The Processes That Help Units Within Organizations Build Intellectual Capital

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ABSTRACT:

In this paper the author studies data collected from seventy-five unit heads from different industries to ascertain that in order for units to accumulate and enhance intellectual capital, they should develop strong intra-firm networks that foster absorptive capacity, and which itself is influenced by cultural values and practices. This study offers several managerial implications.

Keywords: *Intra-firm social networks; Intellectual capital, Organizational culture; Absorptive capacity*

Introduction

> *A leading petrochemical company recently designed more than 20 intra-firm networks, ranging in size from 50 to several hundred people, to focus on specific work areas so that employees could share best practices. This was critical, because the networks could minimize downtime in these areas. In one case, the company measured the impact of networks on engineers at an oil well, who used them to find experts with the knowledge needed to get the well back into production in two days rather than the anticipated four*. (Wall Street Journal, 2008).

It is imperative that organizations should consider knowledge to be the key resource (Grant, 1996) and more importantly the question is that how can it be assimilated and integrated within organizations. Survey of seventy-five unit heads from different industries, depict that in order for firms to accumulate knowledge, first, a few core cultural values and practices should be cultivated within organizations that may assist in the development of strong intra-firm networks that foster absorptive capacity. Both strong intra-firm networks and absorptive capacity help units accumulate and enhance intellectual capital.

In this study, to synthesize both the conceptual and operational definition of organizational culture, I define it as '*shared perceptions of organizational values and practices within organizational units that both exemplify and reinforce the underlying assumptions and principles of an organization*' (Denison, 1990; van den Berg & Wilderom, 2004). Intra-firm network is defined as '*a set of relationships among business units of the same legal firm that interact with each other to exchange resources, information, and/or services'* (Achrol & Kotler, 1999: 149). Absorptive

capacity is defined as '*the capability to acquire and assimilate new knowledge gained from other sources'* (Lane & Lubatkin, 1998:462; Tsai, 2001:998). Intellectual capital is defined as '*the creative, technical and collaborative knowledge and knowing capabilities of a business unit'* (Nahapiet & Ghoshal, 1997; McGaughey, 2002).

Intra-firm Networks

Business units are likely to develop few unique and differentiated sets of competencies and capabilities internally (Martin & Eisenhardt, 2001) due to the different and/or similar product markets they serve and to earn internal capital allocation (Bates & Flynn, 1995; DeCarolis & Deeds, 1999; O'Donnell, 2000). Such knowledge is termed "internal knowledge". However, units do find the need to utilize knowledge that is not resident within their own formal boundaries to fulfill goals and objectives, to innovate, and to share and exchange knowledge, risks and costs. External knowledge acquired through intra-firm networks impact a unit's internal knowledge in two ways. First, new knowledge can be combined with the units' existing internal knowledge to enhance their current knowledge base (Larson, 1992; Powell & Brantley, 1992). Second, when units compare newly acquired external knowledge to their existing internal knowledge, they can often highlight inconsistencies within its existing internal knowledge. This discovery may help them develop new capabilities for the future (Abell, 1999).

Furthermore, units are likely to have easy and timely access to other business units within the organization (Cross et al, 2001), be well-informed of the activities and agendas of other sister units (Gulati, 1998), and with the support and control of the corporate office, can collaborate successfully with reduced opportunism. A combination of all these advantages, help units reduce negotiation and coordination costs (Gulati & Singh, 1998; Marx et al, 2006). However, there is evidence that units can behave opportunistically due to interdependencies (Williamson, 1996), which may increase transfer costs (Borgatti & Cross, 2003; Hansen et al, 2005). Furthermore, knowledge and information resident within organizations are likely to be more or less redundant and may limit units' exposure to novel knowledge, hence, loosing their instrumental value overtime (Marx, et al, 2006). Also, due to familiarity and trust, complacency might set in within units creating reluctance to seek external partners for novel information and may become difficult to set them free from the clutches of existing relationships (Hansen, 1999).

Although, there are both advantages and disadvantages to developing intra-firm networks, they have been found to be generally beneficial for the organization (Gupta & Govindrajan, 2000; Hansen, 1999; Hansen et al, 2005; Khoja & Maranville (forthcoming – a); Tsai & Ghoshal, 1998; Tsai 2001) as they offer the business units the potential to share risks, generate economies of scale and scope (Amit & Zott, 2001), share knowledge and best practices, and facilitate learning (Anand & Khanna, 2000). In this paper, I study strong intra-firm networks.

