By Contribution

Organizational Innovation as Competitive Advantage during Global Recession

Sanjay Kumar Singh

The paper aims to discovering the organizational macro variables which make innovation to take place at workplace and to develop a conceptual model for use in the industry which has been grappling with financial downturn. The meta-analysis of the literature explicitly provides an insight in to the interplay of macro variables viz. organizational culture, organizational structure, organizational learning, and knowledge management architectures to have organizational innovation in full swing. The paper describes the impact of all these variables towards innovation at organizational level. A conceptual model of organizational innovation has been proposed, which may be utilized for creating suitable architectures to make innovation in organizations. The proposed model of organizational innovation needs to be empirically validated across cultures, however.

Sanjay Kumar Singh is Associate Professor – OB&HRM, Institute of Management Technology, Ghaziabad, India. E-mail: drsanjaysingh16@gmail.com

Innovation: The Concept

Such has been the intensity of the current global recession that organizations as well as their human resources have been suffering from fear psychosis. This untoward financial meltdown has strengthened the contentions of management thinkers that if the corporate does not wear the mantle of innovation, it will die like dinosaur. There are corporations which purely swear by this particular mantra where the art of organizational innovation has been given prime importance and all micro and macro level organizational variables are tuned to have the characteristic features of a true innovator. The global corporations which may be ranked top 20 innovators of the world have in them in-built attitude of 'never-say-die' and have eye on achieving stimulating growth despite experiencing series of failures in their present state. These firms constantly and continuously keep on creating systems which unblock innovation and creativity by developing new processes, building innovation culture, and also to reward as well as recognize the innovators.

Innovation is considered to be one of the key drivers of the long-term success of the firms' competitiveness in today's competitive markets (Baker & Sinkula 2002, Lyon & Ferrier 2002).

"Innovation is trying to figure out a way to do something better than it's ever been done before", believes David Neeleman, the founder and CEO of JetBlue. Similarly, an enduring belief in the concept of team over individual or '*we over me'* at Adidas has the cardinal thread of organizational ethos. The people at Adidas sworn by teamwork, team collaboration, team building, teaming, team spirit, and so on, as these are only the ultimate ingredients of business successes. Innovation is not the exclusive province of the eccentric geniuses but open to anyone with a desire for change and a willingness to challenge existing ways of working (Endsley et al. 2005). Innovation is viewed as the use of new technical and administrative knowledge to offer a new product or service to the customers. The product or service is new in that its cost is lower, its attributes are improved, it now has attribute it never ever had, or it never existed in that market before (Lin 2006).

All organizational change is not innovation.

Innovation has been believed to be nothing but a strong key to maintain worldwide competitiveness for any firm. It fuels organizational growth, drives future success, and is the engine that allows business to sustain their viability in a global economy (Gaynor 2002). Though the phenomenon of innovation is significantly different but the scholarly literature often make use of the words change, innovation and creativity synonymously. To be very sure, all organizational change is not innovation. Unintended or undesired change does not constitute the character to innovation (West & Farr 1990). Innovation is largely considered to be a positive, constructive, and productive change. Moreover, a more useful way to distinguish these constructs is to consider creativity as the ideation component of innovation and innovation as encompassing both the proposal and application of new ideas (West & Farr 1990). In the same vein, Porter and Stern (2001) have argued that companies must be able to create and commercialize a stream of new products and processes that extend the technology frontier, while at the same time keeping a step or two ahead of their rivals. Hence, there is an academic as well as business need to study the art of innovation in practice across corporations globally and to bring to the table a consummate conceptualization of organizational innovation and factors affecting it. The academic pursuit of this research article is an attempt in that direction to scientifically assemble all parts of organizational innovation together for its better uses by the corporations which believe in creating a completely new market territory or to conquer the already established markets.

Innovation is largely considered to be a positive, constructive, and productive change.

