A Study for Strategic Congruence Effects of Information System Technology Structure

정보시스템기술 구조의 전략 적합성 효과에 관한 연구

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요 약

52개 저축은행을 대상으로 구조적 상황이론에 근거한 정보 시스템 기술 구조와 경쟁적 전략적 적합성 여부의 관계를 조사하였다. 중앙 집중식 정보 기술과 분산형의 정보기술 구조가 경쟁 우위를 점하기 위해서는 공격주도형 전략이나 방어적 전략을 어떻게 일치를 시키는 것이 경쟁적 잇점에 긍정적인 영향을 미치는가에 관해서 실증 분석을 하였다. 이 연구에서 방어적 전략을 채택하는 경우에는 정보기술 구조를 중앙 집중적이고 통합된 형태를 취하고, 공격적인 형태의 전략을 채택하고자하는 경우에는 분산 형태 정보 기술구조를 취하는 것이 훨씬 더 유리하다는 결론을 얻었다.

Abstract

In a study involving 52 large organizations in the savings institutions industry, the relationship between information systems technology(IT) structure and competitive strategy was investigated based on structural contingency theory. Two dimensions of IT structure and two types of competitive strategy were employed to test a contingency model. It was found that enhanced congruence between IT structure and competitive strategy was associated with higher competitive advantage. The structural dimension significantly associated with the "defender" strategic stance was more centralized and more integrated application of IT, while the structural dimension significantly associated with "prospector" positioning was more decentralized and less integrated application of IT.

I. INTRODUCTION

In recent years, there has been increasing recognition of the strategic value of information system technology(IT) in a wide range of businesses[12],[35],[37],[40]. Billions of dollars are invested in the design and implementation of strategic information systems(SIS) every year. Expenditures on computer resources amount to nearly forty percent of the capital investment by U.S. businesses each year. More than one-half trillion dollars have already been spent on information systems. Investment in SIS is expected to increase even more rapidly in the near future. Despite the substantial financial commitment organizations make to IT, there has been continuing difficulty in accurately assessing the benefits of these investments.

IT is too important to remain the sole domain of technologists. Senior executives and line managers are increasingly turning their attention toward opportunities for achieving competitive advantage through IT[3]. In particular, they are struggling to strategize how these new technologies can be linked to their organization's activities in innovative ways that create sustainable competitive

advantage.

SISs are now considered as one of the most important weapons used by an organization in gaining competitive advantages[22]. Thus, the success of an SIS depends on its ability to establish or enhance competitive advantages [29]. One of the factors identified as being significant in SIS success is IT structure. Structuring an organization effectively is paramout for the survival of the organization.

The dominant approach to explaining organizational structure in the management literature has been the structural contingency theory, which argues that the design of the organization should depend on various contextual factors. The present study is designed to answer the above questions by applying the structural contingency theory. The empirical and theoretical development of the structure -strategy relationship has progressed rapidly since structural contingency theory was developed. Galbraith and Nathanson[13] provided the direction for developing this link in models of organization design. This line of research has posited that organizational performance is contingent on a congruence between strategy and structure, and that organization structures should depend on the strategies used.
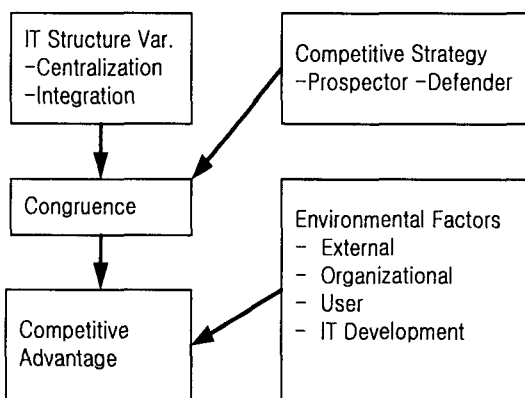

Figure 1. Overall Research Framework

Based upon structural contingency theory, it seems logical to infer that a match between IT structure and competitive strategy leads to ompetitive advantage. The success of a

strategic information system is based on how well it responds to the demands and expectations of its organization.

