



INDIAN INSTITUTE OF MANAGEMENT
AHMEDABAD • INDIA



Impact of Inter-organizational Relationships on Organizational Learning

Vijayta Doshi
Pradyumana Khokle

W.P. No. 2011-12-01
December 2011

The main objective of the working paper series of the IIMA is to help faculty members, research staff and doctoral students to speedily share their research findings with professional colleagues and test their research findings at the pre-publication stage. IIMA is committed to maintain academic freedom. The opinion(s), view(s) and conclusion(s) expressed in the working paper are those of the authors and not that of IIMA.



INDIAN INSTITUTE OF MANAGEMENT
AHMEDABAD-380 015
INDIA

Impact of Inter-organizational Relationships on Organizational Learning

Vijayta Doshi

FPM Participant, Indian Institute of Management Ahmedabad
Email: vijaytad@iimahd.ernet.in

Pradyumana Khokle

Professor, Indian Institute of Management Ahmedabad
Email: khokle@iimahd.ernet.in

Abstract

Literature on organizational learning has mainly focused on intra-organizational learning with little emphasis on inter-organizational learning. Organizations engage in strategic collaborations with other organizations. To realise the full potential of such relationships, it is very important for organizations to realise how learning may take place in such formal inter-organizational set-ups and understand various modes through which learning can be enhanced. This would foster their long term relationships. The paper explores how inter-organizational relationships foster organizational learning process through experiential and vicarious learning. The paper further explores various factors that impact the extent of learning in inter-organizational relationships.

Keywords: organizational learning, inter-organizational learning

Impact of Inter-organizational Relationships on Organizational Learning

Introduction

Organizations engage in strategic collaborations with other organizations either in the form of joint ventures, licensing agreements, distribution and supply agreements, research and development partnerships, and technical exchanges. To realise the full potential of such relationships, it is very important for organizations to realise how learning may take place in such formal inter-organizational set-ups and understand various modes through which learning can be enhanced. This would foster their long term relationships. Literature on organizational learning has mainly focused on intra-organizational learning with little emphasis on inter-organizational learning. This paper fills gap in the literature on organizational learning by explicating how inter-organizational relationships add to organizational learning, apart from the much explored intra-organizational learning. The paper explains two modes of inter-organizational learning namely experiential learning and vicarious learning; and further highlights reasons why organizations imitate their partner in inter-organizational relationships. In the end, it recognises a number of factors on which the degree of organizational learning in inter-organizational relationships depends.

Organizational learning is a psychosocial process at various levels of an organization. (Crossan, Lane & White, 1999; Huber, 1991). It involves knowledge acquisition, information distribution, information interpretation and creating organizational memory (Huber 1991). Crossan et al. (1999) defined organizational learning to be a process transcending from individual to organizational level in four stages, 4Is: *Intuiting*, *Interpreting*, *Integrating* and *Institutionalizing*. Senge (2003) defined organizational learning as a continuous testing of experience and its transformation into knowledge available to whole organization and relevant to their mission. Watkins and Marsick (1996) identified several dimensions of organizational learning such as continuous learning, inquiry and dialogue, team learning, empowerment, embedded system, system connection, and strategic leadership.

Larsson, Bengtsson, Henriksson & Sparks (1998) expanded the scope of organizational learning calling it a multilevel phenomenon, involving dynamics of both intra-organizational

learning (the learning that takes place within formal organizations) and inter-organizational learning (learning of organizations in formal inter-organizational collaborations such as strategic alliances).

Inter-organizational learning is learning of organizations in formal collaborations such as joint ventures, strategic alliances and licensing agreement (Larsson, Bengtsson, Henriksson, & Sparks, 1998). The open system school argues that organizations do not operate as stand-alone entities. Rather, they function as a result of adapting to external influence and contact with other organizations (Kehler, 2004). However, most of the studies (Crosson et al., 1999; Senge, 2003; Watkins & Marsick, 1996) have considered organizational learning as a process limited to the premises of an organization. Such a view, sidelines the importance of learning that takes place in inter-organizational relationships such as joint ventures, licensing agreements, distribution and supply agreements, or technical exchanges. Forming inter-organizational relationships is considered useful for learning because it promotes interaction among diverse people and organizations which adds on to the existing knowledge of organizations (Nonaka & Takeuchi, 1995). Inter-organizational learning results in large pool of knowledge, synergy, economies of scale and many other similar advantages.

Baum, Rowley, Shipilov, Greve & Rao (2005) stated that intra and inter organizational learning are related but less attention has been devoted to examine how the interlacing of intra and inter organizational learning actually takes place in real organizational processes. Delmestri (1998) found that research into inter-firm networks and intra-firm organization structures have developed mainly independently and less effort has been made to integrate the view of internal and external organization. Holmqvist (2009) suggested organizations to complicate their learning through various inter-organizational collaborations.