Different Viewpoints

Once upon a time the organizational innovation has been considered as just another management fad but now it has become the order of the day in corporations across cultures. Since 1990s, the management thinkers and practitioners across the globe have started giving emphasis on 'innovation' which slowly but steadily replaced efficiency and quality as the main source of competitive advantages of the corporations. Organizational innovation has been found to provide a solid competitive edge to corporations of any size in any part of the world. It is in the 1990s that the literature on innovation in organization received huge emphasis which aimed to identify 'best practice' in both the diffusion of innovation to the users, and in the implementation of innovation within user firms (Wolfe 1994, Slappendel 1996).

The available empirical literature on innovation in organization depicts that it is as diverse as the traditional structuralist approach to a more process-oriented approach. For the structuralist protagonists, innovation is seen as a 'thing' or entity with fixed parameters developed externally, packaged by suppliers which are then transferred to potential users where it can be seen to offer them competitive advantage (Wolfe 1994). Hence, this perspective on innovation is believed to help suppliers to diffuse the latest best practice (Rogers 1983) or at helping users to implement them (Damanpour, 1987). If we look into the thesis of the structuralist perspective on innovation, it may be noticed that they underplay both the social and organizational context which are needed to have relevant impact on innovation to happen in the organizations. Scarbrough and Corbett (1992) have also made it a point to argue that innovation in organization cannot reach its climax if it is detached from its socio-organizational context.

On the other hand, the process perspective argue that innovation should be seen, not simply as a 'thing' to be transferred from place to place, but as a complex, time phased, politically charged design and decision process often involving multiple social groups within organizations. Swan et al. (1999) say that the process perspectives on innovation extend structuralist perspectives by examining those more dynamic cognitive, social and political processes through which new ideas are developed, communicated, transferred and implemented over time within particular organizational contexts, and by identifying ways of facilitating these processes. According to process approach, innovation is defined as the development and implementation of new ideas by people who over time engage in transactions with others in an institutional context (Van de Ven 1986). The process perspective on innovation asserts that knowledge is not transferred but must be continuously created and recreated through networking as individuals come to share a common understanding or a common frame of reference (Swan et al. 1999). The author also believes that the process perspective of innovation in organization has more width as well as depth than what the structuralist approach offers. At the same time, the process

perspective on innovation is not exactly the opposite of the structuralist perspective but it has enlarged upon the foundation laid down by the thinkers on the structuralist platform.

These two approaches to study and understand innovation in organization may have some differences, but the similarities between them depict certain correlates which if enacted in place will give boost to organizational intention for innovation. The correlates of organizational innovation are supposed to be organizational structure, market structure, institutionalized expectations, organizational determinants, organizational climate, and leadership (Gopalakrishnan & Damanpour 1992). Kimberly and Evanisko (1981) find that organizational structure explains as much as 60% variance in the adoption of innovation in organization. Similarly, the research literature on effective operation of innovation at the organizational level have deciphered factors which are human, social, and also cultural in nature and all these tend to centre around learning at an organizational level (OECD 1997). Hence, it can be assumed that the correlates of organizational learning are the main building blocks of the discipline of innovation in the enterprises. In such a scenario, learning and work are intimately integrated in an ongoing and systematic fashion to support continuous improvements, and this learning needs to occur at all levels within an organization – the individual, the group, the organization, and the global (Watkins 1996). At the same time, innovation is different from organizational learning (OL) as it includes technological and non-technological aspects of organization to create commercial products or services from inventions (Ismail 2005). Organizational learning has been found associated more with proactive and new-to-the-market innovation, as they require a change in the way business were seen beforehand (Baker & Sinkula 2002).

The correlates of organizational learning are the main building blocks of the discipline of innovation in the enterprises.