Strong Intra-firm Networks

Strong ties are associated with trust and exchange of fine-grained, private knowledge but the information obtained through such network ties are redundant, and the network

is therefore, not assumed to be a channel for innovation (Burt, 1992). On the other hand, weak ties lead to novel but sparse information exchange resulting in increased innovation (Brass et al, 2004; Hansen, 1999; Hansen et al, 2005; McEvily and Zaheer, 1999). Researchers have also argued that tie strength has a curvilinear impact on a host of dependent variables. Extremely strong and extremely weak ties provide diminished impact (Kraatz, 1998; Siebert, Kraimer & Liden, 2001). In other words, non-redundancy is a necessary but not a sufficient condition for acquisition of diverse information. Strong ties to these non-redundant contacts are also important to access closely held information and resources (Nicolaou & Birley, 2003). In this paper, I posit that units do develop and possess new knowledge that they share and exchange even when they are part of a strong network contrary to common belief that knowledge shared within strong networks is redundant (Brass et al, 2004).

Absorptive Capacity

Absorptive capacity is referred to as the dynamic capability that firms develop in order to attain competitive advantage through innovation and learning (Jansen et al, 2005; Narasimhan et al, 2006; Tsai, 2001; Zahra & George, 2002). It is a fundamental learning capability and its definition has evolved over several years (Cohen & Levinthal, 1990; Lane & Lubatkin, 1998; Zahra & George, 2002; Lane et al, 2006). A detailed review of the construct is conducted by Lane et al (2006). More recently, two 'general states' of absorptive capacity have been identified; potential and realized. The former develops through its evolution with the environment and the latter defines the extent to which knowledge can be assimilated and commercialized in a specific situation (Zahra & George, 2002). The two states are further dimensionalized as acquisition and assimilation (potential absorptive capacity) and transformation and exploitation (realized absorptive capacity) (Jansen, et al, 2005). However, in our paper I focus on the general notion of absorptive capacity.

Organization Culture

Organizational culture, though ubiquitous, is at the same time intangible. It plays an important role in establishing an organization's identity by giving it value, direction, and purpose in order to increase performance as well as enable firms to adapt to external environmental conditions (Goffee & Jones, 1996; Tsui e al, 2006). Researchers have argued that organizational cultural values and underlying assumptions are not as easily discernable as organizational practices or artifacts that are manifestations of the former (Singh, 2007; van den Berg & Wilderom, 2004). Research has also demonstrated that organizations show more differences in practices than in values, and hence, claim practices to be more responsible for bringing about cultural change than cultural values (Hofstede, 2001). In this paper, I focus on organizational values and their relationship to organizational practices. Five critical values and practices that are relevant to this study- task-orientation, risk-orientation, and cooperation and practices of rewards (individual and collective) and open communication (Deal & Kennedy, 1982; 1999; Detert et al, 2000; Goffee & Jones, 1996; Hofstede, 1998; Reynolds, 1986).

Task orientation focuses on organizational 'work' as an end in itself. The fundamental concern of such organizations is on work accomplishment and productivity. *Risk-orientation* is a predisposition to change products or procedures and maneuver strategically, particularly when confronted with new challenges and opportunities. *Cooperation* fosters sharing and learning within the organization. *Individual rewards* are earned when units achieve their goals independently whereas *collective rewards* are earned when units achieve their goals in collaboration with other units. *Open communication* involves regular face to face meeting and/or developing intranets, units can update and share their goals and achievements within the organization.