Conceptual Framework

Impact of inter-organizational relationship on organizational learning

Inter-organizational learning

According to Huber (1991), organizational learning involves four stages: knowledge acquisition, information distribution, information interpretation and organizational memory. Knowledge

acquisition is a process by which knowledge is obtained. While, information distribution is a process by which information from different sources is shared and thereby leads to new understanding. Information interpretation is a process by which distributed information is given one or more commonly understood interpretations. Organizational memory is means by which knowledge is stored for future use. Knowledge is information given meaning (Kochen, 1983).

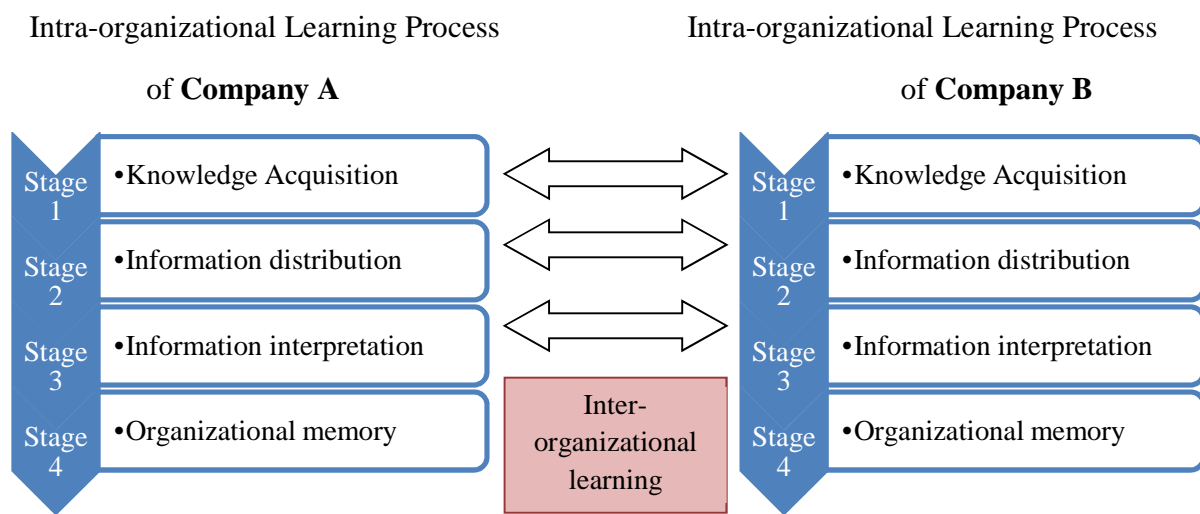


Figure1. Adapted from Huber (1991)

Inter-organizational relationships help in learning process of an organization at 'knowledge acquisition', 'information distribution' and 'information interpretation' stage (Figure1). Reciprocity in the form of knowledge acquisition and information distribution, promotes collective good in inter-organizational relationships. It facilitates exchange of clients, personnel, share knowledge and information. This reciprocity emphasizes cooperation, collaboration, and coordination among organizations, rather than domination, power, and control (Oliver, 1990).

Two intermediary learning processes that tie together intra and inter-organizational learning are extension and internalization (Figure2). Internalization is a process of intra-organizational learning that generates from inter-organizational relationships (Larsson et al., 1998). Extension is a process whereby one organization extends its experience to other organizations with which it has some relation.

