

Management of Organizational Innovation

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Abstract

This study critically examines the concept of organizational innovation in the existing literature and to identify different strategies and approaches to the ways a manager can lead and manage innovation. Some studies emphasized on structural forms, adaptability and capability of the organizations as the foundation of the management of innovation, other models considered organizational atmosphere, participative management and incentives for innovation as the core requirement for managers to be able to organize and lead organizational innovation. Besides, the role of endogenous organizational forces including technological change, interests and power in shaping organizational transformation, societal values and capacity for learning were also considered as important variables in the management of organizational innovation.

Keywords: organization, innovation, management, change, organizational innovativeness

1. Introduction

The essential nature of the present day world underlies a very fast and competitive society where the ability to dictate changes and transformation adds the utmost value. A competitive advantage in managing innovation and creativity is the key to this ability (Drucker, 1985; Woodman et al., 1993). Hence, leading organizations particularly efficient managers are giving top priority to develop ways and mechanism for greater organizational innovation and creativity. Their attribution of innovation as central to competitiveness has been largely driven by the technological advancement, emergence knowledge economy and high scale non-price competition in the industrial and service companies. Organizations, particularly driven technologically require being more innovative and pioneering than before to lead, to grow, to compete and to endure (Jung et al., 2003).

What organizational innovation constitutes and how managers lead, shape and manage organizational innovation has been a major research area in the organizational management literature. In general there are three broad approaches to organizational innovation: Firstly, innovation is considered as a determining factor of organizational growth and superior business performances (Gumusluoglu and Ilsev, 2009). This approach emphasizes on innovation oriented business strategy and grants bigger investment in the growth of organizational capability to innovate new products. The second approach regards innovation as rather a byproduct of dynamic organizational development and prescribe prioritization of company's atmosphere and working condition over just exclusively focusing on innovation management. The third approach credits innovation as a contributing factor but underlines a careful balance between innovation and other contributing factors for an efficient business performance (Lawson and Samson, 2001). These different levels of apportioning importance on innovation delineate, in the advance management literature, the thought and strategies of leading and managing innovation by the managers.

While some theories emphasized on structural forms, adaptability and capability of the organizations as the foundation of the management of innovation, other models considered organizational atmosphere, participative management and incentives for innovation as the core requirement for managers to be able to organize and lead organizational innovation.

Besides, the role of endogenous organizational forces including technological change, interests and power in shaping organizational transformation, societal values and capacity for learning were also considered as important variables in the management of organizational innovation (Hage, 1999). Importantly, the interplay between organizational innovation and technological change is significant for the development of organizations' ability to innovate and utilize new technologies and inventive resources as organizational and technological innovations are intertwined and the adoption of new technology can bring multifarious prospects and challenges for organizations, dictating changes within organizational forms and managerial practices.

However, the objective of this study is to critically examine the concept of organizational innovation in the existing literature and to identify different strategies and approaches to the ways a manager can lead and manage innovation. For that end the paper in the beginning details out the conceptual scheme of organizational innovation. Then the paper identifies and assesses the factors and strategies to manage innovation and creativity at the organizational level consecutively in several sub-sections. Finally the paper ended with some concluding remarks on the current practices of organizational innovation management.

2. The Concept of Organizational Innovation

The notion 'organizational innovation' denotes, in general, a mechanism applied by the organizations to adapt to changing conditions of competition, technological advancement and market expansion by producing newer products, techniques and systems (Utterback, 1994; Dougherty and Hardy, 1996). In its simplest term, organizational innovation is "the tendency of the organization to develop new or improved products/services and its success in bringing those products/services to the market" (Gumusluoglu and Ilsev, 2009: 467). It is also defined as the organizational capability to renovate ideas and knowledge into new products, services or processes continuously for the benefit its stakeholders.