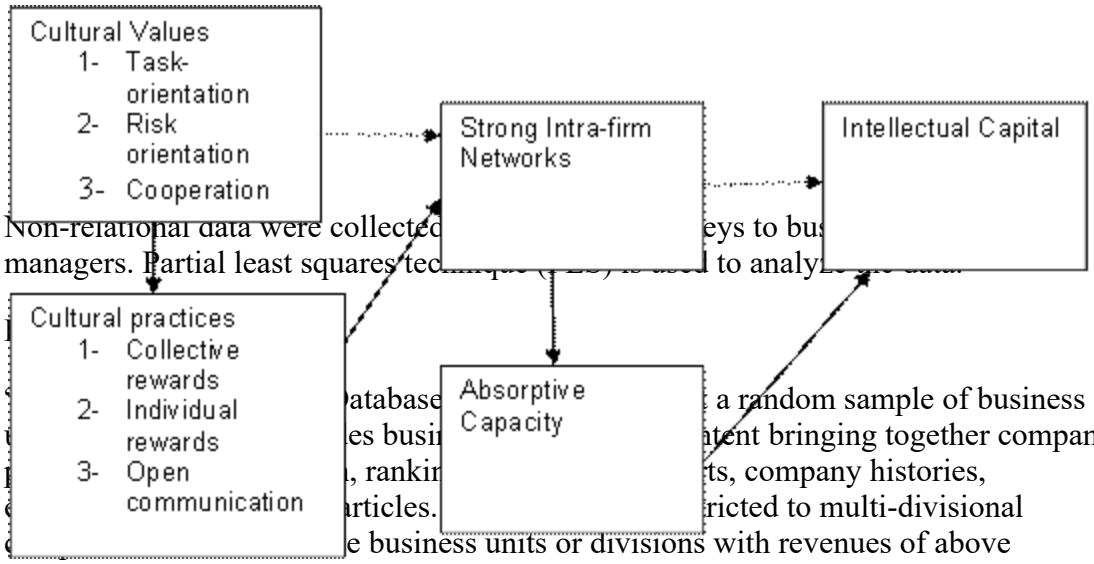
Intellectual Capital

Intellectual capital by definition constitutes of a stock of knowledge (DeCarolis, & Deeds, 1999) and the knowing capabilities (Barney et al, 2001) that business units possess. *Knowledge* is defined as "any information, belief, or skill that the units can apply to its activities" (Anand et al, 2002:88). In general, tacit knowledge, which is sticky, complex, and difficult to codify, is likely to result in advantages that are sustainable, as they remain largely embedded in the routines and practices of the unit (Dyer & Nobeoka, 2000; Kogut & Zander, 1992; Szulanski, 1996) more so than explicit knowledge. The other dimension of intellectual capital, *knowing capabilities*, is seen to be somewhat consistent with the resource-based view of dynamic capabilities (Barney, 1991; Collis, 1994; Teece & Pisano, 1994). It is defined as "the unit's ability to adapt, integrate, and reconfigure the internal and external unit skills and resources to match changing environment" (Teece et al, 1997:510).

Proposed Model

In this paper, I posit that organizational practices of individual and collective rewards and open communication that are manifestation of organizational values mediate the relationships between organizational values of risk and task oriented culture and strong intra-firm networks. As strong intra-firm networks provide units the opportunity to share and exchanges resources, especially knowledge, it allows the units to nurture the capability of absorptive capacity, which in turn, enhances units' intellectual capital. Strong intra-firm networks also directly impact the latter.

Figure 1: Proposed Model



Non-relational data were collected [illegible] eys to bu[illegible] managers. Partial least squares tec[illegible] l to analy[illegible] data.

[illegible] atabase[illegible] a random sample of business [illegible] es busi[illegible] ntent bringing together company [illegible], rankin[illegible] ts, company histories, [illegible] rticles. [illegible] ricted to multi-divisional [illegible] e business units or divisions with revenues of above $500,000 for the year 2000. Surveys, with a cover letter, a dollar bill, and a return envelope, were mailed to 375 business unit heads (high-level managers). The key informant approach has been successfully employed in several studies and high-level respondents are considered to be ideal candidates for such surveys (Rindfleisch and Moorman, 2001).

Four weeks after the first mailing, a total of 70 completed surveys were received. Another set of 50 surveys were mailed out to business units who had not yet responded as their business heads had either not received the survey or had misplaced it. A total of five completed surveys were returned from the second mailing. In all, 75 from a total of 375 surveys were returned, giving us a response rate of 20%. In all, responses from varying divisions of 55 companies in 23 different industries were received. To test for non-response bias, differences between respondents and non-respondents were examined. A t-test showed no significant difference ($p < 0.05$) between the two groups based on the number of full-time employees in units, units' total sales, and assets.

Statistical Analysis

Partial least squares technique (PLS) is a second-generation method of analysis with minimal demands on measurement scales, consisting of a series of ordinary least squares analyses (Chin, 1998). No assumptions are made regarding the joint distribution of the indicators or the independence of the sample cases (Chin, 1998; Chin and Newsted, 1999).