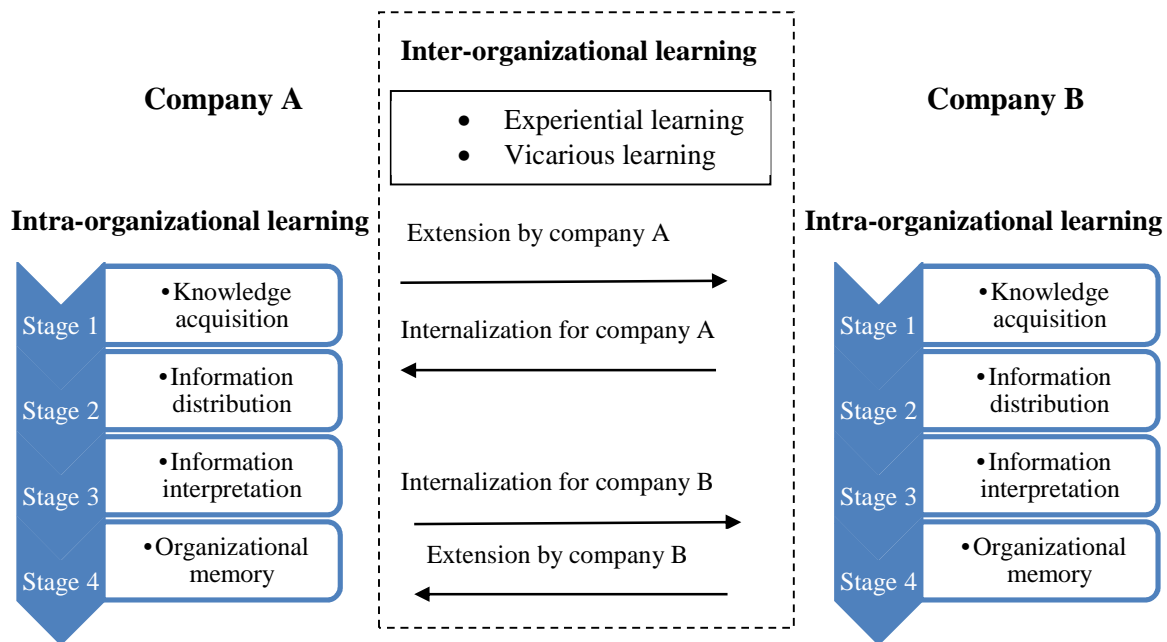


Figure2. Knowledge exchange processes among organizations (*Adapted from Larsson et al, 1998*)

Extension is often seen as a reason for existence of formal collaborations between organizations where much knowledge may be shared. The purpose is to exploit each others' experiences which require process of translating intra-organizational experiences into inter-organizational experiences (Holmqvist, 2004). Inter-organizational learning can take place via experiential learning or through vicarious learning (Figure2). Experiential learning as the name suggests, requires active involvement of organizations. Vicarious learning may takes place in inter-organizational relationships resulting into imitation among the partners.

Inter-organizational learning through experiential learning

Kolb (1984) coined the term experiential learning. However, Prange (1999) noted the process of 'learning from experience' in organizations. This experiential learning in organizations takes place either through exploitation or exploration (Figure3). There is a need to extend growing inter-organizational learning literature by linking inter-organizational learning processes to

exploitation and exploration (Holmqvist, 2009). Exploitation is a process by which organizations create reliability in experience through refinement, production and focused attention while exploration is about creating variety in experiences through experimentation, trailing and free association (Holmqvist, 2004). These processes are inter-laced by means of opening-up and focusing. Opening up involves an organization entering explorative processes such as experimenting and trailing from an exploitative process of routinizing and repetition. Focusing is the process of generation of routinizing and precision from processes of experimenting and free association.

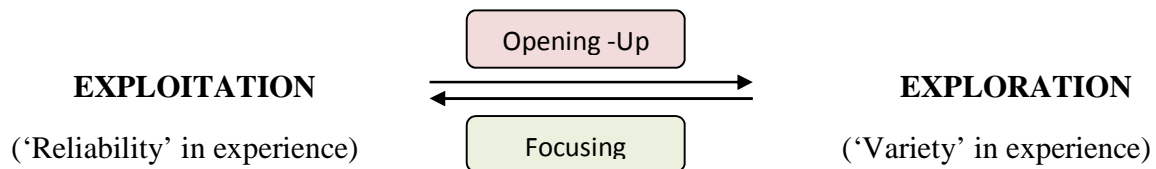


Figure3. Modes of Experiential Learning

Argote and Ophir (2002) stated that interplay of exploitation and exploration takes place both within and between organizations. Inter-organizational learning processes are concerned with the collective learning from experience in the form of inter-organizational rules of exploitation and exploration.

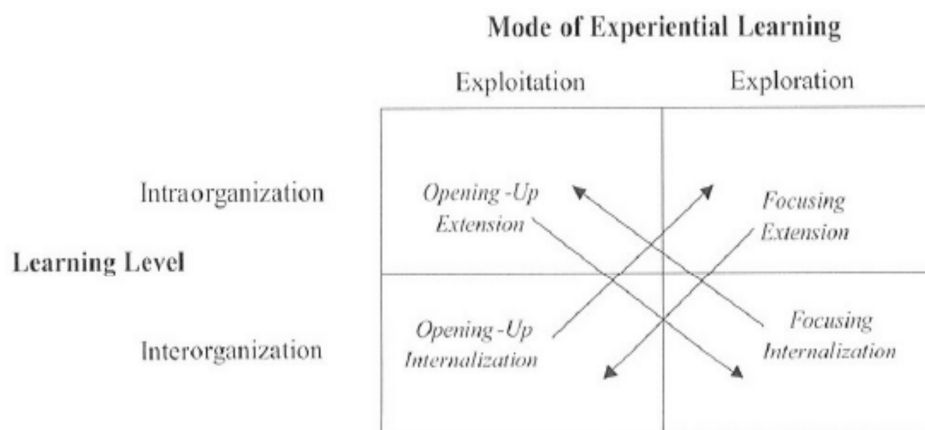


Figure4. Modes of experiential learning at intra and inter-organizational level (Source: Holmqvist, 2004)

