

Turning Knowledge Management Strategy into Corporate Growth

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ABSTRACT

Built on the knowledge management and corporate growth literatures, this paper examined the antecedents of knowledge management strategy and its consequences. Grounded in the resource-based view and corporate growth theory, this study found that a firm's knowledge management strategy and strategic performance relate to long term corporate growth. Learning orientation has also been found relates to the firm's use of knowledge management strategy and exerts an interacting effect on long term corporate growth. Implications for knowledge management practitioners were discussed.

INTRODUCTION

While we stepped into a knowledge era, intellectual capital was stressed by Drucker (1993) in his description of post-capitalist society. Knowledge, referred as the most crucial intellectual capital, is playing a paramount role in corporate growth. Knowledge management has been considered a critical strategy for firms to obtain competitive advantage in recent years (Ndlela and du Toit, 2001; King, 2001). In the context of knowledge management, strategy refers to the organizational intention and enabling condition for organizational knowledge creation (Nonaka and Takeuchi, 1995). King (2001) observed that knowledge management strategy focuses on the acquisition, explication, and communication of mission-specific professional expertise that is largely tacit in nature to organizational participants and contexts in a manner that is focused, relevant, and timely. However, the current research on the knowledge management strategy and corporate growth performance connection seems far from maturity. Hasan and Al-hawari (2003) stressed the importance of knowledge management strategy by stating that a firm's innovative capacity and performance may be dependent upon its ability to take advantage of its knowledge assets. Despite growing interest in the importance of knowledge management strategy in achieving corporate growth, there is still a lack of credible empirical evidence for high technology firms, which are characterized by their high level of intellectual work (Kelley and Caplan, 1993). Little research offered a detailed understanding about the role of knowledge management strategy in achieving corporate growth.

This study is making three additions to existing literature on knowledge management strategy in high technology industry. First, Eisenhardt and Schoonhoven (1990) elaborated that high technology firms, compared with others, are facing severe problems of limited managerial and financial resources. Yet, knowledge management is characterized as innovative and resource-

consuming, knowledge management strategy may not be beneficial to high technology firms with limited resources, as results in failing to achieve high growth performance. Thus, identifying crucial antecedents of knowledge management strategy becomes an important issue. This study is among the first to develop and test hypotheses on such mediating effects of knowledge management strategy by employing resource based view (Amit and Schoemaker, 1993; Barney, 1991) and growth theory (Penrose, 1995) as theoretical bases. Second, high technology industry in China is our research object. Xin and Pearce (1996) suggested that firms are in the face of challenges in terms of resource and management in transitional economies. Thus, Chinese high technology industry presents an interesting setting for investigating the link between knowledge management strategy and growth performance. Third, the relationship between knowledge management strategy and competitive strategy has been explored deeply. Firms always emphasize that doing better than their competitors is the way to obtain advantage. As a result, competition becomes the final point for all strategic thoughts. After endless endeavor, growth performance is improved slightly from imitation, rather than a big jump on growth performance itself. This study analyzes the link between knowledge management strategy and growth performance standing on the point of considering knowledge management as a dynamic firm capability.

THEORETICAL FRAMEWORK AND HYPOTHESES

The model in this study is grounded in the theories of resource based view and firm growth. The resource based view and corporate growth theory offer interesting insights on knowledge management strategy and growth performance. Professional knowledge from skilled employees is a major determinant of growth performance, thus the absorption of such production capacity is important for growth (Packer, 1964). Growth is an evolutionary process and based on the cumulative growth of collective knowledge (Penrose, 1995). According to resource based view, using this unused knowledge for expansion can increase growth performance through strategic knowledge management. Resource based view stresses that a firm's resource endowment can be a source of profits as long as these resources are heterogeneous in the same industry (Amit and Schoemaker, 1993; Barney, 1991), while heterogeneity resources are of great importance for productive opportunity of a firm (Penrose, 1995). Firm growth theory indicates that growth is limited by a firm's productive opportunity. To some extent, the implementation of knowledge management strategy enables a firm to explore more such "productive opportunity". As a result, the link between knowledge management strategy and growth performance is informed by both resource based view and growth theory.