To define the concept more clearly, a distinction between creativity and organizational innovation is very useful. Accordingly Amabile (1998) defined creativity as the production of creative and constructive ideas, and innovation as the successful realization of innovative ideas within an organization. Oldham and Cummings (1996) also attached creativity at the individual level and innovation at the organizational level. Though the distinction has been made in many studies, several researchers have rather defined organization innovation in conjunction with the individual creativity, acknowledging individuals are the ultimate source of any new idea (Redmond et al., 1993; Shalley and Gilson, 2004). They justified their claims by arguing that new ideas by creative employees could be transferred to other employees and in a large scale lead to the development of innovative products at the organizational level.

2.1 Considerations about Innovations

A critical look into the definition provided in the existing literature should involve three important considerations. The first consideration suggests that innovation is not something to be defined single handedly and in a unified manner. Innovation can either be a new product, a new service, a new technology, or a new administrative practice (Hage, 1999). In a different way, each of these areas of innovation can take five general forms including diversification of the existing pool of products and services; newer addition and versions of the existing types; introduction of a completely new item; improvement of presentation techniques and styles; and development of participation models.

The second consideration advocates that although the general notional properties of organizational innovation have been fairly consistent, but the nature and kinds of the investigated innovations have been changed overtime. While in 1960s and 1970s public sector organizations and their incremental change were the prime focus, private sector organizations' radical change occupied the investigation trends in 1980s and 1990s (Hage, 1999). Besides, later investigations on innovation involved more on the analytical focus on advanced manufacturing technologies rather than counting the number of innovations within a particular time frame (Zammuto and Connor, 1992). On the other hand two broad categories of innovation have received less attention in the study innovation in the advance management literature: a) innovations in large-scale technical systems such as nuclear energy, electrical railroad, high-speed trains and telephone systems and coaxial cables; and b) radical innovations in the components of assembled products such as cars, trains and commercial airplanes (Hage, 1999).

The third area of consideration comprises that the conceptual organization of ‘organizational innovation’ by the scholars could not provide a coherent theoretical framework in defining the concept with its implicated complexities. Hence, the phenomenon remained susceptible to differing interpretations and contextualization. Lam (2004) classified this body of diverse interpretations into three different streams. He recognized that these strands have empirical overlaps but they were theoretically distinct to the level that they hindered the process of developing a clear view of ‘organizational innovation and interrelations between its different dimensions. The three streams include:

- I. **Organizational Design Theories:** This set of theories defined organizational innovation from the perspective of structural characteristics of organizations. Focusing on the link between structural forms and the propensity of an organization to innovate, scholars like Mintzberg (1979) and Teece (1998) aimed to determine the effects of organizational structural variables on product and process innovation.
- II. **Theories of Organizational Cognition and Learning:** These theories, in contrast, defined organizational innovation based on cognitive foundations of organizations at the micro-level. Emphasizing on the learning and organizational knowledge creation process, this camp of research investigated innovation capabilities of organizations depending on the firms’ capacity to create and exploit new knowledge (Nonaka and Takeuchi, 1995).
- III. **Organizational Change and Adaptation Theories:** this strand defined innovation as an outcome of the creation of new organizational forms. In the context of technological changes and radical environmental shifts, innovation is considered as a capacity to respond to changes in the external environment, and to influence and shape it (Child, 1997).

3. Management of Organizational Innovation

Organizational innovation is a complex and risky process and managers dealing with the innovation management have to be aware of the degree of complexity that the process has. As there has been lack of clarity and agreement among the innovation managers on the strategies and actions for ensuring organizational capability, a bunch of normative theories prescribed different set of rules and techniques to increase organizational innovation. But despite widespread empirical research, advance management literature is yet to see a dominant theory (Wolfe, 1994). Many models have been offered to dissect innovation at the firm level using a host of theories including resource-based view, market orientation (MO), socio-technical approaches, transaction cost economics, cognitive theories and importantly institutional theory. The problem of using so much diverse theories is that the findings of the theories, each of them brings diverse innovation puzzle, do not suggest a complete outline of the factors needed to be taken into account to manage innovation properly. While some theories emphasized on the specific firms or industrial context, others focused on the nature of organizational structure and management complexities in general.