Opening-up extension refers to moving from intra-organizational exploitation to inter-organizational exploration (Figure4). According to Hamel (1991), dissatisfaction with an ongoing internal exploitation of particular experiences trigger organization to extend to other organization(s) to create variety in its experience. Focusing extension is about going from intra-organizational exploration to inter-organizational exploitation (Hamel, 1991).

Opening-up internalization refers to moving from inter-organizational exploitation to intra-organizational exploration (Larsson et al 1998). Focusing internalization is concerned with processes where organization moves from inter-organizational exploration to intra-organizational exploitation (Hamel, 1991).

Proposition 1: Since organizations do not function in isolation, inter-organizational relationships foster organizational learning through inter-organizational learning.

Inter-organizational learning through imitation of the other party (Vicarious learning)

There are various reasons why organizations imitating other organizations may result into inter-organizational learning:

Bandwagon imitation: One possible argument is that imitation of adaptive changes within inter-organizational relationship follows a bandwagon pattern (Abrahamson & Rosenkopf, 1993; Tolbert & Zucker, 1983; Wade, 1995). According to this view, a growing number of adopters of some change may drive an organization to subsequently adopt that same change. Bandwagon model is the most simple and elegant explanation of imitation and can be thought of as a baseline model (Abrahamson & Rosenkopf, 1993).

Institutional theory: It explains another reason for organizations to be learning through vicarious mode. According to Tolbert & Zucker (1983) institutional environments impose pressures on organizations to justify their activities. These pressures motivate organizations to increase their legitimacy in order to appear in agreement with the prevailing norms, rules, beliefs, or expectations of external constituents. Attempts to enhance legitimacy through relationship formation and imitation will be directed especially toward organizations whose level of legitimacy is perceived by the focal organization to be considerably higher than its own. Thus,

organizations pervasively imitate other organizations because doing so minimizes sanctions from a variety of stakeholders.

Social learning perspective: Social learning perspective suggests that an organization can also vicariously evaluate the outcomes peers have obtained and benefit from the lessons they have learned as a result of their earlier adoption decisions. This view suggests that the focal organization will be discriminating in its imitation decisions therefore, imitating only when imitation makes sense in light of the other contingencies it faces (Haunschild & Miner, 1995; Rogers, 1995). According to this view, organizations are likely to imitate adaptive changes previously undertaken by particularly large or prominent partner firms. This is so because large organizations are highly visible and legitimacy gains are likely to result by imitating them (Haunschild & Miner, 1995).

Interlocking directorates: Overlapping board memberships between firms may facilitate imitation. This facilitation may occur through the board ties of outside, or non-employee directors, as well as the ties of inside directors. Such interactions provide organizations with similar information about common problems and resulting into shared responses to such problems (Haunschild & Christine, 1998).

Proposition 2: Imitating other party in inter-organizational relationships may result in organizational learning.

Inter-organizational knowledge creation and flow strategies

When two organizations in an inter-organizational relationship come together, they may take up any of the strategies (Larsson et al., 1998) ranging from avoidance, accommodation, compromise, competition to collaboration, for knowledge creation and flow (Figure5). Collaboration is when parties desire to satisfy the concerns of other party. Competition means when an organization seeks to satisfy its own interests regardless of the impact on the other parties. Compromising is giving up something so there is no clear winner or loser. Accommodation is the process by which one party may be willing to place the opponent's interests above its own. Avoidance takes place when parties are non-interested and want to withdraw or suppress the process. Knowledge creation, a vital result of synergy takes place only if both parties collaborate/ compromise or one party collaborates and the other compromises.

Relationships involving one way flow of learning and knowledge transfer are bound to cease much earlier than two way relationships (Thomas, 1992).

		Organization B's learning strategy				
		Avoidance	Accommodation	Compromise	Competition	Collaboration
Organization A's learning strategy	Collaboration		B→A + c→a	b→a, a→b + c→a&b	A→B + c→b	B→A, A→B + C→A&B
	Competition		B→A + c→a	b→a		B→A + c→a
	Compromise		b→a	b→a, a→b + c→a&b	a→b	b→a, a→b + c→a&b
	Accommodation			a→b	A→B + c→b	A→B + c→b
	Avoidance					.