Scientific researches have also been found to move forward from organizational learning to knowledge creation and sharing for making organizational innovation to happen. In other words, learning at an organizational level helps generate new knowledge which when shared and used in non-traditional than traditional ways by the members results into a true practice of the discipline of innovation. These researches have brought to the table the relationship of knowledge sharing enablers and innovation in the organization (Calantone et al. 2002, Liebowtiz 2002, Syed-Ikhsan & Rowland 2004). Darroch and McNaughton (2002) believe that the organizational promotion of knowledge sharing changes traditional ideas about managing intellectual resources and employee work styles by providing new processes, disciplines and cultures which constitute organizational innovation. The contentions of these researchers have also been found in Lin (2007) who says that the employees' willingness to both donate and collect

knowledge is related to firm innovation capability. Furthermore, it was also observed in this study that innovation involves a broad process of knowledge sharing which enables the implementation of new ideas, processes, products, or services.

Organizational promotion of knowledge sharing changes traditional ideas about managing intellectual resources and employee work styles by providing new processes, disciplines and cultures which constitute organizational innovation.

The management thinkers have also talked about other organizational level factors which contribute significantly to organizational innovation. Among these organizational factors, the roles of structure and culture have been given prime importance in making organizational innovation happen through the mediating mechanisms of the OL and the KM. Organizations with organic systems have been found to be more prone to the art of innovation being practiced by the organizational members (Aiken & Hage 1971, Burns & Stalker 1994). It is also supported by the observation by Porter (1998) who finds organic structure improve innovation, where centralization is low. And firms are basically entrepreneurial in their strategy. The ability to transfer knowledge in the corporation for innovation gets significantly influenced by a structured IT network which enables individuals to deposit and share knowledge (O'Dell & Grayson 1998), flat organizational structure with less hierarchy and bureaucracy, a trusting culture where knowledge transfer relationships between individuals and groups are transparent and supported through equitable performance related incentives and rewards, and a learning strategy whereby corporations actively promote the double loop learning (Senge 1990). Dobni (2008) asserts that organizational culture which support innovation have the characteristics features of engaging people to value creativity, risk taking, freedom, teamwork, value seeking and solution-oriented, communicative, instil trust and respect for each other, and be quick to uptake in making decisions. Moreover, it is argued that culture supporting innovation rejects practices and behaviour which hinder innovation such as rigidity, control, predictability, and stability (Jassawalla & Sashittal 2003).

Organizational innovation depends to a larger extent on the nature of organizational learning and also generation as well as sharing of knowledge amongst people at workplace.

These findings of the researchers across different cultural settings may convince many, if not to all, that the discipline of organizational innovation depends to a larger extent on the nature of organizational learning and also generation as well as sharing of knowledge amongst people at workplace. These realities of organizational innovation make it explicitly clear that though innovation has become the order of the day across

corporations but it is preceded by long drawn processes of organizational learning and knowledge management.

Organizational Learning & Innovation

Organizational learning refers to a kind of process where new knowledge and insights are gained from the common experience of organizational members to significantly impact job behaviours and improve firms' capabilities (Huber 1991, Senge 1990, Slater & Narver 1995). Slater and Narver (1995) say that the processes of organizational learning generates organizational knowledge which in turn get reflected in theories in use, shared mental models, information databases, formalized procedures and routines, and formal cultural models which guide job behaviours. The organizational learning with its philosophical roots of questioning even established organizational assumptions may lead to generating a kind of learning for the enterprises which facilitate innovation to come into existence (Baker & Sinkula 1999). Generative learning is necessary for organizations operating in highly dynamic environment where the rate of knowledge obsolescence is far greater (Wijnhoven 2001) and at the same time, the generative learning has been found to be radical as it makes all knowledge and data within the existing system unusable(Easterby-Smith et al. 1998).