The interpretation of the results generated by PLS is identical to that of traditional regression technique. Effect size or R^2 for the endogenous variables of the measurement model and corresponding standardized path estimates are examined and interpreted. To estimate the t-statistics for the weights and loadings of the indicators of the latent variables and the path coefficients of the measurement model, bootstrapping technique is used. Bootstrap represents a non-parametric approach where n sample sets are created in order to obtain n estimates of each parameter in the PLS model. To assess the internal consistency for a given block of indicators, composite reliability is calculated. In addition, average variance extracted (AVE) attempts to measure the

amount of variance that a latent variable component captures from its indicators relative to the amount due to measurement error. 0.7 and 0.5 are modest estimates of composite reliability and AVE respectively. Appendix 1 provides the list of items measuring the constructs.

Results

I used the path analysis model to ascertain that organizational practices of collective and individual rewards mediate the relationship between task orientation and strong intra-firm networks. Task orientation strongly impacts individual rewards (β= 0.537, $p<0.005$), which in turn significantly influences strong intra-firm networks (β= 0.352, $p<0.005$). Task orientation also influences collective rewards (β= 0.517, $p<0.005$), which in turn impacts strong intra-firm networks (β= 0.212, $p<0.05$). Furthermore, it impacts open communication (β= 0.467, $p<0.005$), which has a positive influence on strong intra-firm networks (β= 0.242, $p<0.01$). The effect sizes for the mediating relationships are 0.193; 0.139; and 0.144, respectively.

Similarly, risk orientation strongly impacts individual rewards (β= 0.504, $p<0.005$), which in turn significantly influences strong intra-firm networks (β= 0.405, $p<0.005$). Risk orientation also influences collective rewards (β= 0.636, $p<0.005$), which in turn impacts strong intra-firm networks (β= 0.281, $p<0.05$). In addition, it impacts open communication (β= 0.564, $p<0.005$), which has a positive influence on strong intra-firm networks (β= 0.304, $p<0.005$). The effect sizes for the mediating relationships are 0.177; 0.105; and 0.111, respectively. Organizational cooperative values only directly encourage the development of strong intra-firm networks (β= 0.304, $p<0.005$). The R^2 for the direct relationship is 0.147, explaining 14.7% variance.

Strong intra-firm network, in turn, helps units accumulate and enhance both existing knowledge and knowing capabilities (β= 0.328, $p<0.005$) and (β= 0.354, $p<0.005$) with effect sizes of 0.131 and 0.13. However, these relationships are mediated by absorptive capacity. Strong intra-firm networks positively impacts absorptive capacity (β= 0.556, $p<0.005$), which strongly influences knowledge (β= 0.706, $p<0.005$) and knowing capabilities ((β= 0.774, $p<0.005$), with effect sizes of 0.448 and 0.509, respectively.

Discussion

Everything emanates from culture, as it is the backbone of any organization. If we want to learn why organizations behave the way they do or do what they do, then we need to analyze organizational culture. In this paper, I posit that strong relationships are the "grease," as most managers call it, of any organization (Prusak, 2001). Business gets done without them, but not for long and not very well. The mediating relationships between organizational values and organizational practices depict that the values instilled within the organization would not be effective if they weren't followed by practices fostering them. For example, by encouraging business units to accomplish tasks in a timely manner and experimenting creatively, units are likely to obtain help

from other sister business units that are culturally regulated and are less likely to behave opportunistically than partners outside of the organization. However, units are likely to build relationships to fulfill their tasks and risk-taking activities if cultural practices, such as rewards incentivize them sufficiently to do so. I found that cooperative values indigenously motivate units to develop strong networks and do not require the added inducement of collective rewards or open communication, as these practices seem to be resonant in values of cooperation.

The impact of cultural attributes on absorptive capacity have found to be significant (Khoja & Maranville, forthcoming - b) and in this paper, I argue that when given the opportunity to collaborate with other business units by offering collective rewards and promoting open communication within the organization, units tend to nurture their assimilation and integration capability. Hence, where strong intra-firm networks persist within organizations, it is more than likely that the units will cultivate their absorptive capacity as sharing and exchange of valuable resources amongst themselves will help them do so, which in turn helps business units accrue intellectual capital.