The purpose of this research is to test a contingency prediction of competitive advantage. In contingency theory an assertion of fit implies relationship between two variables, which in turn predicts a third variable[28]. The overall research framework is shown in Figure 1.

II. LITERATURE REVIEW

Organizational context refers to the characteristics of the organization that tend to influence the relationship between an IT application and organizational performance. Contextual factors can be any characteristic of an organization that will moderate the relationship between IT application and SIS success.

Weill and Olson[38] identified four organization context variables that made up conversion effectiveness: top management commitment to the IT, organization experience with the IT, satisfaction with the IT, and the extent of political turbulence within the organization.

Terry Anthony Byrd. & Douglas E. Turner1[34] are to offer an exploratory analysis into the relationship between flexible IT infrastructure and competitive advantage. A canonical correlation analysis is used to explore this relationship. The findings support the view that there is a positive relationship between flexible IT infrastructure and competitive advantage.

In summary, an organization should structure its IT to conform with its overall organizational context variables, such as organizational decision-making structure, managerial philosophy, organizational form, organizational size, and organizational competitive strategy[1],[8].

The existence of a fit between structure and organizational context has been of interest to researchers, but the results to date have been difficult to integrate and often conflict. Moreover, the importance of strategic role in IT application has been of interest to many researchers throughout the 1990s, but little research has considered organizational competitive strategy as an important organizational context variable.

1. THEORETICAL BACKGROUND

A generally accepted tenet of business policy is that management will form an organization structure congruent with the requirements of strategy[4]. The root of this argument stems from studies which indicate that relationships between strategy and structure exist. The second reason for this argument is that the choice of organization structure will make a difference in strategy implementation. A compatible match between these two variables will facilitate the implementation part of a strategy[9],[15].

Thus, it is reasonable to investigate the relationship between IT structure and competitive strategy based on the theoretical background of structure and strategy. Also, structural contingency theory connects these two variables and SIS success.

Ahituv et al.[2], using a sample of 303 organizations, tested the relationship between organization attributes and the deployment of hardware resources. The salient finding was that the most influential variable is distribution of decision making processes in the organization. No significant relationships were found between hardware distribution, organizational structure, and the size of the organization.

Tavakolian[33], in a study of 52 large organizations in the computer components industry, investigated the relationship between IT structure and organizational strategy. The major finding was that IT structure, as measured by the locus of responsibilities for information systems, is strongly related to organizational strategy.

There are common weaknesses in the research design of empirical investigations based on the above literature. Although the importance of IT as a tool for organizational strategy is emphasized, little empirical research considers competitive strategy as an organizational context variable. Moreover, all of these studies do not treat organizational competitive advantage as a dependent variable. Most utilized financial performance measures such as return on investment(ROI), return on assets(ROA), or profitability, in a simple correlational research design without controlling extraneous variables.In the absence of adequate control, the existence of simple correlation between two variables does not reveal anything about the nature of the underlying relationship. Without controlling the effects of extraneous variables upon the dependent variable, the relationship among the dependent and independent variables cannot be accurately measured.

2. HYPOTHESES

A prospector is inclined to have complex coordination mechanisms with decentralized control. Based upon Miles and Snow's theory, it is logical to expect that the IT structure of a prospector must be more decentralized in locus of authority for IT activities than that of a defender.

A defender is usually in a position to establish a stable IT and IT structure suitable to gain maximum competitive advantage from IT application. A defender has a tendency to rely on both centralization of decision making and a vertical integration system. Also, the degree of IT integration is dependent upon the organization's strategic type due to the interdependence of IT[27].

Acceptance of IT as a strategic business factor is now commonplace. Because recent organizations strategically use IT to gain competitive advantage[3],[16], it seems logical to infer a strong relationship between competitive strategy and IT structure. Based upon structural contingency theory, the relationship between IT structure and competitive strategy implies an interaction, which predicts a third variable (competitive advantage).