The purpose of this study is to propose and test model that identifies antecedents of use of knowledge management strategy and its impact on long term corporate growth based on the resource based view and firm growth theory. As described in the sections above, prior literature indicated a link between knowledge management strategy and firm performance and it is theoretically and conceptually plausible, however, there is little empirical evidence, particularly from high technology firms in developing economies such as China, in support of this view. This study aims at filling this research gap.

Model Components and Hypotheses

Knowledge management strategy is a firm's approach to managing the intellectual, or human, capital in such a manner as to facilitate the gathering, storage, and exchange of information within the organization (Greenberg and Baron, 2003). Ndlela and du Toit (2001) pointed out that knowledge management affects the firm performance through its efficiency in developing the intellectual assets that are a source of competitive advantage. Developing a knowledge management strategy for a firm directly increases the innovative performance of the firm and ultimately filters through to the bottom line (Soo, Devinney, Midgley, Deering, 2002).

H1: A firm's strategic performance is positively influenced by the knowledge management strategy.

Knowledge is now universally acknowledged as the prime driving force for economic progress, the access to and use of knowledge for innovation and growth is a prerequisite for sustainable success (Ganguly, 2000). These assertions are widely accepted around the world as proof of the growing awareness and acknowledgement that a firm's success is largely dependent on its ability to capture and exchange critical information in order to sustain or grow its competitive advantage. Organizational knowledge tends to reside at the individual level, which results in poor feedback systems and very little production of new knowledge (Brown and Woodland, 1999). As a result, the use of knowledge management strategy increases the firm's long term corporate growth through innovation of new products.

H2: A firm's long-term corporate growth is positively influenced by the knowledge management strategy.

Packer (1964) portrayed the impacts of production and professional resources on growth performance and defined professional effort as one resource derived from managerial and engineering talent. For high technology firms, innovation capability is the reflection of such efforts, which has been a driver of strategic performance. To sustain growth, firms must generate new products and processes. The generation of new products and processes requires innovation. High strategic performance permits an organization to grow and enrich its corporate growth performance. Corporate growth accelerates through innovation and the identification of external opportunities (Canals, 2001). A firm's long-term corporate growth is directly and positively related to how successful it is in developing and implementing its strategy (Kotha and Nair, 1995).

H3: A firm's Long-term corporate growth is positively related to its strategic performance.

A firm's learning orientation is the degree of commitment the organization has to "developing and using its information and knowledge capabilities in order to create higher-valued information and knowledge, to change behaviors, and to improve bottom-line results" (King, 2001). A learning orientation facilitates learning through organizational processes such as formal training and practice in effective teamwork (King, 2001), the employment of organizational development (Albrecht, 1983), change management (Connor and Lake, 1994), case management, empowerment, and continuous improvement techniques and programs (Davenport, 1993).

Learning orientation affects the extent to which a firm is likely to promote generative learning as a long-lasting core competency (Hunt and Morgan, 1996). Since the effectiveness of knowledge management strategy is directly related to the effectiveness of an organization's ability to gather, organize, and share knowledge, a learning orientation motivates the firms to manage their intellectual assets strategically.

H4: The knowledge management strategy is positively influenced by a firm's learning orientation.

Learning orientation has been acknowledged important to firm performance (Slater and Narver, 1994). A firm with a strong learning orientation will exhibit organizational learning as well as individual learning. Individuals in the firm with strong learning orientation can and will seek opportunities to grow their knowledge and skills. Consequently, the level of commitment a firm has to organizational and individual learning will positively influence the knowledge management strategy of the firm.

H4a: Learning orientation has a positive effect on the positive relationship between knowledge management strategy and a firm's strategic performance.

Environmental turbulence was defined as the degree of perceived hostility in the environment stemming from competition (Pelham and Wilson, 1996). As external environmental pressures continue to mount against firms at an increasing rate and increasing in complexity, the need to develop quality effective knowledge management strategies grows in importance for firms in developing economies. As functional differences in similar product offerings diminish at an increasing rate, there is less and less time allowed for product concept, design, production, and offering in order to sustain the firms' competitive advantage. This increasing complexity and environmental turbulence results in growing demand for effectively processing information and making quick decisions.