Strong intra-firm networks are also shown to directly help units accumulate intellectual capital. Business units may possess both similar and dissimilar knowledge. Knowledge similarity is important for effective communication while diversity is important for intellectual capital enrichment (Cohen & Levinthal, 1990; Lane and Lubatkin, 1998). Hence, chaining business units together through modes of reciprocity and cohesion, facilitates exchange and combination of tacit knowledge and complex knowing capabilities. Furthermore, the presence of non-redundant knowledge allows units to enhance existing knowledge base.

Managerial Implications

Several managerial implications can be ascertained from this study:

- This research highlights the necessity of 'management levers' such as organizational values and goals, human resource practices of reward structures and cross unit mechanisms for open communication to enhance relationship development within organizations. In an era when advantages based on traditional economies of scope and scale is rapidly diminishing, the successful exploitation of strong relationships may hold the key for organizations to gain and maintain leads over their rivals.

- It also highlights the important role organizational culture plays in building organization character and backbone by helping units achieve their potential and objectives by encouraging development of strong intra-firm networks. Practices appear to have a more direct impact on organizational values and support the same. Thus, managers should be vigilant to steer cultural values and practices to guide units and help them be successful.

- The importance of the exchange and combination of tacit knowledge within organizations is emphasized in this study, as it has become absolutely essential for organizations to become knowledge-intensive in order to attain sustainable

competitive advantage (Gupta & Govindrajan, 2000). Tacit knowledge triggers a sense of awareness within executives and managers that encourages entrepreneurship, innovation, and exchange. The results are the development and maintenance of intellectual capital within their business units that are the building blocks of all organizations (Birkinshaw, 2000). Other tangible resources are said to be easily imitable, and, therefore, are less likely to lead to competitive advantage (Miller & Shamsie, 1996). Hence, we argue that organizations need to develop capacities to acquire and assimilate external and internal knowledge. Absorptive capacity is one such important tool that can help organizations achieve this.

- By building strong intra-firm networks allow organizational units may access and utilize new knowledge and competencies from each other that contribute to market competitiveness (Kogut & Zander, 1992; Tsai, 2001). The benefits result in overall reduction of operational costs and better product differentiation. In general, strong intra-firm networks enhance reciprocity, cohesiveness, and connectivity (Rindfleisch & Moorman, 2001) among business units and facilitate the exchange of difficult-to-codify know-how and knowledge-intensive skills. This exchange, in turn, helps units accumulate intellectual capital.

- The benefits associated with developing or facilitating intra-firm networks provide executives and managers sufficient evidence to initiate and implement networks within their own organizations. Intra-firm networks not only promote increased knowledge and resource exchange among business units, but they are considered to be a resource in themselves because of structural patterns of relationships, network tie modalities, capabilities instilled within networks, and in general, network membership (Gulati, Nohria & Zaheer, 2000).

Future Research

This line of research can be developed further to make significant contributions to the existing literature on social intra-firm networks. Future research should focus on collecting longitudinal data to test the predictive relationships between the independent and mediating variables measured above. In addition to focusing on the independent variable of organizational culture, other predictor variables that influence the development of social intra-firm networks, such as resource requirements and organizational structures can be studied.

Conclusion

A robust model is developed in this study, to analyze the processes by which units enhance their intellectual capital. Organizational culture, being the backbone of any organization, facilitates the development of strong intra-firm networks, which helps units nurture absorptive capacity and intellectual capital.

References

Abell, D., 1999. Competing today while preparing for tomorrow. *Sloan Management Review*, 40(3), 73-81.

Achrol, R., & Kotler, P., 1999. Marketing in the network economy. *Journal of Marketing*, 63, 146-163.

Amit, R., & Zott, C., 2001. Value creation in E-business. *Strategic Management Journal*, 22 (6-7), 493-520.

Anand, B., & Khanna, T., 2000. Do firms learn to create value? The case of alliances. *Strategic Management Journal*, Special Issue 21(3), 295-315.

Anand, V., Glick, W., & Manz, C., 2002. Thriving on the knowledge of outsiders. Tapping organizational social capital. *Academy of Management Executive*, 16(1), 87-101.

Barney, J., 1991. Firm resources and sustained competitive advantage. *Journal of Management*, 17, 99-120.

Barney, J., Wright, M., & Ketchen, D., 2001. The resource based view of the firm: Ten years after 1991. *Journal of Management*, 27, 625-641.

