MANAGING KNOWLEDGE CAPABILITIES FOR STRATEGY IMPLEMENTATION EFFECTIVENESS

Lester A. Digman, Department of Management, University of Nebraska at Lincoln, 209 CBA, Lincoln, NE 68588 USA, 402-472-3364, ldigman1@unl.edu
Sineenad Paisittanand, Department of Business Administration, Bangkok University, Rama 4 Road, Klong-Toey, Bangkok 10110 Thailand, 666-600-6933, jdpaisit@yahoo.com
Sang M. Lee, Department of Management, University of Nebraska at Lincoln, 209 CBA, Lincoln, NE 68588 USA, 402-472-3915, slee1@unl.edu

ABSTRACT

This paper studies the effect of knowledge capabilities on strategy implementation effectiveness (SIE). Two aspects of knowledge capabilities are investigated: knowledge process capabilities (KPC) and knowledge infrastructure capabilities (KIC). It is hypothesized that KIC mediates the relationship between KPC and SIE. Empirical data are collected from middle managers via questionnaires. Structural Equation Modeling is used to analyze the data. The findings indicate the presence of a mediation effect of KIC on the relationship between KPC and SIE. It is hoped that the results of this study will enhance our understanding of the strategic importance of organizational knowledge, especially in the area of strategy implementation.

INTRODUCTION

At present, the rapidly changing environment increases the complexity of business at an increasing rate. To survive and thrive, the majority of organizations have turned to adapting their internal capabilities to the competitive environment [11]. In the field of strategy, the importance of knowledge in the organization has been long recognized and, recently, the knowledge-based view (KBV) has been introduced as a new paradigm to recognize the unique contribution of knowledge in the organization [13]. The study in KBV strategy is vast. Nevertheless, there are few empirical studies that investigate the relationship between organizational knowledge and the strategy implementation. This study addresses an important question: "How do knowledge capabilities affect strategy implementation?" It argues and demonstrates that knowledge capability influences the effectiveness of strategy implementation. This study argues that KPC are an antecedent of KIC. Also, KIC supports, assists, and facilitates SIE. To support the argument, this study explores a mediating model by determining KIC as mediator between KPC and SIE. The study will empirically demonstrate that KIC fully mediate the relationship between KPC and SIE. The demonstration involves two statistical steps. First, the study will examine the positive influence of KPC over SIE when KIC absented is shown. Second, the study will attempt to prove that when KIC is present, the positive influence does not hold. Furthermore, the positive influence from KPC to KIC and the positive influence from KIC to SIE will be examined.

THEORETICAL FRAMEWORK AND HYPOTHESES

Managing the KPC affects all functions and resources in the organization. The firm's ability to combine individual knowledge and skills across boundaries to create new knowledge enables a firm to expand their capabilities and to sustain its competitive advantage. Effective execution of knowledge process capabilities can promote growth by allowing the organization to launch business initiatives, as well as gain cost and other advantages by improving operations. To compete effectively, organizations must leverage their existing knowledge and create new knowledge by developing KPC to create the ability to

use knowledge to develop organization activities. Hypothesis 1: KPC positively affect SIE. Infrastructures in the organization are believed from researchers to support and facilitate organizational activities [8]. A recent study by Gold et al., [3] shed light on the relationships among KPC, KIC, and organizational effectiveness. The results unveil the positive relationships between KPC and organization effectiveness, and between KIC and organizational effectiveness, but, do not show the relationship between KPC and KIC. While past studies have examined the role of infrastructure within the organization, it is still not clear how infrastructure affect knowledge process. However, there are interesting arguments that imply the effect and relationship of both KPC and KIC. Keidel [6] and Wang and Majchrzak [14] points out that infrastructure may be a mirror image of organizational learning that results from knowledge. They suggest that when the organization wants to change or extent their organization infrastructures; management should encourage organizational members sharing their expertise by brainstorming ideas and discussion problems. Hypothesis 2: KPC positively affect KIC. Many researchers found that infrastructure capabilities support and facilitate organizational activities, and also that they can not stand alone. In the strategy process, infrastructure capabilities, as a basic system, support and facilitate the strategy process activities. Shaw et al., [12] suggest that infrastructure capability is a key factor preceding the successful implementation of redesigned business process. They comment that strategy implementation inevitably involves with the decision of organizational infrastructures. They mention that the congruence of those infrastructures effect relationship of strategy implementation effectiveness. Hypothesis 3: KIC positively affect SIE.

