The level of the capacities related to the SISP process; 2) The level of effectiveness to SISP process. In this research the assumption is that capacities and effectiveness are two different variables that measure the SISP process along different time horizons (Grover, Segars 2005).

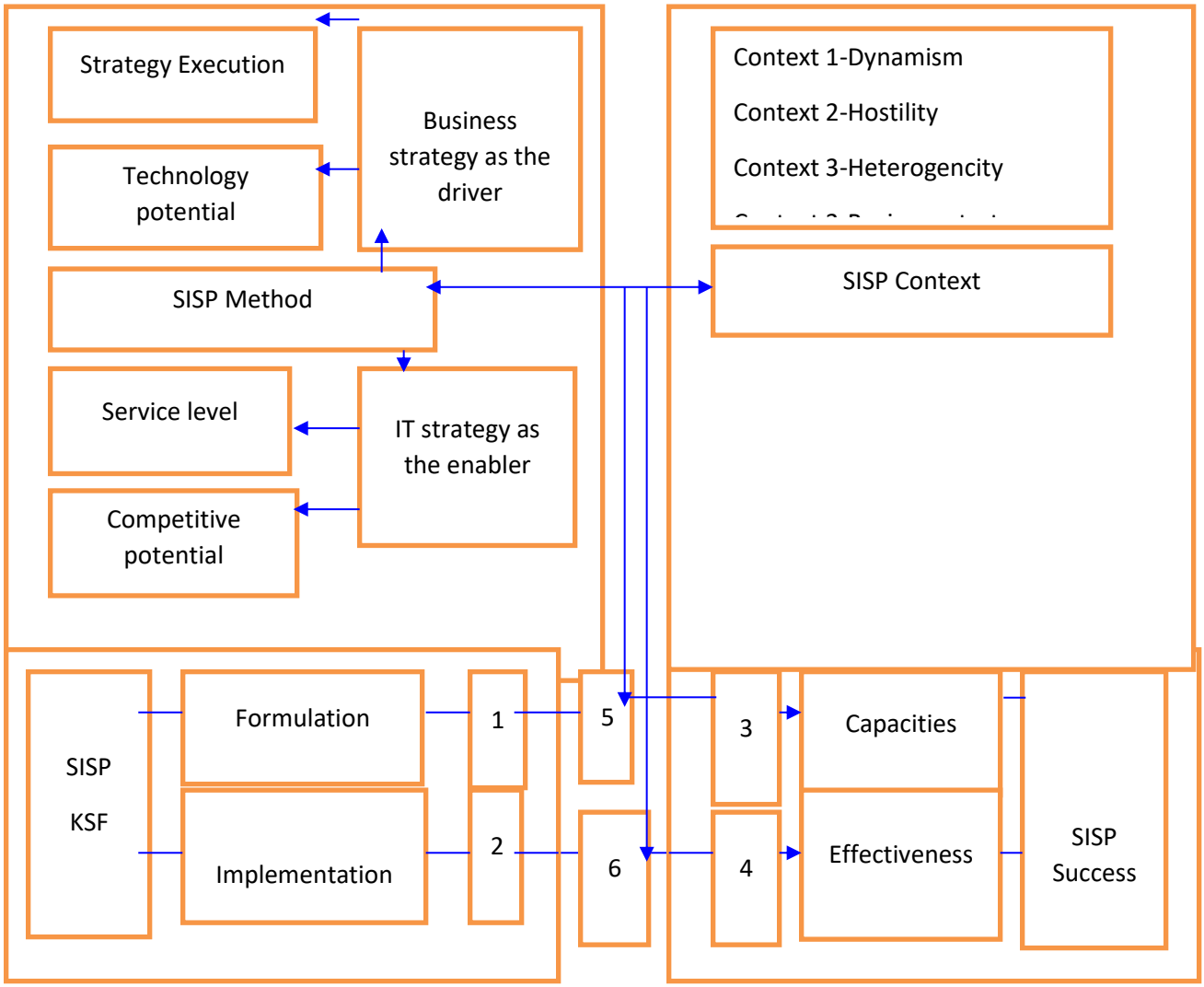


Figure 1. Research model and hypotheses

The first variable shows the short-term planning improvement benefits that can be achieved during the plan formulation phase of the SISP process. The second shows the long-term benefits from the process, achieved during or after the implementation of the plan. In our model, SISP success is measured by the level of improvement in planning capacities, which reflect short-term success, during or after plan formulation, and by the level of planning effectiveness, which reflects long-term success, during or after plan implementation. These variables are based on previous studies that reported a high level of internal validity and consistency of the measures for the capacities and the effectiveness variables. In this study supposed that the KSFs relating to the strategy formulation phase of the SISP process were different from those relating to the implementation phase, therefore suggesting that KSFs should be classified according to the phase in which they appear. It is a method that has been adopted in research on IS planning and has shaped the design of research models in the area. Therefore 14 KSFs were selected to show the two phases of the SISP process. In this study we adopted the dimension of arrangement between corporate strategy and IT to describe the SISP approach. This measurement constructed by four perspectives of Henderson and Venkatraman's Strategic Alignment Model, which has been used in previous studies. The first perspective (strategy execution) is the traditional hierarchical approaches for strategic planning of IT, and the second (technology potential) is a technological focus on attributes and critical areas of IT that fit a chosen organizational strategy. The third is service level which focused on developing the capacities of the IS group to handle more flexibly and efficiently unexpected future demands of end-users, and situations when organizational strategies are unclear or change frequently. The fourth competitive potential, relates to the impact of IT on business strategy and on the redesign of business processes. In this research we construct SISP context which incorporates three component contexts: environmental – referring to uncertainty; organizational – dealing with business strategy issues; and technological – referring to IS importance.

Hypotheses

The research model was shown from the conceptual framework into variables (Figure 1) which shows the six research hypotheses.

H1. There is a positive relation between SISP key success factors and the improvement in planning capacities.