Building upon an understanding of the organizational competitive strategy typology and IT structure dimensions, we can explore the best match, in terms of organizational competitive advantage, between the strategy types and the IT structure dimensions. Based on the above discussion the Hypotheses are:

H1: A centralized IT of an organization will interact with the organization's strategy to influence its competitive advantage.

H1a: When an organization is a defender, centralization of IT will positively influence competitive advantage.

H1b: When an organization is a prospector, centralization of IT will negatively influence competitive advantage.

H2: IT integration of an organization will interact with the

organization's strategy to influence its competitive advantage.

H2a: When an organization is a defender, integration will positively influence competitive advantage.

H2b: When an organization is a prospector, integration will negatively influence competitive advantage.

III. RESEARCH DESIGN AND RESULTS

1. MEASURES

Competitive Strategy: The present study applies the competitive strategic typology framework developed by Miles and Snow[21] because of its comprehensiveness[41].

IT Structure: Two dimensions are commonly accepted as representing IT structure. These dimensions are IT centralization and IT integration.

IT Centralization: Tavakolian's[33] instrument measuring the degree of IT centralization is used to operationalize IT centralization.

IT Integration: IT is driving new and powerful forms of integration in companies[5]. Integration of IT throughout the organization is an important factor in the strategic use of IT[17].

Dependent Variable: In this study, competitive advantage (CA) measures are used to represent SIS success because commonly used financial measures may be inappropriate in the case of strategic use of IT. To measure the extent to which IT provides competitive advantage, Sethi's[29] instrument "Competitive Advantage from an Information Technology Application" were employed.

Extraneous Variables: The extraneous variables included in the research design are organizational size, organizational structure, organizational rank of IS manager, top management support, and user participation.

2. METHODOLOGY AND TEST OF HYPOTHESES

In this research, the unit of analysis is the savings institution organization. In order to find a relationship between IT structure, competitive strategy, and competitive advantage, the linkage among them must be bounded by the unit of analysis.

A field survey was used for data collection because of the large sample size requirement. The sample consisted of 52 savings institutions listed in the 500 largest savings institutions directory in the U.S. The main research design in this study is a cross-sectional survey using a mail questionnaire. Each participating savings institution is asked to respond to two different questionnaires. One questionnaire is directed at the CEO or a senior management member who could accurately express the opinions of the head of the institution. The second questionnaire is directed to the top level IS manager.

The interaction hypotheses were tested using hierarchical multiple analysis as suggested by Blalock[6]. In this study, it was hypothesized that competitive advantage was affected by the interaction between IT structure and competitive strategy. That is, the form of relationships between IT structure and SIS success is contingent upon the competitive strategy.

3. CORRELATION AMONG VARIABLES

Table 1 represents the zero-order correlation matrix among competitive advantage and the independent variables. As can be seen from the table, IT centralization is highly correlated with organizational structure (0.251, p=0.05).

The degree of centralized IT activities is highly correlated with the structure of the organization (0.251, p=0.05). User involvement is significantly correlated with top management support (0.325. p=0.05). The opportunities for users to get involved in the functions of IT increased with an increase in top management support. Also, there was a high correlation between the organizational rank of IS director (-0.319, p=0.05), measured by the number of levels below the President/CEO, and the degree of user involvement. The negative correlation means that the higher the IS director's organizational rank, the more opportunities for user involvement.

Asset size is highly correlated with the organizational rank of the IS director (-0.374, p=0.01). The larger the asset size, the higher the IS director's organizational rank. The structure of the organization is highly correlated with the organizational rank of the IS director (-0.266, p=0.05). The

more decentralized the organization, the higher the IS director's organizational rank.

Finally, the competitive advantage of savings institutions is significantly correlated with the centralization of IT (0.272, p=0.05), asset size (0.278, p=0.05), and top management support (0.517, p=0.01) of the organization. Asset size and top management support are controlled as extraneous variables.