The literature indicates that organizational innovation gets influenced significantly by the mental model which promotes endless questioning of every facet of organizational lives till a new and relevant solution to the problems are found and used for competitive advantages. Such a kind of learning atmosphere in the enterprises gets embedded in organizational lives when people freely get into system thinking mode (Senge 1990). In a recent study, Jimenez and Valle (2008) assert that organizational learning results in the development, acquisition, transformation and exploitation of new knowledge which fosters organizational innovation. These research literatures across different geographical boundaries have made it a point that innovation depends on organizational learning of the firms. Therefore, it is pertinent to find factors which influence organizational learning. Carneiro (2000) has observed management literature highlighting organizational learning as antecedent to innovation and many models have been proposed (eg., Cohen & Levinthal 1990, Hedlund 1994, Nonaka & Takeuchi 1995) to explain the intimate relationship between organizational learning and innovative capability of the firms.

Organizational learning results in the development, acquisition, transformation and exploitation of new knowledge which fosters organizational innovation.

Chiva and Alegre (2005) observed that organizations which stress the importance of both adaptive and innovative learning (exploration and exploitation) and of collective learning are flexible, open to change, and emphasize human resource management. Hence, the softer

aspects of organizational lives are supposed to influence corporate to get in to organizational learning mode. It is supported by another observation by Nevis et al. (1995) who state that the nature of organizational learning and the way it occurs are determined by the organization's culture and sub-cultures. Chang and Lee (2007b) in another empirical study observed that the operation of learning organization significantly and positively get affected by both leadership and organizational culture and this in turn positively influence employees' level of job satisfaction. The organizations with strong learning capability have been found to score low on formalization in their organizational structure. Goh and Richard (1997) in a study observed negative relationship between formalization and learning capability of the firm. The corporate which considered them as learning organizations have been found to have fewer controls on employees and have flat organizational structure for placing work-team close to the decision-makers (Mohrman & Mohrman Jr. 1995).

Organizations which have in place systems, mechanisms, and processes, that are used to continually enhance their capabilities and those who work with it or for it, achieve sustainable objectives – for themselves and communities in which they participate. It is believed that once an organization has been found to move towards its desired end-state, organizational learning must be followed by change in organizational behaviour. Learning must transfer from individual to the collective, organizational or inter-organizational, and vice versa, and "must" result in change in behaviour (Sun & Scott 2003).

Linkages

The author believes that both explicit and tacit knowledge are essential ingredients of innovations in processes or products in the organization. Organizational knowledge is defined as a set of collective understanding embedded in a firm which enables it to put its resources to particular uses (Penrose 1959), and is a distinctive way of thinking and acting in the world (Tsoukas & Vladimmirou 2001). To add on, the organizational knowledge is also categorized into two brackets namely, explicit and tacit knowledge. The explicit part of the knowledge has the characteristic of visibility and easy to store whereas the tacit part of the knowledge is much more abstract, invisible and difficult to store and share across by those who really possess it. Baker et al. (1997) view explicit knowledge as 'formal, systematic, objective, codified in words or numbers and can be derived from number of sources such as data, business processes, policies and procedures and external sources such as intelligence gathering. On the other hand, the tacit part of knowledge is 'made up of insights, judgment, know-how, mental models, intuition and beliefs and is dynamic and context specific (Martensson 2000, Tsoukas & Vladimmirou 2001). Innovation has been found to occur when employees share their knowledge within the organization (Nonaka 1994). Hence, we find that these two forms of knowledge with their unique characteristic features have important but different say for

the firm's competitive advantage as well as its innovative capability. Moreover, tacit and explicit knowledge which the people and/or system(s) have in the organization need to be managed appropriately for their effective use.

Pemberton and Stonehouse (2000) believe that successful learning organizations create an organizational environment that combines organizational learning with knowledge management. The previous section has brought out the facts that knowledge management and organizational learning are intimately related and which cause innovation to take place at workplace. Knowledge acquisition, storage and knowledge diffusion are considered important for administrative innovation where as knowledge acquisition and knowledge diffusion impact significantly on technical innovation in the enterprise (Chang & Lee 2007a). In terms of the knowledge based view of the firm, competitive success is governed by the capability of the organizations to develop new knowledge-based assets (KBAs) which create core competencies (Pemberton & Stonehouse 2000).