H2. There is a positive relation between SISP key success factors and the effectiveness of the SISP process.

H1 and H2 shows a ''slim'' research conception which consider a relationship between a single variable (SISP KSFs) and a dependent variable (SISP success) which was expected to fail in explaining the dependent variable, leading to the planning paradox. Therefore, the relationship was later investigated with two contingency variables (SISP context and SISP method) that were supposed to affect it.

H3 and H4 tested and the relationship of SISP context or SISP method separately affected, but the H5 and H6 tested and the relationship by the combined impact of SISP context and SISP method was affected.

Hypotheses H3–H6 considered the survival of an interaction effect, i.e., whether the impact of SISP KSFs on SISP success, ignoring SISP context and SISP method, was different from the impact when SISP context and SISP method were investigated.

H3 and H4 considering only the SISP context or SISP method, do not explain the relationship. Therefore, H3 and H4 were rejected.

H3. The impact of SISP key success factors in planning capacities is dependent on the SISP context or the SISP method.

H4. The impact of SISP key success factors on the effectiveness of the SISP process is dependent on the SISP context or the SISP method.

Two additional hypotheses proposed the survival of a three way interaction between SISP KSFs, SISP context, and SISP method that triggers a joint effect of these three on SISP success.

H5. The impact of SISP KSFs in planning capacities is dependent on the level of fit between the SISP context and the SISP method.

H6. The impact of SISP KSFs on the effectiveness of the SISP process is dependent on the level of fit between the SISP context and SISP method.

Methodology of Research

In this study the data were collected by a questionnaire. The survey respondents were CIO's of Iran firms. Its validity were tested in a pilot implementation with ten IS faculty who were practicing CIO's. This choice was based on the previous studies which CIO's were the main drivers of the SISP process and were involved in it more than other managers. The pilot tested internal consistency among questions, and resulted in suggestions for improvements. The sampling population was the 3000 organizations; questionnaires were mailed. Out of those 618 responses, 555 questionnaires were acceptable for analysis. Of these, 40 were returned by organizations that had not implemented an SISP process. The remaining 515 questionnaires were analyzed (Table 1). The low response rate 29% may be due to those organizations which many CIO's did not respond because their organizations had not implemented an SISP process or CIO's may have been unwilling to disclose strategic information to an outsider or may be to the Problematic timing. The sample of 515 responding organizations was concluded that can be used for statistical analysis.