Table 1. Correlations among Variables

Construct	CA	ITCENT	ITINT	UINVOL	ASSET	OSTR	ISLEVEL
ITCENT	0.272						
ITINT	0.193	0.175					
UINVOL	0.059	0.018	0.105				
ASSET	0.278	-0.032	0.042	0.008			
OSTR	-0.053	0.251	0.211	0.027	0.014		
ISLEVEL	-0.098	-0.243	-0.232	-0.319	-0.374	-0.266	
TOPPART	0.517	0.183	0.096	0.325	-0.086	0.022	-0.111

Notes: N=52 * p<.05** p<.01

CA is the overall competitive advantage of the organization

ISLEVEL is the organizational rank of the responsible executive

OSTR is the degree of organizational structure

TOPPART is the level of top management support

ASSET is the total asset size of savings institution

UINVOL is the level of user participation in SIS development

ITCENT is the degree of IT centralization

ITINT is the degree of IT integration

4. RESEARCH RESULTS

Hypothesis 1

In order to test hypothesis 1 the following regression formulas were developed:

$$CA = B1 + B2 \times TOPPART + B3 \times ISLEVEL + B4 \times OSTR + B5 \times ASSET + B6 \times UINVOL + B7 \times ITCENT + B8 \times E1 + B9 \times E2 + e \quad (1)$$

$$CA = B1 + B2 \times TOPPART + B3 \times ISLEVEL + B4 \times OSTR + B5 \times ASSET + B6 \times UINVOL + B7 \times ITCENT + B8 \times E1 + B9 \times E2 + B10 \times E3 + B11 \times E4 + e \quad (2)$$

E1 and E2 are effect coding for competitive strategy

E3 and E4 are the interaction of IT centralization-competitive strategy for competitive advantage

In models (1) and (2), the constituent variables of centralization x competitive strategy (E1, E2, E3, E4, ITCENT) were included topartial out all the lower order main effects from the higher order interaction effect. In model (2), IT centralization-competitive strategy interaction was added to model (1).

The regression results are presented in Table 3. The F-ratios for both models were significant at an alpha level of 0.05. A test was performed to see whether the addition of the interaction term resulted in a significant increment in the percent of variance explained in the criterion variable. The regression result, a one-tailed test, indicated that the centralization-competitive strategy interaction, H1, was significantly different from zero at an alpha of 0.05. The investigation of H1 indicates that IT centralization significantly influenced the competitive advantage when the extraneous variables were controlled.

Further analysis to test the subhypotheses, H1a and H1b, was performed. Examining the sign of the interaction term can indicate whether the effect is in the hypothesized direction. As shown in Table 2, the direction of the interaction for the defender strategy is positive (H1a: +2.37*). When an organization is a defender, centralization positively influences competitive advantage, an effect which was significant at an alpha level of 0.05. In a prospector organization, centralization negatively influences competitive advantage, constituting another significant effect (H2b: -1.33*). Thus, H1a and H2b were supported.

Table 2. Direction of Hypothesis 1

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1. Regression Model

CA = 23.58-0.48xUINVOL+3.95**xASSET - 1.22xOSTR +1.81xISLEVEL+5.70**xTOPPART +1.52**xITCENT 49.75**xE1 +27.21*xE2 +2.37**xE3 - 1.33*xE4

2. Effect Code   E3 = E1xITCENT E4 = E2xITCENT

3. Directions of H1

   (1) Defender (E1=1, E2=0)

   2.37** x E3 - 1.33* x E4 = +2.37**xITCENT: positive

   (2) Prospector (E1=0, E2=1)

   2.37** x E3 - 1.33* x E4 = -1.33*xITCENT: negative

Notes: N=52 * p<.05 ** p<.01

Table 3. Multiple Regression Results for H1

Variables	Model (1)	Model (2)
TOPPART	5.81**	5.70**
ASSET	3.55*	3.95**
OSTR	-1.92	-1.22
ISLEVEL	1.15	1.81
UINVOL	-0.60	-0.48
ITCENT	0.91	1.52**
E1	-3.02	-49.75**
E2	1.73	27.21*
E3		2.37
E4		-1.33
R Square	0.461	0.603
F-Ratio	3.649**	4.865**
p(F)	0.0037	0.0003
F-ratio	increment 5.721** (p=0.0075)	