METHODS AND RESULTS

This study focuses on middle-managers who are involved in strategy implementation and developing organizational capabilities. Standard and Poor's COMPUSTAT database is utilized to provide the sample. One thousand three hundreds and twenty one (1,321) middle-managers are selected and 162 (or 15.99% response rate) questionnaires are returned. The analyses are conducted by SEM framework utilizing MPlus 3 [10]. Data screening suggests no critical data related problems in the study. Confirmatory Factor Analysis (CFA) is utilized in the examination of the measurement model of the constructs. The initial CFA models of the three constructs indicate less fit between the theoretical model and empirical data. The model respecification is needed. Item removal is recommended [7]. This study uses three fit indices through our investigations; Comparative Fit Index (CFI) [2], Root Mean Square Error of Approximation (RMSEA) [7] and Standardized Root Mean Square Residual (SRMR) [4]. These fit indicators have been shown as the most stable in confirmatory factor analysis and structural equation modeling [4]. The results of the measurement model indicate that the good fit in each measurement construct. The five knowledge process activities are components of KPC, the four tasks of strategic implementation are components of SIE, and the three infrastructures are components of KIC. The overall model fit is examined through fit indices and is done to make sure that the empirical observed data actually correspond with the proposed model. CFI index [2] has a value of 0.923 that is above the commonly accepted rule of thumb at 0.90 to indicate a well-fitting model [9]. We get the RMSEA of 0.060. The result of RMSEA is in the range of recently researched results from 0.04-0.09 [5]. The result of RMSEA shows a good fit model. We get a SRMR of 0.056 for our model, well below the cutoff criteria for SRMR at 0.08 [4]. Comparing with most recent research, the SRMR is used to measure a model fit, and the results are in the range of 0.08-0.09 [5]. The SRMR shows an excellent fit. From a review of literature, we believe that KPC in organizations is an antecedent to KIC, and that KIC supports SIE. According to the methodology described by Baron and Kenny [1], in order to demonstrate the mediation effect of KIC, two stages of hypotheses testing are required. The first stage is to demonstrate the positive effect from KPC to SIE, leaving KIC out of the model. This stage confirms Hypothesis 1. The second stage is to integrate KIC and demonstrate a positive path from KPC to KIC

and from KIC to SIE. Moreover, there must be no significant path from KPC to SIE. This stage is captured by confirming Hypothesis 2 and Hypothesis 3 and does not confirm Hypothesis 1. The perfect mediation holds if the independent variable has no effect on the dependent variable or outcome variable when the mediator is presented in the model. Therefore, the results of this study show the complete mediation effect of KIC over the path from KPC to SIE.

CONCLUSION

Knowledge and capabilities have to be built up slowly over time, shaped and channeled in certain directions by hundreds of daily managerial decisions. The result of this study showed that knowledge process capabilities positively affect an effectiveness of strategy implementation when knowledge infrastructure is ignored. However, KPC do not directly affect SIE when KIC is presented. The infrastructure plays the mediator role. Therefore, organizations should balance both knowledge capabilities. Effective execution of knowledge capabilities can promote growth by allowing an organization to launch business initiatives more effectively and successfully.

REFERENCES

[1] Baron, R. M. & Kenny, D. A. The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality Social Psychology*, 1986, 51(6), 1173-1182.
[2] Bentler, P. M. Comparative fit indexes in structural models. *Psychological Bullentin,* 1990, 107(2), 238-246.
[3] Gold, A. H., Malhotra, A. & Segars, A. H. Knowledge management: an organizational capabilities perspective. *Journal of Management Information System*, 2001, 18(1), 185-214.
[4] Hu, L. & Bentler, P. M. Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling*, 1999, 6(1), 1-55.
[5] Isobe, T., Makino, S. & Montgomery, D. B. Resource commitment, entry timing, and market performance of foreign direct investments in emerging economies: the case of Japanese international joint ventures in China. *Academy of Management Journal*, 2000, 43(3), 468-484.
[6] Keidel, R. W. Rethinking organizational design. *Academy of Management Executive*, 1994, 8(4), 12-30.
[7] Klien, R. B. *Principles and Practics of Structural Equation Modeling*. 2nd edition, New York:The Guilfors Press, 2005.
[8] Madhok, A. Cost, value and foreign market entry mode: the transaction and the firm. *Strategic Management Journal*, 1997, 18, 39-61.
[9] Hoyle, R. H. (Ed.). *Statistical Strategies for Small Sample Research*. Sage Publication, Thousand Oaks, 1999.
[10] Muthen, L. & Muthen, B. *Mplus (Version 3) [Computer Software]*. Los Angeles: Muthen & Muthen, 1998-2004.
[11] Nelson, R. & Winter, S. *An evolutionary theory of economic change*. Cambridge: Belknap Press, 1982.
[12] Shaw, G., Brown, R. & Bromiley, P. Strategic stories: how 3M is rewriting business planning. *Harvard Business Review*, 1998, 41-50.
[13] Spender, J. C. Making knowledge the basic of a dynamic theory of the firm. *Strategic Management Journal*, 1996, 17, 45-62.
[14] Wang, Q. & Majchrzak, A. (1999). Breaking the functional mind-set in process organizations. *Harvard Business Review*, 75(6), 92-99.