Table 1. Sectorial distribution of respondent organizations

Sector	**Number of respondents**	**No SISP**	**SISP**	**% out of total SISP**
Industry	232	13	219	42.50
Insurance	76	12	64	12.42
Banking	10	0	10	1.9
Other financial	20	0	20	3.88
Commerce	35	3	32	6.3
Education	60	3	57	11.06
Health	50	0	50	9.7
Transportation	35	3	32	6.2
Infrastructure	32	3	29	5.6
N/A	5	3	2	0.4
Total	**555**	**40**	**515**	**100%**

Validity and Reliability Assessment

The statistical techniques were examined for quality of measurement of the research variables. According to previous studies (Grover, Segars, 2005) by adopting operational definitions that proved valid in earlier studies, by using different principles for the design of the questionnaire; and pre-testing a pilot questionnaire on a sample of the target population (Bechor et al,2010). In this study Factor analysis tested a construct validity and discriminant validity. The factor analysis was at the beginning performed on the 8 items that indicate SISP success (Table 2). The factor analysis with two factors grouped the SISP success measurement items into two categories: four items (S01–S04) connected into one factor that reflected the capacities and satisfaction improvement dimension; the other four connected into a factor that indicated the effectiveness of the SISP process. It was later used to measure the long-term success of the SISP process. A confirmatory factor analysis (CFA) was also performed on the detailed items: it supported into two factors. The factor analysis was also performed on the 14 measurement items that indicate the SISP KSFs. The 14 items connected into two factors (Table 3).

Table 2. Factor loadings for SISP success

T1 improving capacities and satisfaction	
S01	Understanding the information needs of the business (0.345)
S02	Identifying key problem areas (0.543)
S03	Identifying new ideas and opportunities (0.540)
S04	Improving coordination of decision making (0.435)
T2 achieving effectiveness of the SISP process	
S05	Gaining a competitive advantage from IT (0.595)
S06	Aligning IT with business needs (0.498)
S07	Increasing user satisfaction with IT services (0.435)
S08	Increasing top management commitment to IT (0.348)

Table 3. Factor loadings for SISP key success factors

T1 strategy formulation key success factors	
KSF01	There was a feeling that the prior process was a necessity (0.694)
KSF02	The objective of process were predefined (0.546)
KSF03	The methodology for performing the process was predefined (0.573)
KSF04	The organization appointed a process project leader (0.562)
KSF05	A team with his responsibility was appointed to prepare the strategic plan (0.498)
KSF06	The planning team represent from various lines of business (0.498)
KSF07	The resulting strategic plan report was approved by corporate management (0.364)
KSF08	Corporate management participated in preparing the strategic plan (0.495)
T2 strategy implementation key success factors	
KSF09	Corporate management allocated the resources needed for plan implementation (0.395)
KSF10	The planning team accompanied the implementing phase of the strategic plan (0.470)
KSF11	A periodic review of the level of implementation of the plan was performed (0.527)
KSF12	The strategic plan served as input to the annual IS plans (0.421)

Items KSF01–KSF10 named ‘‘strategy formulation’’ and items KSF11–KSF14 was named ‘‘achieving effectiveness of the SISP process’. The SISP KSFs of the implementation phase connected into a single category that included items measuring the quality of plan implementation. Factor analysis of the 7 items indicating environmental uncertainty was performed to validate were divided into three categories that indicated the levels of dynamism, hostility, and heterogeneity.

Table 4 shows the factor groupings as prescribed by the conceptual framework of our study. The validity of the business strategy variable was tested by a statistical analysis of its relationship with the number of employees in the sampled organizations. An ANOVA at a 0.05 significance level showed a significant relation between the two variables (x^2 = 15.7, df = 7, p = .020), unconditional variable supporting the validity of measuring business strategy. Similarly, the validity of the measurements of the variables IS role and SISP method was tested by an analysis of the relationship between them; the finding of this study confirmed the relationship between two phenomena representing a growth cycle (Bechor et. al., 2010).