Notes: N=52 * p<.05 ** p<.01

Hypothesis 2

In order to test hypothesis 2 the following regression formulas were developed:

CA = B1 + B2xTOPPART + B3xISLEVEL + B4xOSTR + B5xASSET + B6xUINVOL + B7xITINT + B8xE1 + B9xE2 +   (3)

CA = B1 + B2xTOPPART + B3xISLEVEL + B4xOSTR + B5xASSET + B6xUINVOL + B7xITINT + B8xE1 + B9xE2 + B10xE3 +   B11xE4 + e   (4)

In model (4), the IT integration-competitive strategy interaction term was added to model (3). The regression results were also represented in Table 5. The F-ratios for both models were significant at an alpha level of 0.01. Testing the incremental R2 between model (3) and model (4) indicated that the interaction between IT integration and competitive strategy significantly influenced competitive advantage when the extraneous variables were controlled.

Further analysis to test H2a and H2b was performed. Examining the sign of the interaction term can indicate whether the effect is in the hypothesized direction. As is shown in Table 4, the direction of the interaction with the defender strategy was positive (+2.07), which was significant at an alpha level of 0.01. For an organization which was a defender, integration of IT positively influenced competitive advantage. When an organization was a prospector, integration of IT negatively (-1.35) influenced competitive advantage. Thus, H2a and H2b were supported.

Table 4. Direction of Hypothesis 2

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1. Regression model

CA = 60.11-0.91xUINVOL+1.82xASSET - 2.21xOSTR + 1.61xISLEVEL+5.49**xTOPPART+0.55xITINT- 23.98**xE1 + 13.92*xE2 + 2.07**xE3 - 1.35*xE4

2. Effect code   E3 = E1 x ITINT E4 = E2 x ITINT

3. Direction of H2

   (1) Defender(E1=1, E2=0)

      2.07** x E3 - 1.35* x E4 = +2.07**xITINT: positive

   (2) Prospector(E1=0, E2=1)

      2.07** x E3 - 1.35* x E4 = -1.35xITINT: negative

   (3) Analyzer(E1=-1, E2=-1)

      2.07** x E3 - 1.35* x E4 = -0.72xITINT: negative

Notes: N=52 * p<.05 ** p<.01

Table 5. Multiple Regression Results for H2

Variables	Model (3)	Model (4)
TOPPART	6.20**	5.49**
ASSET	3.00	1.82
OSTR	-1.49	-2.21
ISLEVEL	1.00	1.61
UINVOL	-0.82	-0.91
ITINT	0.53	0.55
E1	-1.94	-23.98**
E2	1.12	13.92*
E3		2.07**
E4		-1.35*
R Square	0.416	0.615
F-Ratio	2.760**	4.639**
p(F)	0.0199	0.0006
F-ratio	increment 7.515** (p=0.0023)	

Notes: N=52   * p<.05   ** p<.01

IV. CONCLUSIONS

Summarizing the overall findings with respect to organizational competitive strategy and IT structure, there was a significant relationship between IT structure and competitive strategy, and this relationship affected the competitive advantage of savings institutions, as expected. The structural dimension significantly associated with the defender strategic stance was more centralized and more integrated application of IT, while the structural dimension significantly associated with the prospector strategy type was more decentralized and less integrated application of IT. These findings provide support for the major argument of structural contingency theory in which organizational competitive advantage is contingent upon a congruence between IT structure and competitive strategy.

The degrees of centralization and integration of IT are depend upon the type of competitive strategy employed by the savings institutions. The structure of the IT of an organization with a defender strategy (a conservative competitive strategy) is more centralized and integrated than that of an organization with a prospector strategy (an aggressive competitive strategy) for the purpose of gaining competitive advantage. When an organization is a defender, centralization and integration of IT positively influence competitive advantage. On the other hand, when an organization is a prospector, centralization and integration of IT negatively influence competitive advantage.

REFERENCES

[1] Admitava Dutta & Kevin McCrohan, "Management's role in INformation Security in a Cyber Economy," California Management Review, Vol. 45, No. 1 pp. 27-38, 2003.