Two prominent theories of innovation management include resource-based view (RBV) and dynamic capability approach. The resource-based view (RBV) does not consider firms as a set of product-market positions, rather treats as a collection of resources and capabilities. It emphasized on the development of resource based capacities difficult for others to imitate or copy and makes performance difference with other firms based on firm specific, rent-generating and valuable resources and capabilities (Hamel and Prahalad, 1994). Dynamic capabilities theory, as discussed by Teece and Pisano (1994: 541), advocated for the “subset of the competences/capabilities which allow the firm to create new products and processes and respond to changing market circumstances”. These theories demand human resources and organizational learning, manufacturing process development, prioritization of R&D and other innovative outlets, the management of and inimitable capabilities and so on. But these two set of theories have many shortcomings: a) the value of resources may change over time becoming unpredictably; b) knowledge development and study replication is difficult without understanding of the specific activities underlying capabilities; and c) many resources are complementary and it often complicated to identify which resources could account for effective performance (Teece and Pisano, 1994).

Though there are many set of propositions on how to manage organizational innovation including community of creations model, new knowledge management theories and so on, this paper discussed two prominent approaches to organizational innovation management: **organizational capability approach** and **transformational leadership** in a more elaborated way.

3.1 Organizational Capability and Innovation Performances

Organizational capability approach employed by the managers is the mostly known approach to in innovation management. It suggests that product innovation in the long run is better managed by nurturing and enhancing capabilities of firms as innovation engine. It advocates that superior business performances of the firms depend on the large scale investment in innovation capability instead of investing in the creation of physical assets. The stronger the innovation capability possessed by a firm, the more effective will be their innovation performance (Lawson and Samson, 2001). There are three factors that determine how well a manager could be able to link capability with innovativeness: a) leading innovators should consider innovation capability as more than mere research and development and every single corner of the organization should be restructured facilitating innovation with reward and encouragement; b) successful managers see innovation as competitive advantage and a mechanism for creating new knowledge and link these innovation-stream with the mainstream technologies and capabilities; c) Innovation breakthrough by means of divergent and chaotic behaviors are accommodated and systematically channelized by the managers despite having even certain level of uncertainty (Garud and Venkataraman, 1999).

3.1.1 Seven elements of organizational capability:

Lowson and Samson (2001) provided a model of organizational capability comprising seven elements: vision and strategy, harnessing the competence base, organizational intelligence, creativity and idea management, organizational structures and systems, culture and climate, and management of technology.

Firstly, vision and strategy which is a significant step in the process of institutionalizing innovation. The articulation of a common vision and successful strategy formulation determine the length of innovativeness. A strategy to prevent the dispersion of attention and interest, and realization of innovation strategies by new ways of doing things can increase organizational attention which is critical to innovation strategy. More innovative behaviors are displayed by the firms that adopt an offensive strategy with the intent to create the future. This makes them to be a dominant player able to break their common industrial rules and create new markets by stimulating newer patterns of demand (Markides, 1998).

Secondly, harnessing the competence base that involves organizational competence to manage and allocate resources appropriately in the required areas that is fundamental to ensure innovative output (Burgelman and Maidique, 1988). To nurture competence base efficiently, organizations should develop three key aspects of organizational capability: a) encourage risk taking and entrepreneurship by mobilizing resources employ a variety of funding channels at various stages of the innovation process; b) stimulate innovation potential and increase number of innovation initiatives by investing and combining resources and knowledge into disparate markets, technologies and products; c) create new innovative practices and models and diffuse local innovation globally by means of electronic platform of business operation.