Sample legend: A→B = High transfer of existing knowledge from A to B;
 b→a = moderate transfer of existing knowledge from B to A;
 + c→a&b = moderate creation of new knowledge (c) that is appropriated by both A and B.

Figure5. Inter-organizational knowledge creation and flow strategies (Source: Larsson et al., 1998; Thomas, 1992)

Inter-organizational learning can be achieved by transferring existing knowledge from one organization to another organization, as well as by creating completely new knowledge through interaction among the organizations. Both transfer and creation of knowledge requires simultaneous transparency and receptivity at some level among the organizations. If no organization is transparent, no existing knowledge is disclosed or received. Therefore, there would be no collective knowledge sharing. Likewise, the receptive ability and motivation to absorb the disclosed or generated knowledge is equally needed for gaining out of shared knowledge.

Lee (2001) mentioned that knowledge sharing involves activities of transferring or disseminating knowledge from one person, group or organization to another. This definition

broadly includes both tacit and explicit knowledge. Tacit knowledge is defined as knowledge that cannot be expressed in verbal, symbolic and written form while explicit knowledge is knowledge that exists in symbolic or written form. According to the definition of Nonaka and Krogh (2009), tacit knowledge is personal, context-specific, rooted in action, procedures, commitment, values therefore are hard to formalize and communicate and explicit knowledge can be described as knowledge that is transmittable in formal, systematic language. Tacit knowledge, thus is a key resource that is not readily available to an organization neither within nor outside at inter-organizational level organization. Since explicit knowledge is always grounded in tacit knowledge, an interaction between the two leads to knowledge conversion. The only way to learn tacit knowledge is through observation and experience (Peroune, 2007). This implies that experiential learning and vicarious learning (observation) may result in tacit knowledge sharing between organizations.

Private and Common benefits to organizations

Knowledge sharing intention depends on private and common benefits of the parties are involved. Khanna, Gulati, and Nohria (1998) examined how tension between collaboration and competition affects the dynamics of learning alliances. The ratio of private benefits to common benefits is a factor that determines the stability of the inter-organizational relationship. Private benefits are realized prior to common benefits realized by both firms. Common benefits are available only after both partners have learned enough to creatively synthesize their knowledge bases. This synthesis will occur only after private learning takes place. Collective learning primarily requires learning about the partner in a manner that enables more efficient cooperation. Partners must engage in integrative interaction to combine diverse expertise and experiences into effective learning.

Wong & Tjosvold (2006) studied 103 pairs of customer and supplier organizations in China and indicated collective learning as a useful way to characterize integrative interaction. They therefore suggested that collectivist but not individualist values are important foundations for collective learning to take place. Beckman, Haunschild and Phillips (2004) also highlighted that inter-organizational relationships have the advantage that partners have a range of expertise and experience that on combining or integrating, can lead to new insights and productive actions for both.

Proposition 3(a): Extent of knowledge (tacit or explicit) transfer would depend on the type of knowledge creation or transfer strategy adopted.

Proposition 3(b): Collectivism (collaboration, compromise, accommodation, competition) is more beneficial for organizational learning than individualism (avoidance).

Collectivism, as proposed, is beneficial for organizational learning, but whether working together with another organization necessarily has to guarantee learning is what we would explore further. And if this is not true, what are the factors on which organizational learning from inter-organizational learning would depend is what we would explore in the next section.

Do inter-organizational relationships guarantee learning?

Having relationship with other organizations does not guarantee learning. Learning depends on a number of factors like the type of relationship, duration of relationship, extent of openness among partners and domain consensus (Figure6). Each one has been discussed in detail below.

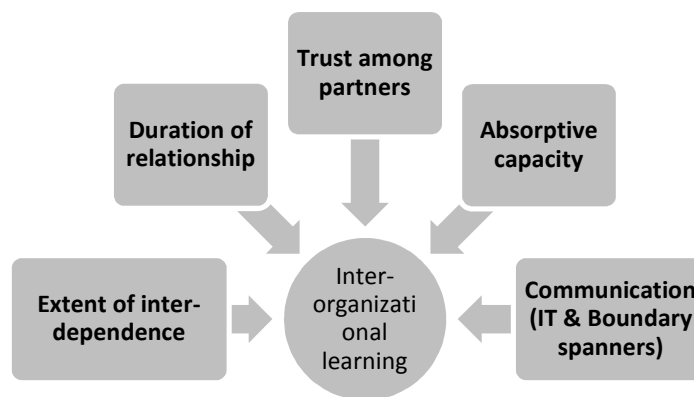


Figure6. Factors influencing inter-organizational learning

Type of relationship of inter-dependence: Degree of learning varies with the type of relationship between the organizations. There can be a variety of organizational forms, such as joint ventures, licensing agreements, distribution and supply agreements, research and development partnerships, and technical exchanges. Joint ventures and strategic alliances, involving high resource commitment, form strong inter-organizational relationship and in turn