[2] Ahituv, N., Neumann, S., and Zviran, M.. "Factors Affecting The Policy for Distributing Computing Resources," MIS Quarterly, Vol. 13, No. 4, pp. 389-401, 1989

[3] Bakos, J.Y. and Treacy, M.E. "Information Technology and Corporate Strategy: A Research Perspective," MIS Quarterly, 10(2), June 1986, pp. 107-119.

[4] Bart, C.K. "Product Strategy and Formal Structure," Strategic Management Journal, 7(4), July-August 1986, pp. 293-312.

[5] Benjamin, R.I. and Scott Morton, M. "Information Technology, Integration, and Organizational Change," Interfaces, 18(3), May-June 1988, pp. 86-98.

[6] Blalock, H.M., Jr. Social Statistics, 2nd ed., New York: McGraw-Hill, 1979.

[7] Boschken, H.L. "Strategy and Structure: Reconciling the Relationship," Journal of Management, Vol. 16, No. 1 , pp. 135-150, 1990.

[8] Cash, J.I., Jr. and Konsynski, B.R. "IS Redraws Competitive Boundaries," Harvard Business Review, 63(2), March-April, 1985, pp. 134-142.

[9] Christen, C.R., Andrew, K.R., and Bower, J.L. Business Policy: Text and Cases, Homewood, IL: Irwin, 1980.

[10] Clemons, E.K. and Row, M.C. "Information Technology and Economic Reorganization," Proceedings of the 10th International Conference on Information Systems, pp. 341-351, 1989.

[11] Copeland, D.G. and Mckenney, J.L. "Airline Reservations Systems: Lessons from History," MIS Quarterly, Vol. 12, No. 3, pp. 353-370, 1988.

[12] Douglas, T.J., & Judge, W.Q. "Total Quality Management Implementation and Competitive Advantage:

The Role of Structural Control and Exploration," Academy of Management Journal, Vol. 44, No. 1, 158-169. (Research Note), 2001.

[13] Galbraith, J.R. and Nathanson, D.A. Strategy Implementation: The Role of Structure and Process, St. Paul, MN: West Publishing, 1978

[14] Jaccard, J., Turrisi, R., and Wan, C.K. Interaction Effects in Multiple Regression, Newbury, CA: Sage Publications, 1990.

[15] Jelinek, M., Litterer, J.A., and Miles, R.E. Organization by Design: Theory and Practice, Georgetown, Ontario: Irwin-Dorsey, 1981.

[16] Johnston, H.R. and Carrico, S.R. "Developing Capabilities to Use Information Strategically," MIS Quarterly, 12(3), Spring 1988, pp. 37-50.

[17] Kim, K.K., and Michelman, J.E. "An Examination of Factors for the Strategic Use of Information Systems in the Healthcare Industry," MIS Quarterly, Vol. 14, No. 2, pp. 201-215, 1990.

[18] King, W.R., Grover, V., and Hufnagel, E.H. "Using Information and Information Technology for Sustainable Competitive Advantage: Some Empirical Evidence," Information Technology and Management Strategy, Englewood Cliffs, NJ: Prentice Hall,1989.

[19] Kochhar, R., & Hitt, M.A. "Linking Corporate Strategy To Capital Structure: Diversification Strategy, Type and Source of Financing." Strategic Management Journal, Vol. 19. No. 6, pp. 601-610. (Research Note), 1998

[20] Michael, S.C. "Investments To Create Bargaining Power: The Case of Franchising," Strategic Management Journal, Vol. 21, No. 4, pp. 497-514, 2000.

[21] Miles, R.E., Snow, C.C., Meyer, A.D., and Coleman, H.J., Jr. "Organizational Strategy, Structure, and Process," Academy of Management Review, 3(3), July 1978, pp. 546-562.

[22] Mingfang Li & L. Richard Ye1, "Information Technology and Firm Performance: Linking with Environmental Strategic and Managerial Contexts," Information & Management, Vol. 35, No. 1 pp. 43-51, 1999.

[23] Oliver, C. "Sustainable Competitive Advantage: Combining Institutional and Resource-Based Views."