Table 4. Factor loadings for SISP context (environmental uncertainty)

Heterogeneity	
UNCRT1	In our industry, there is considerable diversity about the competition (0.545)
UNCRT2	In our industry, there is considerable diversity in production (0.603)
Dynamism	
UNCRT3	When the demand for our products or services change we cannot predict (0.424)
UNCRT4	In our industry Products or services become absolutely very quick (0.642)
UNCRT5	in our industry the technologies underlying products or services change very quickly (0.543)
Hostility	
UNCRT6	The survival of our organization is currently threatened by tough price competition (0.648)
UNCRT7	The survival of our organization is currently threatened by tough competition in product/service differentiation (0.615)

The values in Table 5 for the research variables, the number of items used to measure them, and the corresponding values indicate a high level of internal consistency among the items. An analysis of variance at a 0.05 significance level resulted in a significant relationship between the two variables (x^2 = 27, df=6, p = .000), showing that the measurements of the variables had an acceptable validity. The reliability of the research variables was examined by the level of internal consistency, using Cronbach’s alpha test with a minimum value of $\alpha > 0.6$ as a limit for an acceptable reliability.

Table 5. Reliability of research variables (Cronbach's coefficient a)

Variable	Number of items	Cronbach's coefficient α
SISP context (heterogeneity)	2	0.5476
SISP key success factor (implementation phase)	4	0.5436
SISP success (capabilities)	2	0.5467
SISP success (effectiveness)	3	0.5444
SISP context (dynamism)	3	0.5458
SISP key success factor (formulation phase)	8	0.4698
SISP context (hostility)	2	0.5287

Analysis and Findings

Table 6 shows the statistical report for the research variables. As results, the responses show the full range of values on the 1–6 scales, facilitating an effective analysis of the data. IS role was measured that identified three organization types that differ in terms of integrating IT with business strategy. In 93% of the sampled organizations, the IS group supported, or was involved in, business strategy. Less than 7% reported a minor role of IS, supported operations only. According to Henderson and Venkatraman's procedure, four perspectives of SISP method was measured for IS strategic planning that differ in terms of the strategic between the organization and IS. More than 38% of the sampled organizations used a competitive potential planning method, which is a kin to BPR. About 31% used the more traditional strategy execution method, which assumes that the IS infrastructure is a non-active entity that supports organizational strategy and processes. About 18% used a technology potential method, and about 12% used a service level method. In this research the basic relationship was the relationship between SISP KSFs and SISP Success.

Table 6. Descriptive statistics for the 515 organizations (scale of 1–7)

Variable	Mean	S.D	Data distribution				
			Min.	25 quartile	Median	75 quartile	Max.
Capacities	4.25	.711	2	3.64	4.18	4.73	6
Implementation Phase_Key Success Factors	4.06	.794	2	3.32	4.50	4.60	6
Formulation Phase_Key Success Factors	3.88	.689	2	3.56	3.96	4.76	6
Heterogeneity	2.86	1.199	1	2.00	3.03	4.08	6
Effectiveness	4.23	.632	2	3.54	4.37	4.87	6
Hostility	3.41	1.210	1	2.57	3.76	433	6
Dynamism	2.94	1.042	1	2.07	3.02	3.65	6

The statistical analyses of this relationship are shown in Tables 7 and 8 (H1 and H2). The results suggesting that: The KSFs for the formulation phase of the SISP process positively affect planning capacities. The KSFs for the implementation phase positively affect the effectiveness of the SISP process. H1 and H2 reflect a ''slim'' conception that examine a relationship between a single variable (SISP KSFs) and a dependent variable (SISP success).