The process of innovation in companies requires a focus which is significantly different from that of other business activities, especially, to nurture open access to people's extensive tacit knowledge – the one "in and between minds" – which get boost by companies' structural and cultural factors (Armbrecht et al. 2001). Hence, the fact which these research studies have brought to table is that organizational innovation gets preceded by management of knowledge, especially the tacit part, which gets influenced by the kinds of structural and cultural fabrics which the top management have created and enacted in operation. Rebernik and Sirec (2007) state that tacit knowledge allows people to work at the higher levels than explicit knowledge and as a result the top management needs to support the sharing of tacit knowledge throughout the company which takes place with the use of mechanisms such as apprenticeship, direct interaction, networking and action learning – face-to-face social interaction and practical experiences.

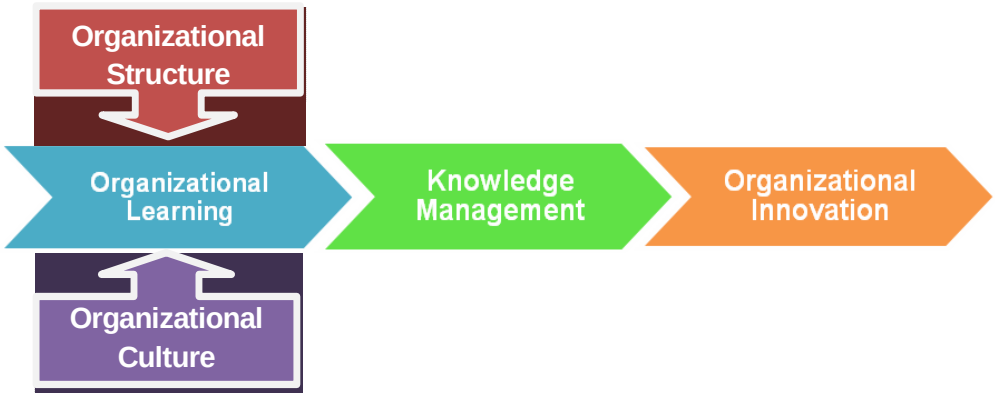
Moreover, as the tacit knowledge is difficult to express, codify, and transmit across, it makes easier for the corporate to protect it than explicit form of knowledge (Rebernik & Sirec 2007). Here, the author makes a point to note that commitment, involvement, as well as pro-active attitudes of the communities in the firm have significant impact on harnessing and sharing of tacit side of knowledge for organization's competitive advantage. This may happen when these people find a congenial organizational structure and culture in existence around. In other words, if the corporate has the talent with above mentioned psychological attributes who are surrounded with a flat structure and collaborative & trusting culture, tacit knowledge is bound to get generated and shared across. Effective knowledge management also includes handling defensive mechanisms that impede communication across. The more common defensive mechanisms include avoiding the discussion of important issues, giving ambiguous messages and distorted information

(Rebernik & Sirec 2007). But, such a phenomenon can be avoided if the company develops a culture which values openness, tolerate failures, encourages questioning of the way things are conducted and permits workers to challenge their superiors (Lubit 2001).

Based on the above mentioned research literature, it is believed that the effective use of tacit knowledge, for making innovation happen in the organization can take place when people are in personal contact mode with each other. The researchers (eg., Nonaka & Takeuchi 1995, Mascitelli 2000) have also emphasized use of physical co-location and face-to-face interaction as important catalysts of organizational innovation.