Thirdly, organizational intelligence which is, as defined by Glynn (1996: 1088), “the capability to process, interpret, encode, manipulate and access information in a purposeful, goal-directed manner, so it can increase its adaptive potential in the environment in which it operates”. For the innovation process to be facilitated and integrated properly, it is a pre requisite that firms lessen the potential ambiguity and uncertainty of innovation by employing effective intelligence surveillance. At least three factors are important to make organizational intelligence function effectively: a) learning about competitors and learning from customers b) competitive analysis, technological forecasting and environment scanning proactively, and c) eliminate unprofitable options and identify new avenues for investigation by communicating and using most relevant, up-to-date information available (Burgelman and Maidique, 1988; Saleh and Wang, 1993).

Fourthly, creativity and idea management, by allowing untested, unrealized and divergent thinking and by accommodating radical idea capable of creating new businesses or transforming existing business strategy, could harness long term organizational innovation. Being either vision-driven or knowledge-driven, idea management could improve the success of implementation of the innovative ventures.

Fifthly, favorable **organizational structures and systems** conducive to innovation system should be developed by the managers to increase the scope innovation within the organizational sphere. Innovative firms permit employees to break down the rigid barriers by establishing organic and permeable business boundaries (Maira and Thomas, 1998). In this connection, reward structure is mostly important. While idea generation and radical innovations are influenced by individual rewards, incremental innovations and innovation implementation depend on the group rewards. According to Saleh and Wang (1993), an innovative firm creates a motivating reward structure that provides public recognition and financial bonuses, suggestion schemes, “dual ladder” system and so on.

Sixthly, innovation success is vitally conditioned by the **organizational culture and climate**. Lawson and Samson (2001) identified four components of organizational culture and climate: a) tolerance of ambiguity by bringing manageable level of uncertainty, putting tight control over project milestones and initiating effective information management; b) empowerment of employees by investing and respecting in people’s ability and exceptionality; c) allocation of creative time by allowing flexible deadlines and permeable environment and d) knowledge sharing and communication among within the company and its network by means of cross-technological, cross-hierarchical and cross-functional exchanges.

Finally, the ability to expedite **technological competence** to meet the overall business objectives could profoundly enhance organizational capability to act innovatively. Here the crucial factor is the firm’s performance in combining both business and innovation strategy with the technology strategies. R&D performance is heavily influenced by the effectiveness of the linkage between business strategy and technological strategy (Roberts, 1995).

3.2 Organizational Innovation through Transformational Leadership

One of the key factors in the management and development of organizational innovation, as found by many studies, is the transformational leadership. Though only a few number of studies investigated the relationship between organizational innovation and transformational leadership (e.g., Jung et al., 2003), there are conflicting findings by the researchers. While some studies such as by Jaussi and Dionne (2003) found that individual creative performances did not increase under transformational leadership, some other studies Shin and Zhou (2003) and Gumusluoglu and Ilsev (2009) found that transformational leadership affected followers' creativity positively. Shin and Zhou (2003), using a sample of 260 R&D employees and their supervisors from 46 companies, discovered that under transformational leadership Korean employees demonstrated more individual-level creativity in a real business setting. Similarly, Gumusluoglu and Ilsev (2009), researching on the Turkish software development companies, found positive correlation between transformational leadership and on creativity at both the individual and organizational levels.

3.2.1 Five methods that transformational leadership influence organizational innovation:

In aggregate, findings on the positive correlation between organizational innovation and transformational leadership suggest that transformational leadership influence organizational innovation in five different ways. These ways might overlap each other or could have cause-effect relations among them.

- I. Promotion of intrinsic motivation:* Transformational leadership brings the intrinsic motivation of the employees out. People are most creative primarily via this type of motivation and their ability to generate new ideas depends largely on their perception to the work environment particularly organizational support for innovation. Studies showed that employees who value tradition, security and conformity were highly influenced by the transformational leadership in their creative traits (Shin and Zhou, 2003).
- II. Psychological empowerment:* Several studies as conducted by Zhou (1998) and Jung et al., (2003) found that creative people demonstrated high performances under personal autonomy. Transformational leadership increases this autonomy by means of allowing psychological empowerment of the employees. Psychological empowerment involves self-confidence building and personal development of the followers (Conger, 1999).
- III. Innovative organizational climate:* Transformational leadership influences creativity and innovation of the employees by rebuilding characteristics of their organization and by replacing with innovative organizational climate (Scott and Bruce, 1994). Flexible leaders allow an organizational structure that encourages creativity at the workplace and gives incentives to followers to take risk.