H5: The knowledge management strategy is positively influenced by a firm's environmental turbulence.

Knowledge management strategy is positively influenced by a firm's environmental turbulence in that these pressures will continue to accentuate the importance of knowledge management, creating more focus on effectively managing a firm's knowledge and expertise. With the absence of environmental turbulence, the implementation of knowledge management strategy is more successful in achieving high strategic performance, because environmental turbulence may result in the reduction of the value of knowledge acquired in prior experiences, which forces the firm to collect more information and acquire more knowledge (Weiss and Heide, 1993) to fit the firm's existing knowledge management strategy for performance.

H5a: Environmental turbulence has a positive effect on the positive relationship between knowledge management strategy and a firm's strategic performance.

Technological turbulence refers to the degree of change associated with new product technologies (Weiss and Heide, 1993; Jaworski and Kohli, 1993). Five grades of firm from grade zero to grade four have been distinguished by Alain (1988) based on different level of the role

played by technology in the decision-making process of a firm. Among of them, firms categorized in grade three and four are representatives of high technology firms in developing economy. Both of two grade firms highly integrate technology and knowledge management in their strategies. Advances in technology over the last decade have made it possible for firms to capture vast data; furthermore, these firms have been enabled through technological advances to share this information throughout the organization effectively (Sharp, 2003).

H6: The knowledge management strategy is positively influenced by technological turbulence.

Moorman and Miner (1997) suggested that a firm may be better off under turbulent conditions because the firm can draw on its competencies which are creative engines in times of high turbulence. Given that knowledge management strategy is positively influenced by the rapid advances in technology available to firms, the reasoning implies that in the presence of technological turbulence, the firm can be triggered to aptly implement effective knowledge management strategy to achieve high strategic performance through the increased heterogeneity in resources, which may bring the firm value under turbulent conditions (Miner, 1994).

H6a: Technological turbulence has a positive effect on the positive relationship between knowledge management strategy and a firm's strategic performance.

SAMPLE AND DATA COLLECTION

This study examined a sample of 500 high technology firms in Shanghai, the biggest city in China. I chose high technology firms, because they are knowledge intensity firms which provide me an appropriate setting to research on knowledge management. Data were collected through key informants. Data were collected with the senior manager as the key informant. They were mailed a questionnaire and a letter explaining the purpose of this study and promised offering the research results if respondents returned the completed questionnaire. Follow-up phone calls were made to all potential respondents who had not returned the surveys after four weeks. A comparison of the early-responding firms with the late-responding firms showed that these groups did not differ in terms of number of employees, sales revenue, years in business, or any of the key variables in this study. As a result, 190 useable questionnaires were returned, resulting in an effective response rate of 38%. All Multi-item variables were measure on a seven-point scale to ensure the uniform scale width.

RESULTS

The data were analyzed using three regression models. First, in model 1, environmental and technological turbulence and learning orientation were entered to assess their direct effects on knowledge management strategy. Second, hierarchical moderated regression was used in model 2 to test the hypotheses on the direct effect of knowledge management strategy and moderating effects of learning orientation, environmental turbulence, and technological turbulence on a firm's strategic performance. Third, the regression analysis in model 3 examined the effects of knowledge management strategy and strategic performance on long term corporate growth.

Antecedents of Knowledge Management Strategy

The results were presented in Table 1. In model 1, the results show that learning orientation exerts a significant and positive effect on knowledge management strategy ($p < 0.001$). Environmental turbulence has no effect on knowledge management strategy. Thus, hypothesis 4 receives solid support and hypothesis 5 receives no support from the analysis. Technological turbulence exerts a marginally significant and positive effect ($p < 0.10$) on knowledge management strategy. The analysis on model 1 offers marginal support for hypothesis 6 and solid support for hypothesis 4.