A Framework of Organizational Innovation

The literature reviewed suggests that organizational innovation is a complex process and is dependent upon significant other organizational variables. The literature also hints that the structural and cultural fabrics of the firms do not impact directly on their innovation capability but get mediated by two important processes of organizational learning (OL) and knowledge management (KM). Researches also suggest that knowledge creation and its management takes place only when employees across different functions have started learning at an organizational level. Furthermore, the literatures also suggest that the process of organizational learning is influenced significantly by the characteristic feature of structural and cultural fabrics which have been created and enacted in place by the top management. Now, it becomes theoretically perceptible what goes into making organizations to fully practice the art and discipline of innovation at workplace. The model of organizational innovation which is being proposed now has been derived from the patterns emerging out of the empirical literature in the knowledge domain of organizational innovation.



(A proposed model of organizational innovation by the author)

This model can be used to study and understand innovation in organization at a macro level. The author believes that the proposed model of organizational in-

novation can be used by both the consultants as well as practitioners to diagnose the current level of readiness for innovation in organization and then design a proper intervention for improving the overall ability to deliver to the business environment. More specifically, organizational innovation depends upon the strengths of organizational learning capabilities as well as knowledge management practices which the firms have in place. But these two important drivers of organizational innovation flourish only when they are surrounded by a congenial organizational structure and culture. Hence, the top management should conceive a kind of organizational architecture where the two drivers of organizational innovation namely, organizational learning and knowledge management can be properly aligned with the two contextual factors of organizational structure and culture. This model of organizational innovation is based on an internal-process approach to measure organizational effectiveness across industry in different cultural settings.

Organizational innovation depends upon the strengths of organizational learning capabilities as well as knowledge management practices which the firms have in place.

Conclusion

The resource-based and goal-based approaches also provide some insight into conceptualizing a model of organizational innovation but their contributions are peripheral in nature. Therefore, the author used internal-process approach in building a practical model of organizational innovation which has been presented in this paper. The crux of this model is to invest time and energy to develop a kind of internal environment which augment organizational innovation capabilities of the firm as a whole. The author believes that the proposed model will provide practical insights to management consultants and practitioners who have a job at hand for increasing innovative mindset of people at an organizational level.

References

Aiken, M. & Hage, J. (1971), "The Organic Organization and Innovation", *Sociology*, 5, (1): 63-82.

Armbrecht, F.M.R. Jr, Chapas, R.B., Chappelow, C.C. & Farris, G.F. (2001), "Knowledge Management in Research and Development", *Research Technology Management*,. 44(4): 28-48.

Baker, M., Barker, M. Thorne, J.& Dutnell, M. (1997), "Leveraging Human Capital", *Journal of Knowledge Management*, 1(1):. 63-74.

Baker, W.E.& Sinkula, J.M. (1999), "The Synergistic Effect of Market Orientation and Learning Orientation on Organizational Performance", *Journal of Academy of Marketing Science*, 27(4):. 411-27.

Baker, W.E.& Sinkula, J.M. (2002), "Market Orientation, Learning Orientation, and Product Innovation: Delving into the Organization's Black Box", *Journal of Market-focused Management*, 5 (1): 5-23.

Burns, T. & Stalker, G.M. (1994), The Management of Innovation, Oxford University Press, Oxford.

Calantone, R.J., Cavusgil, S.T. & Zhao, Y. (2002), "Learning Orientation, Firm Innovation

Capability, Firm Performance", *Industrial Marketing Management*, 31(6): 515-24.

Carneiro, A. (2000), "How Does Knowledge Management Influence Innovation and Competitiveness?", *Journal of Knowledge Management*, 4 (2) : 87-98.

Chang, S. & Lee, M. (2007a), "The Effects of Organizational Culture Knowledge Management Mechanisms on Organizational Innovation: An Empirical Study of Taiwan", *The Business Review*, 7(1): 295-301.

Chang, S. & Lee, M. (2007b), "A Study on Relationship among Leadership, Organizational Culture, the Operation of Learning Organization and Employees' Job Satisfaction", *The Learning Organization*, 14 (2): 155-85.

Chiva, R. & Alegre, J. (2005), "Organizational Learning Styles and Organizational Values in the Ceramic Tile Sector", *International Journal of Learning and Change*,1(1): 96-109.