Table 7. Results of the regression related to SISP success in the short term

Statistical estimates				Independent variables	
Sig. a=5%	ΔR^2	T	β_n	Variable description	Variable symbol
H1: model					
.000	**.157**	**6.61**	**.452**	Formulation phase KSFs	F_KSF
H3: Approach and context as a single moderator					
.589	.000	.12	.012	SISP method	Method
.476	.001	-40	-210	Interaction variable	F_KSF*Approach
.483	.000	.20	.017	SISP context (dynamism)	Dynamism
.170	.008	1.21	.580	Interaction variable	F_KSF*Dynamism
.519	.001	.31	.022	SISP context (hostility)	Hostility
.392	.002	.68	.332	Interaction variable	F_KSF*Hostility
.470	.002	.56	.037	SISP context (heterogeneity)	Heterogeneity
.611	.000	.10	.052	Interaction variable	F_KSF*Heterogeneity
.442	.002	.51	.034	SISP context (bus. strategy)	Bus_Strtgy
.176	.005	1.20	.612	Interaction variable	F_KSF*Bus_Strtgy
.321	.002	.73	.058	SISP context (IS role)	IS_Role
.301	.004	1.00	.521	Interaction variable	F_KSF*IS_Role
H5: Approach and context in combination					
.211	.006	1.05	.309	Three-way interaction	F_KSF*Approach*Dynamism
.214	.005	1.11	.320	Three-way interaction	F_KSF*Approach*Hostility
.695	.001	.32	.082	Three-way interaction	F_KSF*Approach*Heterogeneity
.003	**.035**	**2.56**	**.762**	Three-way interaction	F_KSF*Approach*Bus_Strategy
.698	.002	.46	.069	Three-way interaction	F_KSF*Approach*IS_Role

N= 515, dependent variable = capacities, F_KSF = formulation phase KSFs, I_KSF = implementation phase KSFs.
Bolds, significance (5%).

As this conception is intended to fail (the planning paradox), this tests the relationship as impacted by two contingency variables (SISP context and SISP method). The main statistical techniques for examining interactions in a contingency model are ANOVA and moderated multiple regressions (MMR).

Table 8. Results of the regression related to SISP success in the long term

Statistical estimates				Independent variables	
Sig. a=5%	ΔR^2	T	β_n	Variable description	Variable symbol
H2: model					
.000	**.348**	**8.64**	**.559**	Implementation phase KSFs	I_KSF
H4: Approach and context as a single moderator					
.483	.001	-52	-033	SISP method	Method
.478	.001	-51	-218	Interaction variable	I_KSF*Approach
.196	.004	1.12	.063	SISP context (dynamism)	Dynamism
.110	.010	1.39	.652	Interaction variable	I_KSF*Dynamism
.683	.000	.11	.007	SISP context (hostility)	Hostility
.025	**.018**	**2.21**	**.969**	Interaction variable	I_KSF*Hostility
.543	.001	-51	-023	SISP context (heterogeneity)	Heterogeneity
.691	.000	.31	.123	Interaction variable	I_KSF*Heterogeneity
.573	.001	.41	.023	SISP context (bus. Strategy)	Bus_Strtgy
.739	.000	-72	-028	Interaction variable	I_KSF*Bus_Strtgy
.008	**.025**	**2.61**	**.165**	SISP context (IS role)	IS_Role
.004	**.027**	**2.85**	**1.05**	Interaction variable I_KSF*IS_Role	
H6: Approach and context in combination					
.015	**.019**	**2.21**	**.589**	Three-way interaction	I_KSF*Approach*Dynamism
.002	**.030**	**3.01**	**.760**	Three-way interaction	I_KSF*Approach*Hostility
.165	.005	1.30	.290	Three-way interaction	I_KSF*Approach*Heterogeneity
.002	**.031**	**3.01**	**.693**	Three-way interaction	I_KSF*Approach*Bus_Strategy
.000	**.058**	**4.29**	**1.30**	Three-way interaction	I_KSF*Approach*IS_Role

N= 515, dependent variable = effectiveness, F_KSF = formulation phase KSFs, I_KSF = implementation phase KSFs. Bolds , significance (5%).