Contingent Effects of Antecedents of Knowledge Management Strategy on a Firm's Strategic Performance

In Table 1, the results of model 2 suggest that knowledge management strategy is significantly related to a firm's strategic performance ($p < 0.001$). Learning orientation has a moderating effect on the positive relationship between knowledge management strategy and strategic performance ($p < 0.001$), while environmental and technological turbulences do not exert contingent effect on long term corporate growth. Thus, hypotheses 1 and 4a receive solid support and hypotheses 5a and 6a receive negligible support.

Long Term Corporate Growth

Model 3 examined the effects of knowledge management strategy and firm strategic performance on long term corporate growth. Hypothesis 2 predicts a positive effect of knowledge management strategy on strategic performance. Results support this prediction ($p < 0.05$). Strategic performance has been shown to exert a significant effect on corporate growth ($P < 0.001$). Thus, hypothesis 3 receives solid support from the analysis in model 3.

Variables	KMS		Strategic Performance		Corporate Growth	
	Model 1		Model 2		Model 3	
	β	t	β	t	β	t
Learning orientation	0.29	4.01***				
Environmental turbulence	-0.06	-0.80				
Technological turbulence	0.13	1.82†				
Model 1 fit						
<i>Adjusted R</i> ²	0.10					
<i>d.f.</i>	3					
<i>F</i>	7.57***					
Direct effect						
KMS			0.27	3.74***		
Moderating effect						
Learning orientation_KMS			0.64	3.48***		
Environmental turbulence_KMS			0.01	0.11		
Technological turbulence_KMS			-0.06	-0.45		
Model 2 fit						
ΔR^2			0.06**			
<i>d.f.</i>			4			
<i>F</i>			6.74***			
ΔF			7.20***			
KMS					0.12	2.15*
Strategic performance					0.38	5.51***
Model 3 fit						
<i>Adjusted R</i> ²					0.18	
<i>d.f.</i>					2	
<i>F</i>					21.93***	

† $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table 1: Results of regression analyses

MANAGERIAL IMPLICATIONS

The findings of this study offer several insights for managers of high technology firms. First, the results strongly support the notion that managers and firms need to prepare themselves for a learning orientation to create a facilitating culture for the adoption of knowledge management strategy in an effort to compete successfully in the highly competitive industry. Managers should encourage organizational learning by emphasizing organization's ability to learn and considering learning as an investment, rather than an expense.

Second, the research framework in this study sheds light on why firms should focus on the use of knowledge management strategy to enhance their strategic performance and long term corporate growth. Managers of high technology firms may want to consider various knowledge management strategies to survive the turbulent environment. The results suggest that managers may want to place emphasis on knowledge sharing through allocation of substantial financial resources, develop a large variety of repositories which is easily accessible to all employees, increase the rate of updating repositories due to employees' contribution, and increase the firms' overall commitment to sharing and innovation. This observation indicates that the use of knowledge management strategy is of paramount important in enhancing a firm's strategic performance and long term corporate growth. These findings should be useful to managers of high technology firms.

Third, the findings underscore the contingent role of learning orientation on a firm's strategic performance. It should be noted, however, that technological turbulence has been shown to have a negligible negative interacting effect on strategic performance. Turbulent technological environment can bring a firm both creativity and risks, since creative activity produces chaos, it must be balanced by a stable and hierarchical organization (Nonaka, 1994). Thus, this finding informs top management of the negative contingent role of technological turbulence on strategic performance. In the intensively competitive high technology industry, managers must become increasingly savvy about the contingent effects of learning orientation on strategic performance.

Finally, a firm's strategic performance exerts a significant impact on long term corporate growth. This solid support for the direct effect of strategic performance has a potentially important implication for practice. Managers of high technology firms may want to stress the implementation of knowledge management strategy within the organization. Four generic knowledge strategies were offered to help firms allocate their resources: leveraging, expanding, appropriating, and probing (Krogh, Nonaka, and Aben, 2001). In particular, tacit knowledge is crucial for successful knowledge management, great efforts are necessary to promote an environment for tacit knowledge sharing between individuals through socialization process (Nonaka, 1994). In this sense, managers should implement effective knowledge management strategies to harness organizational intelligence and improve strategic performance in an effort to enhance long term corporate growth.

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