- IV. Market success of the innovations:** Transformational leaders can also create positive influence on the market success of the innovations by exhibiting strong vision, confidence and power and motivating employees to seek quality oriented and innovative ventures (Jung et al., 2003).
- V. Boundary spanning and entrepreneurship:** Transformational leaders also play external roles in augmenting organizational tendencies to act innovatively by means of boundary spanning and entrepreneurship which are particularly important for accelerating market success of the innovative ideas and actions (Howell and Higgins, 1990).

4. Conclusion

In recent years a bunch of research, driven by the academic query of the scholars in the field of advance management and propelled by the industrial imperative to seek newer options in the competitive market, has been conducted and generated a great deal of contents on the management and existence, diffusion and effectiveness of organizational innovations (Pawlowsky, 2001; Lorenz and Valeyre, 2006). The technological advancement, emergence knowledge economy and high scale non-price competition in the industrial and service companies have made innovation central to competitiveness and Organizations, particularly driven technologically require being more innovative and pioneering than before to lead, to grow, to compete and to endure (Jung et al., 2003). Many of the research findings are still considerably dispersed. Empirical findings are hardly comparable as research questions, conceptual frameworks and methods applied by various scholars differ quite significantly.

While some studies emphasized on structural forms, adaptability and capability of the organizations as the foundation of the management of innovation, other models considered organizational atmosphere, participative management and incentives for innovation as the core requirement for managers to be able to organize and lead organizational innovation. Besides, the role of endogenous organizational forces including technological change, interests and power in shaping organizational transformation, societal values and capacity for learning were also considered as important variables in the management of organizational innovation (Hage, 1999). However many commonly known approaches have been able to set out many prescription for the managers regarding how better they can organize and lead innovation process. Issues like organizational capability, innovative structure and atmosphere, transformational leadership, reward and incentive, empowerment of the employees, and participative management have been common to most of the set of prescriptions. But it is commonly viewed that firm specific factors are also important for greater creativity and innovation at the organizational level.