The incomplete contingency model underlying H3 examined whether the SISP context or SISP method variables directly affected SISP success in the short term and/or individually moderate the basic model:

H3:

Capacities= $\alpha + \beta_1$F - KSF $+\beta_2$ Method + β_3 F- KSF * Method + β_4 Context $+\beta_5$ F- KSF * Context

The comprehensive contingency model underlying H5 examines the effect of including the combination of SISP context and SISP method in the basic model in the short term, as represented by the β_6 coefficient added to the regression equation:

H5:

Capacities = $\alpha + \beta_1$ F- KSF + β_2 Method + β_3 F- KSF * Method + β_4 Context + β_5 F- KSF *Context + β_6 F- KSF *(Method and Context)

Table 6 shows the results of testing H3 and H5. H3 (incomplete contingency model) indicated that none of the SISP context or SISP method variables directly affected the SISP success, or moderated the basic relationship. H5 (the comprehensive contingency model) showed that the various combinations of SISP context, in terms of dynamism, hostility, heterogeneity or IS role, and SISP method did not have a joint effect on the basic relationship. The one exception was the significant interaction between SISP KSFs, SISP method and SISP context (in terms of business strategy), which added somewhat to the explanation of the basic model. The incomplete contingency model underlying H4 examined whether the SISP context and SISP method variables directly affected SISP success in the long term and/or individually moderated the basic model:

H4:

Effectiveness = $\alpha + \beta_1$ I-KSF+ β_2 Method + β_3 I- KSF*Method + β_4 Context + β_5 I- KSF*Context

The comprehensive contingency model underlying H6 examined the effect of including the combination of SISP context and SISP method in the basic model in the long term, as indicated by β6 coefficient added to the regression equation:

H6:

Effectiveness = $\alpha + \beta_1$ I- KSF + β_2 Method + β_3 I- KSF *Method + β_4 Context + β_5 I -KSF * Context + β_6 I- KSF {Method and Context}

Table 7 shows the results of testing H4 and H6. H4 indicated that IS role directly affected SISP success and also moderated the basic model. The other SISP context and SISP method variables do not affect SISP success directly as well as moderated the basic model. This does not challenge the theoretical rationale of the study, which claimed that a contingency variable that represented method or context alone did not moderate the basic relationship and hence called for a comprehensive contingency model.

H6 supported the research hypothesis. The model proposed the combination of SISP method and SISP context have a moderating effect on the basic relationship between SISP success and SISP KSFs, was confirmed for most of the context variables tested (except environmental heterogeneity variable). The findings indicate that the best predictor of long-term SISP success was the three-way interaction between KSFs, method, and context. These findings verified the comprehensive contingency model, which explained SISP success in the long term.

Conclusions

Our research examined the success of the SISP process as a variable that depends on three dimensions: SISP KSFs; SISP method; and SISP context. The model indicates a theoretical rationale that the relationship between SISP success and SISP KSFs is dependent between SISP context and SISP method.

The findings confirmed the hypotheses concerning the relationship, indicating a positive relationship between: SISP KSFs is the formulation phase of the SISP process and the improvement in planning capacities; and SISP KSFs in the implementation phase and the effectiveness of the SISP process. Our findings had a practical contribution, assisting CIO's in reconciling between the considerable investment of time, capital, and human resources in SISP processes, and there is a failure, which was a key concern of CIO during the 1980s and 1990s, and in recent years has never been stronger. CIO's should therefore acknowledge the complexity of the process and engage in a meta-planning stage before starting the core SISP process. Our findings confirmed the need to examine SISP success under a comprehensive contingency model. Our study was integrative and

facilitated a comprehensive investigation of the SISP process. Its theoretical contribution was indicated in the explanation of the planning paradox, suggesting a theory that explained the inconsistency in the basic relationship and confirming the dependency of the basic relationship on the quality between SISP context and method. The recent study suggest a negative relationship between IS and firm performance, the purpose in SISP was questioned (Tallon, 2007, Bechor et. al; 2010). The resolution of the productivity paradox activated practitioners' interests and made SISP a common practice in firms (Krell, Matook, 2009). The findings confirmed the comprehensive contingency model for the success of the SISP process in the long term only. For all the variables tested, a significant moderating effect was found for the combination of context and approach with the basic relationship. The best prediction for long-term SISP success was based on the interaction among the three SISP variables (KSFs, context, and approach) and confirmed the theory that while a single contingency variable (SISP context) does not moderate the relationship between SISP KSFs and success, but its combination with another moderating variable (SISP approach) does make a significant effect.