more knowledge sharing among the partners take place (Beckman, Haunschild and Phillips, 2004). Organizations having overlapping domains of interest cannot form a successful inter-organizational relationship in fact it may hamper their already existing learning process. Organizations should have a domain consensus and divided set of responsibilities beforehand so that the learning process is healthy and smooth (Aldrich, 1979).

Proposition4: Higher the resource commitment and lower domain overlapping in a relationship, higher would be the inter-organizational learning.

Duration of relationship: Organization acquires tacit knowledge with time as it comes from experience and cannot be adopted quickly like explicit knowledge. Interpersonal ties facilitate the initiation of inter-organizational interaction and ultimately long term relationships (Galaskiewicz & Shatin, 1981). Time taken for relationships to develop contributes positively to how well organizations work together with each other. With time organizations adapt themselves and try to bring in more synergy in their relationships (Peroune, 2007).

According to Doz (1996), as organizations work through their collaborative agreement, both partners develop better understanding of each other's cultures, management systems, capabilities, weaknesses, and so forth. By engaging in multiple alliances with each other over time, partners might tacitly develop a set of routines which facilitate the way they interact among themselves. Every time partners add another agreement, they have an opportunity to reinforce and adapt these inter organizational routines, which can progressively smoothen their interaction patterns. The fact that the two groups of individuals cooperating across firm boundaries develop this form of understanding of each other's behaviours and beliefs helps in coordination, conflict resolution, or mitigation of information-gathering problems, which in turn facilitates iterative learning and adjustment cycles. Zollo, Reuer & Singh (2002) surveyed 262 biotech and pharmaceutical firms engaged in strategic alliances and found that more the number of previous alliances established by a firm with a partner, better was the performance of the alliance.

Proposition5: Longer the duration of relationship and large the number of alliances between partners, higher is the inter-organizational learning.

Trust among partners: Long term relationships result in building of trust which in turn helps in openness to share information, thereby makes the learning process more efficient. Trust is a key to

building successful networks (Church, Bitel, Armstrong, Fernando, Gould, Joss, Marwaha-Diedrich & Vouhe, 2003). Trust does not have significant direct effect on learning but provides the foundation upon which organizations open exchange ideas and experiences (Wong & Tjosvold, 2006). Success of inter-organizational learning depends on the readiness of the partners to share information. The openness needs to be there only at dissemination end but at reception end as well in order to gain new knowledge. Thus, organizations seeking benefit from inter-organizational relations need to be dynamic and flexible in their approach. Flexibility, appreciation of diversity, and openness are important, to enable the development of honest relationships grounded in mutual respect (Vincent & Byrne 2006).

Proposition6: Higher the trust among partners, more is the sharing of knowledge and thus more inter-organizational learning would take place.

Absorptive capacity: Cohen and Levinthal (1997) coined the term 'absorptive capacity' defined as a firm's general ability to value, assimilate, and commercialize new, external knowledge. Cohen and Levinthal suggested that a firm's prior knowledge must meet two criteria to facilitate understanding and valuing new external knowledge. Firstly, it must possess some amount of prior knowledge basic to the new knowledge. Secondly, some fraction of knowledge must be fairly diverse to permit effective, creative utilization of the new knowledge from an external source.

Proposition7: Higher the absorptive capacity of the organizations, more would be inter-organizational learning.

Communication (Information technology & boundary spanners):

Information technology especially communication technology constitutes an important organizational resource for knowledge acquisition, information distribution, information interpretation and organizational memory. Organizational learning is a dynamic process of interaction which produces new knowledge and know-how in the development of a collective competitive advantage. Managing and coordinating inter-organizational relationships therefore demand sophisticated technology. To be effective in this new situation, organizations must fully integrate IT in their operations by reengineering their intra-organizational and inter-organizational business processes (Scott, 2000). Information technologies play an increasingly

important role in the evolution of inter-organizational relationships (Hine & Goul, 1998; Raymond & Blili, 2001)

Role of boundary spanners: Boundary spanners are special group of employees who facilitate formal and informal inter-organizational learning process and technology (Siu, 2006). The role of boundary spanners in acquiring, disseminating, and using market knowledge is the key to success in inter-organizational learning. Boundary spanners frequently communicate across organizational boundaries and perform a variety of activities that may support the organization or link several organizations together (Hoe, 2006). Boundary spanners work in areas where external and internal organizational boundaries cross and overlap. They occupy unique positions in organizations because of their work-related competence and control over the acquisition and dissemination of knowledge. These boundary spanners may be employees, supervisors or managers. Their unique position arises due to their individual motivation more than as a result of their position in the organizational hierarchy. Tushman and Scanlan (1981) mentioned that boundary spanning requires strong external and internal links because it involves obtaining knowledge from outside the organization and disseminating the knowledge to internal users.