Cohen, W.M.& Levinthal, D.A. (1990), "Absorptive Capacity: a New Perspective on Learning and Innovation", *Administrative Science Quarterly*, 35 (1): 128-54.

Darroch, J. & McNaughton, R. (2002), "Examining the Link between Knowledge Management Practices and Type of Innovation", *Journal of Intellectual Capital*, 3 (3): 210-22.

Dobin, CB. (2008), "Measuring Innovation Culture in Organizations", *European Journal of Innovation Management*, 11(4) : 539-59.

Drucker, P. (1998), "Managing for the Future: the 1990s and Beyond", in Costin, H. (Eds), Readings in Strategy and Strategic Planning, The Dryden Press, New York,

Easterby-Smith, M., Snell, R. & Gherardi, S. (1998), "Organizational Learning: Diverging Communities of Practice", *Management Learning*, 29(3): 259-72.

Endsley, S., Kirkegaard, M., Magill, M.& Hickner, J. (2005), "Innovation in Practice: 6 Ways to Harness the Power of Your Ideas", *Family Practice Management*, 12(6): 37-40.

Gaynor, G.H. (2002), Innovation by Design: What It Takes to Keep Your Company on the Cutting Edge, AMACOM American Management Association, New York, NY.

Goh, S.C.& Richard, G. (1997), "Benchmarking the Learning Capability of Organizations", *European Management Journal*,15(5): 575-88.

Gopalakrishnan, S. & Damanpour, F. (1992), "Innovation Research in Economics, Sociology, and Technology Management: a Review and Synthesis", *Proceedings of the Academy of Management*, 52: 488.

Hedlund, G. (1994), "A Model of Knowledge Management and the N-Form Corporation", *Strategic Management Journal*, 15 (Summer): 73-90.

Huber, G.P. (1991), "Organizational Learning: the Contributing Processes and the Literatures", *Organization Science*, 2(1): 88-115.

Ismail, M. (2005), "Creative Climate and Learning Organization Factors: Their Contribution Towards Innovation", *Leadership & Organization Development Journals*, 26 (8): 639-54.

Jassawalla, A.R. & Sashittal, H.C. (2003), "The DNA of Cultures That Promote Product Innovation", *Ivey Business Journal*, Winter: 1-6.

Jimenez, D.J. & Valle, R.S. (2008), "Fostering Innovation: the Role of Market Orientation and Organizational Learning", *European Journal of Innovation Management*, 11(3): 389-412.

Kimberly, J.R. & Evanisko, M.J. (1981), "Organizational Innovation: the Influence of Individual, Organizational, and Contextual Factors on Hospital Adoption of Technological and Administrative Innovation", *Academy of Management Journal*, 24: 689-713.

Liebowitz, J. (2002), "Facilitating Innovation through Knowledge Sharing: a Look at the US Naval Surface Warfare Center-Carderock Division", *Journal of Computer Information Systems*, 42(5): 1-6.

Lin, C-Y. (2006), "A Study on the Organizational Innovation in Taiwan's Logistics Industry", *The Business Review*, 5 (1): 270-75.

Lin, Hsui-Fen, (2007), "Knowledge Sharing and Firm Innovation Capability: an Empirical Study", *International Journal Manpower*, 28 (3 / 4): 315-32.

Lubit, R. (2001), "The Keys to Sustainable Competitive Advantage: Tacit Knowledge and Knowledge Management", *Organizational Dynamics*, 29 (3):164-78.

Lyon. D. and Ferrier, W. (2002), "Enhancing Performance with Product-Market Innovation: the Influence of the Top Management Team", *Journal of Managerial Issues*, 14(4): 452-69.

Martensson, M. (2000, "A Critical Review of Knowledge Management as a Management Tool", *Journal of Knowledge Management*, 4(3): 204-16.