Bates, K., & Flynn, E., 1995. Innovation history and competitive advantage: A resource-based view analysis of manufacturing technology innovations. *Academy of Management Proceedings*: 235- 239.

Birkinshaw, J., 2000. Network relationships inside and outside the firm, and the development of capabilities. In Birkinshaw, J. (eds), *Network Relationships and the Firm*: 4-17.

Borgatti, S., & Cross, R., 2003. A relational view of information seeking and learning in social networks. *Management Science*, 49(4), 432-445.

Brass, D., Galaskiewicz, J., Greve, H., & Tsai, W., 2004. Taking stock of networks and organizations: A multi-level perspective. *Academy of Management Journal*, 7(6), 795-819.

Burt, R., 1992. *Structural Holes: The Social Structure of Competition*. Harvard University Press. Cambridge, MA.

Chin, W., 1998. The partial least squares approach of structural equations modeling. In Marcoulides, G. A. (Ed.), *Modern Methods for Business Research*: 295-336. Lawrence Erlbaum Associates, Publishers.

Chin, W. and P. Newsted. 1999. “Structural equations modeling analysis with small samples using partial least squares”. In Hoyle, R. (Eds), *Statistical Strategies in Small Sample Research*: 307-341. Sage Publishers.

Collins, C., & Clark, K., 2003. Strategic management resource practices, top management team, social networks and firm performance: The role of human resource practices in creating organizational competitive advantage. Academy of Management Journal, 46(6): 740-752.

Cohen, W. and Levinthal, D.,1990. Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35(1), 128-152.

Collis, D., 1994. Research note: How valuable are organizational capabilities? *Strategic Management Journal***,** 15, 143-152.

Cross, R., Parker, A., Prusak, L., & Borgatti, S., 2001. Knowing what we know: Supporting knowledge creation and sharing in social networks. *Organizational Dynamics*, 30(2), 100-120.

DeCarolis, D., & Deeds, D., 1999. The impact of stocks and flows of organizational knowledge on firm performance: An empirical investigation of the biotechnology industry. *Strategic Management Journal*, 20(10), 953-968.

Deal, T., & Kennedy, A., 1982. *Corporate Culture*. Reading, MA: Addison-Wesley.

Deal, T., & Kennedy, A., 1999. *The New Corporate Cultures: Revitalizing the Workplace after Downsizing, Mergers and Reengineering*. Reading, MA. Peruses Books.

Denison, D., 1990. *Corporate culture and organizational effectiveness*. New York: Wiley.

Detert, J., Schroeder, R., & Mauriel, J., 2000. A framework for linking culture and improvement initiatives in organizations. *Academy of Management Review*, 25(4): 850-863.

Dyer, J., & Nobeoka, K., 2000. Creating and managing a high performance knowledge-sharing network: The Toyota case. *Strategic Management Journal,* 21(3): 345-368.

Goffee, R., & Jones, G., 1996. What holds the modern company together? *Harvard Business Review*, Nov.-Dec: 133-148.

Grant, R., 1996. Toward knowledge based theory of the firm. *Strategic Management Journal***,** 27(special issue), 109-122.

Gulati, R., 1998. Alliances and networks. *Strategic Management Journal*, 19: 293-317.

Gulati, R., Nohria, N., & Zaheer, A., 2000. Strategic networks. *Strategic Management Journal***,** 21: 203-215.

Gulati, R. & Singh, H.,1998. The architecture of cooperation: Managing coordination costs and appropriation concerns in strategic alliances. *Administrative Science*

Quarterly, 43(4): 781-814.

Gupta, A., & Govindrajan, V., 2000. Knowledge flows within multinational corporations. *Strategic Management Journal*, 21(4): 473-496.

Hansen, M., 1999. The search-transfer problem: The role of weak ties in sharing knowledge across organization subunits. *Administrative Science Quarterly*, 44(1): 82-111.

Hansen, M., & Mors, M., Lovas, B., 2005. Knowledge sharing in organizations: Multiple networks, multiple phases. *Academy of Management Journal*, 48(5): 776-793.

Hofstede. G., 1998. Attitudes, values and organizational culture: Disentangling the concepts. *Organization Studies*, 19(3): 477-492.

Hofstede, G., 2001. *Culture's Consequences: Comparing values, behaviors, institutions, and organizations across nations.* Thousand Oaks, CA: Sage.