Proposition 8(a): Better the communication technology more is the inter-organizational learning.

Proposition 8(b): More the boundary spanners, more is the inter-organizational learning.

Conclusion

Organizational learning is not restricted to intra-organizational learning. Inter-organizational learning takes place through inter-organizational networks. It has been realised that collectivism is more beneficial for learning than Individualism at organizational level. Inter-organizational relationships are a great source of knowledge and widen the knowledge pool of organizations involved. Inter-organizational relationships also results in creation of new knowledge through collaboration of different organizations. Organizations observe and imitate the adaptive responses of their contacts resulting into inter-organizational learning. Inter-organizational relationships need not always result in organizational learning. The extent of learning and success of relationship depends on a number of factors discussed above in the paper. Inter-

organizational learning can be enhanced across organizations with the help of information technology and boundary spanners.

Few considerations need to be taken while applying the suggested concepts into practice. Firstly, the frameworks mentioned in the paper are context dependent thus cannot be generalized across organizations. Secondly, only positive impacts of inter-organizational relationships have been focused on, this is not to say that inter-organizational relationships cannot undermine organizational learning. Inter-organizational relationships, for example, may reduce adaptive potential of an organization if the relationship is too restrictive. They may hamper innovation, flexibility and freedom of organizations in decision making. These aspects may be explored in future. Thirdly, the paper does not attempt to explore implications of learning processes in case of multiple inter-organizational relationships. This offers another potential area for future research.

References

- Abrahamson, E., & Rosenkopf, L. (1993). Institutional and competitive bandwagons: using mathematical modelling as a tool to explore innovation diffusion. *Academy of Management Review*, 18(3), 487-547.
- Argote, L. and Ophir, R. (2002). Intraorganizational learning , in J. A. C. Baum (ed.) *Companion to Organizations*, 181–207. Malden, MA: Blackwell.
- Baum, C.A., Rowley, T. J., Shipilov, A. V., Greve, H. R., & Rao, H. (2004). Competing in Groups: deploying, leveraging, and accessing resources within and across firm boundaries, *Managerial and Decision Economics*, 25(6/7), 453-471.
- Beckman, C.M., Haunschild, P.R., & Phillips, D.J. (2004). Friends or Strangers? firm-specific uncertainty, market uncertainty and network partner selection. *Organization Science*, 15(3), 259-75.
- Church, M., Bitel, M., Armstrong, K., Fernando, P., Gould, H., Joss, S., Marwaha-Diedrich, M., de la Torre, A.L. and Vouhe, C. (2003) *Participation, Relationships and Dynamic Change: New Thinking on Evaluating the Work of International Networks*. London: University College London.
- Cohen, W. M., & Levinthal, D. A. (1997). Fortune favours the prepared firms. *Management Science*, 43(10), 1463-1468.
- Crossan, M. M., Lane, H. W., & White, R. E. (1999). An organizational learning framework: from intuition to institution. *The Academy of Management Review*, 24(3), 522-537.
- Delmestri, G. (1998). Do all roads lead to Rome or Berlin? The evolution of intra- and interorganizational routines in the machine-building industry. *Organization Studies*, 19(4), 639–65.
- Doz, L. Y. (1996). The evolution of cooperation in strategic alliances: Initial conditions or learning processes. *Strategic Management Journal*, 17, Special Issue: Evolutionary Perspectives on Strategy, 55-83.
- Galaskiewicz, S., & Shatin, D. (1981). Leadership and networking among neighbourhood human service organizations. *Administrative Science Quarterly*, 26, 434-48.
- Hamel, G. (1991). Competition for competence and inter-partner learning within international strategic alliances. *Strategic Management Journal*, 12, Special Issue: Global Strategy , 83-103.
- Haunschild , P. R., & Christine, M.B. (1998). When do interlocks matter? Alternate sources of information and interlock influence. *Administrative Science Quarterly*, 43, 815-44.
- Haunschild, P. R., & Miner, A.S. (1997). Modes of IORs imitation: the effect of outcome salience and uncertainty. *Administrative Science Quarterly*, 42, 477-500.