The limitations of our study are mostly related to the research model and to the use of a mailed questionnaire. As the research model consisted of four dimensions that were not directly measurable observation, they were converted into variables by a process of filtering, whereby the variables were chosen from a larger number of variables. A second limitation rose from measuring variables using a Likert scale, in the form of statements that indicate a view of a subject; this, raised due to the opinion of a respondent. A third limitation rose from insufficient operational measurement of several research variables. Measurement techniques that use multi-item scales can reduce the measurement errors. However, due to the large number of variables in our study, these techniques would have led to a longer questionnaire. Therefore, when the measurement technique would have been based on a large number of items, simpler techniques were selected.

References

Basu, V., Hartono, E., Lederer, A. L., Sethi, V. (2002). The impact of organizational commitment, senior management involvement, and team involvement on strategic information systems planning, Information and Management 39 (6), pp. 513–524.

Bechor, T., Neumann, S., Zviran. M., Glezer, C. (2010). A contingency model for estimating success of strategic information systems planning. Information & Management 47, pp. 17–29.

Brown, I. (2008). Investigating the impact of the external environment on strategic information systems planning: a qualitative inquiry, in: Proceedings of the 2008 Annual Research Conference of the South African Institute of Computer Scientists and Information Technologists on IT Research in Developing Countries: Riding the Wave of Technology, SAICSIT'08, vol. 338, Wilderness, South Africa, October 6–8, ACM, New York, NY, pp. 8–15.

Chi, L., Jones, K. G., Lederer, A. L., Newkirk, P., Li, H. E., Sethi, V. (2005). Environmental assessment in strategic information systems planning, International Journal of Information Management 25 (3), pp. 253–269.

Cohen, J. (2008). Contextual determinants and performance implications of information systems strategy planning within South African firms, Information & Management 45 (December (8)), pp. 547–555.

Cunningham, N. (2001). RISE and reward. A model for the role of information systems in strategic change within healthcare organizations. Organization Development Journal 19 (spring (1)), pp. 93–108.

Garg, A., Goyal, D. P., Lather, A. S. (2008). Information systems success factors in software SMEs: a research agenda, International Journal of Business Information Systems 3 (4) pp. 410–430.

Grover, V., Segar, A. H. (2005). An empirical evaluation of stages of strategic information systems planning: patterns of process design and effectiveness, Information & Management 42 (5) pp. 761–779.

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, pp. 236–253.

King, W. R., Teo, T. (2000). Assessing the impact of proactive versus reactive models of strategic information systems planning, Omega 28 (6), pp. 667–679.

Krell, K., Matook, S. (2009). Competitive advantage from mandatory investments: an empirical study of Australian firms, The Journal of Strategic Information Systems 18 March (1), pp. 31–45.

Mohdzain, M. B., Ward, K. M. (2007). A study of subsidiaries views of information systems strategic planning in multinational organizations, The Journal of Strategic Information Systems 16 (December (4)), pp. 324–352.

Newkirk, H. E., Lederer, A. L. (2006). Incremental and comprehensive strategic information systems planning in an uncertain environment, IEEE Transactions on Engineering Management 53 (3), pp. 380–394.

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

Newkirk, H. E., Lederer, A. L., Johnson, A. M. (2008). Rapid business and IT change: drivers for strategic information systems planning? European Journal of Information Systems 17, pp. 198–218.

Sabherwal, R., Chau, Y. E. (2000). Alignment between business and IS strategies: A study of prospectors, analyzers and defenders, Information Systems Research 12 (1), pp. 11–33.

Salmela, H., Spil, T. A. M. (2002). Dynamic and emergent information systems strategy formulation and implementation, International Journal of Information Management 22 (3), pp. 441–460.

Tallon, T. (2007). Does IT pay to focus? An analysis of it business value under single and multi-focused business strategies Journal of Strategic Information Systems 16 (3), pp. 278–300.