Jansen, J., Van Den Bosch, F., and Volberda, H., 2005. Managing potential and realized absorptive capacity: How do organizational antecedents matter. *Academy of Management Journal*, 48(6): 999-1016.

Khoja, F., & Maranville, S., (forthcoming - a). The power of social intrafirm networks. *Academy of Strategic Management Journal*.

Khoja, F., & Maranville, S., (forthcoming - b). How do units nurture absorptive capacity. *Journal of Managerial Issues.*

Kogut, B., & Zander, U., 1992. Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization Science,* 3(3): 383-397.

Kraatz, M., 1998. Learning by association? Inter-organizational networks and adaptation to environmental change. *Academy of Management Journal*, 41: 621-643.

Lane, P., Koka, B., and Pathak, S., 2006. The reification of absorptive capacity: A critical review and rejuvenation of the construct. *Academy of Management Review,* 31(4): 833-863.

Lane, P. J., & Lubatkin, M., 1998. Relative absorptive capacity and inter-organizational learning. *Strategic Management Journal*, 19:461 477.

Larson, A., 1992. Network Dyads in Entrepreneurial Settings: A Study of the Governance of Exchange Relationships. *Administrative Science Quarterly*, 37(1): 76-104.

Martin, J., & Eisenhardt, K., 2001. Exploring cross- business synergies. Academy of Management Proceedings, pH1- H6.

Marx, K., Lechner, C., & Floyd, S., 2006. Intrafirm networks and the performance of strategic initiatives. *Academy of Management Best Conference Paper BPS*: SS1-SS6.

McEvily, B., & Zaheer, A. 1999. Bridging ties: A source of firm heterogeneity in competitive capabilities. *Strategic Management Journal*, 20: 1133-1156.

McGaughey, S., 2002. Strategic interventions in intellectual asset flows. *Academy of Management Review*, 27(2): 248-274.

Miller, D., & Shamsie, J., 1996. The resource-based view of the firm in two environments: The Hollywood film studios from 1936-1965. *Academy of Management Journal*, 39(3): 519-544.

Nahapiet, J., & Ghoshal, S., 1997. Social capital, intellectual capital and the organizational advantage. *Academy of Management Review*, 23(2): 242-266.

Narasimhan, O., Rajiv, S., and Dutta, S., 2006. Absorptive Capacity in High-Technology Markets: The Competitive Advantage of the Haves. *Marketing Science*, 25(5): 510-524.

Nicolaou, N., & Birley, S., 2003. Social Networks in Organizational Emergence: The University Spinout Phenomenon**.** *Management Science*, 49(12): 1702-1725**.**

O'Donnell, W., 2000. Managing foreign subsidiaries: Agents of headquarters, or an interdependent network? *Strategic Management Journal*, 21(5): 525-548.

Powell, W., & Brantley, P., 1992. Competitive cooperation biotechnology: Learning through networks? In N. Nohria & R. G. Eccles (Eds.), *Network and Organizations: Structure, Form and Action:* 366-394. Boston, Massachusetts: Harvard Business School Press.

Prusak, L., 2001. How to invest in social capital? *Harvard Business Review*, 79(6): 86-94.

Rindfleisch, A., & Moorman, C., 2001. The acquisition and utilization of information in new product alliances: strength of ties perspective. *Journal of Marketing*, 65(2): 1-18.

Reynolds, P., 1986. Organizational culture as related to industry, position and performance: A preliminary report. *Journal of Management Studies*, 23(3): 333-345.

Seibert, S., Kraimer, M., & Liden, R., 2001. A social capital theory of career success. *Academy of Management Journal*, 44(2): 219-237.

Singh, K., 2007. Predicting organizational commitment through organization culture: A study of automobile industry in India. *Journal of Business Economics and Management*, VIII (1): 29-37.

Szulanski, G., 1996. Exploring internal stickiness: Impediments to the transfer of best practice within the firm. *Strategic Management Journal*, 27(special issue): 27-44.

Teece, D., & Pisano, G., 1994. The dynamic capabilities of firms: An introduction. Industrial and Corporate Change. *Strategic Management Journal*, 3(3): 537-556.

Teece, D., Pisano, G., & Shuen, A., 1997. Dynamic capabilities and strategic management, *Strategic Management Journal*, 18(7): 509-533.