- Hine, M. J., & Goul, M. (1998). The Design, development, and validation of a knowledge-based organizational learning support system. *Journal of Management Information Systems*, 15(2), 119-152.
- Hoe, S. L. (2006). The boundary spanner's role in organizational learning: Unleashing untapped potential. *Development And Learning In Organization*, 20 (5), 9-11.
- Holmqvist, M. (2004). Experiential learning processes of exploitation and exploration within and between organizations: an empirical study of product development. *Organization Science*, 15(1), 70-81.
- Holmqvist, M. (2009). Complicating the Organization: A New Prescription for the Learning Organization? *Management Learning*, 40(3), 275-287.
- Huber, G. P. (1991). Organizational learning: The contributing processes and the literatures. *Organization Science*, 2(1), organizational learning: papers in honour of (and by) March.
- Kehler, N. (2004). Interorganizational relationships and learning, retrieved on 2/11/10 <http://www.ipg.vt.edu/papers/Kehler%20-%20IRs%20and%20Learning.pdf>
- Khanna, T., Gulati, R., & Nohria, N. (1998). The dynamics of learning alliances: competition, cooperation and relative scope. *Strategic management Journal*, 19(3), 193-210.
- Kochen, M. (1983). Library science and information science: Broad or narrow? In F. Machlup & U. Mansfield (Eds.), *The study of information: interdisciplinary messages*. (pp. 371-377). New York, NY: Wiley.
- Kolb, D. (1984). *Experiential learning: experience as the source of learning and development*. New Jersey: Prentice-Hall.
- Larsson, R., Bengtsson, L., Henriksson, K., & Sparks, J. (1998). The interorganizational learning dilemma: collective knowledge development in strategic alliances. *Organization Science*, 9(3), special issue: managing partnerships and strategic alliances, 285-305.
- Lee, J. N. (2001). The impact of knowledge sharing, organizational capability and partnership quality on IS outsourcing success. *Information & Management*, 38, 323-335.
- Nonaka, I. & Takeuchi, S. (1995). *The Knowledge creating company*. New York: Oxford University Press.
- Nonaka, I., & Krogh, G. (2009). Tacit knowledge and knowledge conversion: Controversy and advancement in organizational. *Organization Science*, 20(3), 635-652.
- Peroune, L. D. (2007). Tacit knowledge in the workplace: the facilitating role of peer relationships. *Journal of European Industrial Training*, 31(4), 244-258.
- Prange, C. (1999) 'Organizational learning – desperately seeking theory?' in M. Easterby-Smith, L. Araujo and J. Burgoyne (eds.) *Organizational Learning and the Learning Organization*, London: Sage.

- Raymond, L., & Bili, S. (2000/2001). Organizational learning as a foundation of electronic commerce in the network organization. *International Journal of Electronic Commerce*, 5 (2), 29-45.
- Scott, E. J. (2000). Facilitating interorganizational learning with information technology. *Journal of Management Information Systems*, 17(2), 81-113.
- Senge, P. M. (2003). Taking personal change seriously: the impact of organizational learning on management. *The Academy of Management Executive* (1993-2005), 17(2), 47-50.
- Siu, L. H. (2006). The boundary spanner's role in organizational learning: unleashing untapped potential. *Development and Learning In Organizations*, 20(5), 9-11.
- Thomas, K. (1992). Conflict and negotiation processes in organizations. Dunnette, D. and Hough, L.M. (eds.), *Handbook of Industrial and Organizational Psychology*, CA: Consulting Psychologists Press.
- Tolbert, P., & Zucker, L. (1983). Institutional sources of change in the formal structure of organizations: The diffusion of civil service reform, 1880-1935. *Administrative Science Quarterly* 28, 22-39.
- Tushman, M. L., & Scanlan, T. J. (1981). Boundary spanning individuals: their role in information transfer and their antecedents. *The Academy of Management Journal*, 24(2), 289-305.
- Vincent, R., & Byrne, A. (2006). Enhancing learning in development partnerships. *Development in Practice*, 16 (5), 385-399.
- Wade, B. J. (1996). A community-level analysis of sources and rates of technological variation in the microprocessor market. *Academy of Management Journal* 39: 1218-1244.
- Watkins, K. E., & Marsick, V. J. (1996). *In action: Creating the learning organization*. Alexandria, VA: ASTD Press.
- Wong, A., & Tjosvold, D. (2006). Collectivist values for learning in organizational relationships in China: The role of trust and vertical coordination. *Asia Pacific Journal of Management*, 23, 299-317.
- Zollo, M., Reuer, J. J., Singh, H. (2002). Interorganizational routines and performance in strategic alliances. *Organization Science*, 13(6), 701-713.