References

- Amabile, T.M. 1998. How to kill creativity. *Harvard Business Review*, 76 (5): 77–87.
- Burgelman, R.A. and Maidique, M.A. 1988. *Strategic Management of Technology and Innovation*. Homewood, Illinois: Irwin
- Child, J. 1997. Strategic Choice in the Analysis of Action, Structure, Organizations and Environment: Retrospect and Prospect. *Organization Studies*, 18(1): 43-76.
- Conger J.A. 1999. Charismatic and transformational leadership in organizations: an insider's perspective on these developing streams of research. *Leadership Quarterly*;10 (2):145–79.
- Dougherty, D. and Hardy, C. 1996. Sustained production innovation in large, mature organisations: Overcoming innovation-to-organisation problems. *Academy of Management Journal*, 39(5): 1120–1153.
- Drucker, P.F. 1985. *Innovation and entrepreneurship: practice and principles*. New York: Harper and Row, Publishers.
- Garud, R. and Venkataraman, S. 1999. *The Innovation Journey*. New York: Oxford University Press.
- Glynn, M.A. 1996. Innovative genius: A framework for relating individual and organisational intelligences to innovation. *Academy of Management Review*, 21(4): 1081–1111
- Gumusluoglu, L. Ilsev, A. 2009. Transformational leadership, creativity, and organizational innovation, *Journal of Business Research*, 62: 461–473.
- Hage, J. T. 1999. Organizational Innovation and Organizational Change. *Annu. Rev. Sociol.* 25:597-622.
- Hamel, G., and Prahalad, C.K. 1994. *Competing for the Future: Breakthrough Strategies for Seizing Control of Your Industry and Creating the Markets of Tomorrow*. Boston, Mass: Harvard Business School Press.
- Howell J.M. and Higgins C.A. 1990. Champions of technological innovation. *Administrative Science Quarterly*, 35: 317–41.
- Jaussi K.S., and Dionne S.D. 2003. Leading for creativity: the role of unconventional leader behavior. *Leadership Quarterly*, 14: 475–98.
- Jung, D.I., Chow, C., and Wu, A. 2003. The role of transformational leadership in enhancing organizational innovation: hypotheses and some preliminary findings. *Leadership Quarterly*, 14: 525–44.
- Lam, A. 2004. Organizational Innovation, Working Paper No. 1 BRESE, School of Business and Management Brunel University.
- Lawson, B. and Samson, D. 2001. Developing Innovation Capability In Organisations: A Dynamic Capabilities Approach, *International Journal of Innovation Management*, 5 (3): 377–400.
- Maira, A.N. and Thomas, R.J. 1998. Organising on the edge: Meeting the demand for innovation and efficiency. *PRISM, Third Quarter*, 4–19.
- Markides, C. 1998. Strategic innovation in established companies. *Sloan Management Review*, 31–42.
- Mintzberg, H. 1979. *The Structuring of Organization*. Englewood Cliffs, N.J.: Prentice Hall.
- Nonaka, I. and Takeuchi, H. 1995. *The Knowledge Creating Company*. New York: Oxford University Press.
- Oldham G.R. 1996. Cummings A. Employee creativity: personal and contextual factors at work. *Academy of Management Journal*, 39 (3): 607–34.
- Redmond M.R., Mumford M.D., and Teach R. 1993. Putting creativity to work: effects of leader behavior on subordinate creativity. *Organizational Behavior and Human Decision Processes*, 55: 120–51.
- Roberts, E.B. 1995. Benchmarking the strategic management of technology. *Research Technology Management*, 44–56.
- Saleh, S.D. and Wang, C.K. 1993. The management of innovation: Strategy, structure and organisational climate. *IEEE Transactions on Engineering Management*, 40 (1): 14–21.
- Scott, S.G., Bruce, R.A. 1994. Determinants of innovative behavior: a path model of individual innovation in the workplace. *Academy of Management Journal* 37 (3): 580–607.
- Shalley, C.E. and Gilson L.L. 2004. What leaders need to know: a review of social and contextual factors that can foster or hinder creativity. *Leadership Quarterly*, 15 (1): 33–53.
- Teece, D.J. 1998. Design issues for Innovative Firms: Bureaucracy, Incentives and Industrial Structure in A.D. Chandler, Jr., P. Hagstrom, and O. Solvell (eds.). *The Dynamic Firm*, Oxford: Oxford University Press.
- Teece, D.J. and Pisano, G. 1994. The dynamic capability of firms: An introduction. *Industrial and Corporate Change*, 3 (3): 537–556.
- Utterback, J.M. 1994. *Mastering the Dynamics of Innovation: How Companies Can Seize Opportunities in the Face of Technological Change*. Boston, MA: Harvard Business School Press.
- Wolfe, R.A. 1994. Organisational innovation: Review, critique and suggested research directions. *Journal of Management Studies*, May, 31(3): 405–425.
- Woodman, R.W., Sawyer J.E., and Griffin R.W. 1993. Toward a theory of organizational creativity. *Academy of Management Review*, 18 (2): 293–321.
- Zammuto, R, O. and Connor E. 1992. Gaining advanced manufacturing technologies benefits: the role of organizational design and culture. *Academic Management Review*, 17: 701-728.
- Zhou, J. 1998. Feedback valence, feedback style, task autonomy, and achievement orientation: interactive effects on creative performance. *Journal of Applied Psychology*, 83(2): 261–77.