Strategic Management Journal, Vol. 18 No. 9, pp. 697-713, 1997.

[24] Powell, T.C., & Dent-Micallef, A. (1997). "Information Technology As Competitive Advantage: The Role of Human, Business, and Technology Resources". Strategic Management Journal, Vol. 18, No. 5, pp. 375-405.

[25] Reich, B.H. and Benbasat, I. "An Empirical Investigation of Factors Influencing the Success of Customer-Oriented Strategic Systems," Information Systems Research, Vol. No. 3, pp. 325-347, 1990.

[26] Rindova, V.P., & Fombrun, C.J. "Constructing Competitive Advantage: The Role of Firm-Constituent Interactions." Strategic Management Journal, Vol. 20, No. 8, pp. 691-710, 1999.

[27] Rockart J.F. and Short J.E. "IT in the 1990s: Managing Organizational Interdependence," Sloan Management Review, Vol. 30, No. 2, pp. 7-17, 1998.

[28] Schoonhoven, C.B. "Problems With Contingency Theory: Testing Assumptions Hidden Within The Language of Contingency 'Theory'," Administrative Science Quarterly, 26(3), September 1981, pp. 349-377.

[29] Sethi, V. "The Development of Measures to Access the Extent to Which an Information Technology Application Provides Competitive Advantage." Ph.D. Dissertation, Pittsburgh, PA: University of Pittsburgh, 1988.

[30] Sharma, S. "Managerial Interpretations and Organizational Context As Predictors of Corporate Choice of Environmental Strategy." Academy of Management Journal, Vol. 43, No. 4, pp. 681-697,2000.

[31] Slater, S.F., & Olson, E.M. "Strategy Type and Performance: The Influence of Sales Force Management". Strategic Management Journal, Vol. 21, No. 8, pp. 813-829, 2000.

[32] Stabell, C.B., & Fjeldstad, O.D. "Configuring Value For Competitive Advantage: On Chains, Shops, and Networks". Strategic Management Journal, Vol. 19, No. 5, pp. 413-437, 1998.

[33] Tavakolian, H. "Linking the Information Technology Structure with Organizational Competitive Strategy: A Survey," MIS Quarterly, 13(3), September 1989, pp. 309-317.

[34] Terry Anthony Byrd & Douglas E. Turner1. "An Exploratory Examination of the Relationship between Flexible IT Infrastructure and Competitive Advantage." Information & Management, Vol 39, No. 1, pp. 41-52, 2001.

[35] Thomsen, S., & Pedersen, T. "Ownership Structure and Economic Performance In the Largest European Companies". Strategic Management Journal, Vol. 21, No. 6, pp. 689-705, 2000.

[36] Venkatraman, N.and Short, J.E. "Strategies for Electronic Integration: From Order-Entry to Value-Added Partnerships at Baxter," Cambridge, MA: Center for Information Systems Research, MIT, WP 210, 1990.

[37] Wanda J. Orlikowski and Stephen R. Barley, (2001), "Technology and Institutions: What Can Research on Information Technology and Research on Organizations Learn from Each Other?" MIS Quarterly, Vol. 25, No. 2, 2001.

[38] Weill, P. and Olson, M.H. (1989). "Managing Investment in Information Technology: Mini Case Examples and Implications," MIS Quarterly, Vol. 13, No. 1, pp. 3-17, 1989

[39] William Lewis, Ritu Agarwal, and V. Sambamurthy, "Sources of Influence on Beliefs about Information Technology Use: An Empirical Study of Knowledge Workers," MIS Quarterly, Vol. 27, No. 4, pp. 637-656, 2003.

[40] Zajac, E.J., Kraatz, M.S., & Bresser, R.K. "Modeling the Dynamics of Strategic Fit: A Normative Approach To Strategic Change," Strategic Management Journal, Vol. 21, No. 4, 429-453, 2000.

[41] Zahra, S.A. and Pearce II, J.A. "Research Evidence On The Miles-Snow Typology," Journal of Management, 16(4), 1990, pp. 751-768.

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