Tsai, W., 2001. Knowledge transfer in intra-organizational networks: Effects of network position and absorptive capacity on business unit innovation and performance. *Academy of Management Journal*, 44(5): 996-1017.

Tsai, W., & Ghoshal, S., 1998. Social capital and value creation: The role of intra-firm networks. *Academy of Management Journal*, 41(4): 464-476.

Tsui, A., Wang, H., & Xin, K., 2006. Organizational culture in China: An analysis of culture dimensions and culture types. *Management and Organization Review*, 2(3): 345-376.

Van den Berg, P., & Wilderom, C., 2004. Defining, measuring and comparing organizational culture. *Applied Psychology: An International Review*: 53(4): 57-582.

Williamson, O., 1996. Economic organization: The case for candor. *Academy of Management Review***,** 21(1): 48-57.

Zahra, S. and George, G., 2002. Absorptive capacity: A review, reconceptualization, and extension. *Academy of Management Review*, 27(2): 185-203.

Appendix

Organizational culture is defined as '*shared perceptions of organizational values and practices within organizational units that both exemplify and reinforce the underlying assumptions and principles of an organization*' (Denison, 1990; van den Berg & Wilderom, 2004).

Organizational Norms (adopted from Deal & Kennedy, 1999; Reynolds, 1986)

Task-orientation (Composite reliability= 0.917; AVE= 0.787)

1- Our company places emphasis on improving work methods within business units.

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

2- Our company places emphasis on maintaining high standards of performance for business units.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

3- Our company places emphasis on setting specific goals and achieving them.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

Risk-orientation (Composite reliability= 0.855; AVE= 0.664)

1- Our company is receptive to new ideas and suggestions coming from business units.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

2- Our company allows the business units to be creative and innovative.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

3- Our company encourages business units to learn new competencies and new skills.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

Cooperation (Composite reliability= 0.952; AVE= 0.869)

1- Our company encourages business units to work together.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

2- Our company encourages cooperation within business units.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

3- Our company encourages business units to help out each other.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

Organizational Practices

Collective Rewards (Composite reliability= 0.947; AVE= 0.899)

1- Our company rewards business units adequately for working with other business units within the company.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

2- Our company rewards business units for their collective efforts with each other.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

Open Communication (Composite reliability= 0.817; AVE= 0.690)

1- Our company holds meetings regularly where business units discuss their goals and achievements.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

2- Our company encourages business units to share information with each other over the intranet.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

3- Our company encourages face to face communication.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

Absorptive capacity is defined as '*the capability to acquire and assimilate new knowledge gained from other sources*' (Lane & Lubatkin, 1998; Tsai, 2001). (Composite reliability= 0.721; AVE= 0.536)

1- Overall, our business unit's ability to assimilate and integrate new knowledge, gained from other sources, in a productive way is:

Extremely weak Neutral Extremely strong

1 2 3 4 5 6 7

Poor Neutral Excellent

1 2 3 4 5 6 7

2- Research & Development/ Sales

Intrafirm networks defined as *'a set of formal and/or informal relationships among business*

units of the same legal entity' (Achrol & Kotler, 1999). (Composite reliability= 0.939; AVE= 0.885)

Overall, *internal network relationships* are:

Extremely weak Neutral Extremely strong

-3 -2 -1 0 1 2 3

Poor Neutral Excellent

-3 -2 -1 0 1 2 3

Intellectual capital, which is defined as '*the creative, technical and collaborative knowledge and knowing capabilities of a business unit'* (Nahapiet & Ghoshal, 1997; McGaughey, 2002).

Intellectual Capital: Knowledge (Composite reliability= 0.941; AVE= 0.841)

In the past year, our business unit has been able to enhance the existing knowledge base of our business unit.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

Overall, our business unit's knowledge for the past year has:

Not increased 1 2 3 4 5 6 7 Increased to a great extent

Not improved 1 2 3 4 5 6 7 Improved to a great extent

Intellectual Capital: Knowing capabilities (Composite reliability= 0.846; AVE= 0.733)

In the past year, our business unit has increased its existing capabilities

and skills.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

In the past year, our business unit has developed innovative techniques.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

Controls

Size (Adapted from Tsai, 2001)

Number of ***employees*** working in our business unit is: _____

Industry

Use dummy coding for 24 industries (n-1)

Age

When was your unit established?

Meet the Author:

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