Mascitelli, R. (2000), "From Experience: Harnessing Tacit Knowledge to Achieve Breakthrough Innovation", *Journal of Product Innovation Management*, 17(3): 179-93.

Mohrman, S.& Mohrman Jr, A. (1995), "Organizational Change and Learning", in J. Galbraith and E. Lawler (Eds), Organization for the Future: The New Logic for Managing Complex Organizations, Jossey-Bass Publishers.

Nevis, E., DiBella, A.J.& Gould, J.M. (1995), "Understanding Organization Learning Systems", *Sloan Management Review*, 36 (2): 73-85.

Nonaka, I. (1994), "A Dynamic Theory of Organizational Knowledge Creation", *Organization Science*, 5 (1): 14-37.

Nonaka, I. & Takeuchi, H. (1995), The Knowledge-Creating Company, Oxford University Press, New York, NY.

O'Dell, C. & Grayson, C.J. (1998), "If only We Knew What We Know: Identification and Transfer of Internal Best Practices", *California Management Review*, 40(3): 154-73.

OECD (1997), OECD Proposed Guidelines for Collecting and Interpreting Technological Innovation Data, OECD/GD, Paris.

Pemberton, J.D.& Stonehouse, G.H. (2000), "Organizational Learning and Knowledge Assets: an Essential Partnership", *The Learning Organization*, 7(4): 184-94.

Penrose, E. (1959), The Theory of the Growth of the Firm, Wiley, New York, NY.

Porter, M.E.& Stern, S. (2001), "Innovation: Locations Matters", *Sloan Management Review*, 42(2): 28-36.

Rebernik, M. & Sirec, K. (2007), "Fostering Innovation by Unlearning Tacit Knowledge", *Kybernetes*, 36(3/4): 406-19.

Scarbrough, H. & Corbett, J.M. (1992), Technology and Organization: Power, Meaning, and Design, Routledge, London.

Senge, P.M. (1990), The Fifth Discipline: The Art & the Practice of Learning Organization, Random House, London.

Slappendel, C. (1996), "Perspectives on Innovation in Organizations", *Organization Studies*, 17 (1): 107-29.

Slater, S.F. & Narver, J.C. (1995), "Market Orientation and the Learning Organization", *Journal of Marketing*, 59 (3): 63-74.

Sun, P.& Scott, J. (2003), "Exploring the Divide – Organizational Learning and Learning Organization", *The Learning Organization*,10(4): 202-15.

Swan, J., Newell, S., Scarbrough, H. & Hislop, D. (1999), "Knowledge Management and Innovation: Networks and Networking", *Journal of Knowledge Management*, 3(4): 262-75.

Syed-Ikhsan, S.O. & Rowland, F. (2004), "Knowledge Management in a Public Organization:

a Study on the Relationship between Organizational Elements and the Performance of Knowledge Transfer", *Journal of Knowledge Management*, 8 (2): 95-111.

Tsoukas, H.& Vladimirou, E. (2001), "What is Organizational Knowledge?", *Journal of Management Studies*, 38 (7): 973-93.

Van de Ven, A.H. (1986), "Central Problems in the Management of Innovation", *Management Science*, 32 : 590-607.

Watkins, K.E. (1996), "Of Course Organization Learns!", in Rowden, R.W. (Eds), New Directions for Adults and Continuing Education: Workplace Learning, 1: 86-96.

West, M.A. & Farr, J.L. (1990), "Innovation at Work", in West M.A. and Farr, J.L. (Eds), Innovation and Creativity at Work, Wiley, New York, NY.

Wijnhoven, F. (2001), "Acquiring Organizational Learning Norms: a Contingency Approach for Understanding Deuteron Learning", *Management Learning*, 32(2): 181-200.

Wolfe, R.A. (1994), "Organizational Innovation: Review, Critique and Suggested Research Directions", *Journal of Management Studies*, 31: 405-31.