

Organizational Learning and Innovation Performance: A Review of the Literature and the Development of a Conceptual Framework and Research Hypotheses

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The purpose of this paper is to develop a conceptual framework and research hypotheses based upon a thorough review of the conceptual and limited published empirical research in the organizational learning and innovation performance literatures. Hypotheses indicate the relationships between organizational learning, its antecedent, perception of the environment, and the outcome variable, innovation performance, at two levels, including individual and organizational-level innovation performance. Implications for testing these hypotheses are articulated from research and practice perspectives.

Keywords: Organizational Learning, Innovation Performance, Perception of External Environment

Globalization, changes in the economy, the diverse workforce environment, and use of information technology have made organizations pursue learning as a competitive advantage. It is important to understand how learning as a key process contributes to successful innovation, which determines and supports an organization's success (Verdonschot, 2005). In the workplace learning literature, organizational learning, a kind of knowledge-based resource capability, has become more important in the rapidly changing and fiercely competitive business world (Carrillo & Gaimon, 2004). Organizational learning is defined as the process of acquiring, distributing, integrating, and creating information and knowledge among organizational members (Dixon, 1992; Huber, 1991). In other words, the processes of organizational learning involve key components that support knowledge productivity processes, which include searching for information, assimilating, developing and creating new knowledge on products, processes, and services (Verdonschot, 2005). Organizations require competent people to learn and interpret new information and technology changes from the external environment (Birdthistle & Fleming, 2005; Casey, 2005). Organizational members not only need to have the capability to process information efficiently but also to create new knowledge faster than other competitors. The literature has also connected organizational learning to the principle means of achieving strategic renewal in an organization (Crossan & Berdrow, 2003). An organization's knowledge is an asset that can be managed to contribute to the firm's innovation performance (Pham & Swierczek, 2006). Therefore, organizational learning has been viewed as one foundational source of competitive advantage and has also become equated with innovative efficiency in the innovation literature (Lopez, Peon, & Ordas, 2005).

Human resource development (HRD) is a field of study and practice that is concerned with optimizing learning, development, and performance improvement at the individual, group, team, and organization levels. Although predominant paradigms in HRD have included learning and performance, scholars have more recently acknowledged that both paradigms are not mutually exclusive and need to be integrated positively to impact organizational systems. The concept of organizational learning is most closely associated with HRD's learning paradigm, which stresses that organizations are systems that support multiple levels of learning. Developing and promoting an organization's learning capability is one approach that enables an organization to keep pace with the changing environment (Swanson & Holton III, 2001). Saru (2005) has pointed out that organizational-level learning and development can be facilitated under a clear linkage between corporate strategy and HRD practices. That is to say, organizational learning must be coherent with an organization's design, strategy, structure, and strategic HRD practices and context. Hence, organizational learning not only impacts individual performance but also acts as a moderator in improving variables on organizational performance (Bapuji & Crossan, 2004). In the past, the HRD function has tended to be preoccupied with individual performance and training-dominated activities. Nowadays, strategic HRD practices focus on learning and knowledge creation to enhance individuals' competencies and collaboration within organizations (Harrison & Kessels, 2003). As a result, HRD professionals serve as facilitators in cultivating an organization's learning infrastructure and culture to encourage and promote learning and innovation performance at every level within an organization.

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Problem Statement

The concept of organizational learning has been examined since the 1950's and the base of literature has expanded conceptually, theoretically, and somewhat empirically during the past decades (Dodgson, 1993; Easterby-Smith, 1997; Lipshitz, Popper & Friedman, 2002). However, few studies have investigated the relationship between organizational learning, its antecedents, and specific performance outcome variables empirically. In addition, Lopez, Peon and Ordas (2005) have pointed out that the linkage between organizational learning and innovation performance has been mentioned and assumed in the innovation and organizational learning literature, but little empirical evidence has supported this perspective. Further, there has also been limited research focused on learning processes (Bapuji & Crossan, 2004; Easterby-Smith & Araujo, 1999).

Moreover, the innovation literature has overly focused on organizational-level innovation performance, such as product innovation performance and firm-level entrepreneurship activities, which include strategic renewal, venturing, and innovation (Simsek, 2002; Zahra, 1996). Most prior organizational learning and innovation research has predominantly adopted the firm as the unit of innovation performance analysis and has overly focused on organizational-level innovation performance (Åmo & Kolvereid, 2005). In fact, organizational learning is based on individual-level efforts that contribute to organizational-level innovation performance (Dixon, 1992; Huber, 1991). Further, the organizational learning literature has conceptually and theoretically acknowledged that individual-level learning should be embedded and transferred into organizational-level learning, but the fundamental question of the connection between individual learning and organizational learning still lacks empirical investigation in this field (Antonacopoulou, 2006; Ron, Lipshitz, & Popper, 2006; Saru, 2007). Hence, this paper describes the development of the conceptual framework and hypotheses and extends the current literature by focusing on organizational learning, the antecedent, perceptions of the external environment, and the relationship of organizational learning to innovation performance at both individual and organizational levels.

Therefore, this paper will begin by providing a review of the literature associated with organizational learning and innovation performance and will then introduce the conceptual framework and research hypotheses.

Literature Review and Proposed Hypotheses

To fulfill the intentions of this paper, the researchers used one Midwest research university's library gateway system to access several research databases, including the ABI Inform and EBSCOhost. The researchers used the following keywords to guide searches on the databases: organizational learning, individual innovative behavior, innovation, and innovation performance. Journal articles, research studies, unpublished dissertations and books were reviewed.

Review of the Organizational Learning Literature

The construct of organizational learning has been articulated for more than 40 years, and scholars have acknowledged that the concept was first mentioned by March and Simons in 1958 (Casey, 2005). With the speed of technological change, advances of globalization, and growing corporate competition, the field of organizational learning has grown rapidly in the 1990s (Dodgson, 1993; Easterby-Smith, Snell, & Gherardi, 1998). The concept of organizational learning has not only attracted the attention of scholars from disparate disciplines but also consultants and managers in the business world (Chiva & Alegre, 2005). It is because the concept of learning provides insights to firms that face uncertain and changing circumstances (Dodgson, 1993). However, with the emerging importance of organizational learning, there seems to be little agreement on the definitions, processes, and models in this field (Lundberg, 1995). A consequence of this is that diverse disciplinary perspectives are presented in the literature on organizational learning (Easterby-Smith, 1997). Therefore, Dodgson (1993) has emphasized that it is important to use a multi-disciplinary approach to fully understand the complexity and variety of organizational learning literature.

Easterby-Smith (1997) has identified various disciplines that contribute to organizational learning, including psychology and organization development, management science, sociology and organization theory, strategy, production management, and cultural anthropology. One noticeable debate in the literature is whether scholars should try to move toward a single integrated framework or acknowledge that diverse disciplinary perspectives exist (Easterby-Smith & Araujo, 1999). Since a number of scholars have recognized that there is more than a single framework or model in understanding organizational learning process, researchers have tended to map many facets of organizational learning and developed integrative conceptual frameworks. Lipshitz, Popper, and Friedman (2002) have stressed that organizational learning should be explicated more than the cognitive perspective, which has been a dominant focus in the literature. It is because organizational learning produces and changes the learning in culture, structures, policy, and norms aspects. Hence, Lipshitz, Popper, and Friedman (2002) have integrated five facets: structural, cultural, psychological, policy, and contextual, to build their organizational learning conceptual framework.

In addition, Gnyawali and Stewart (2003) have also argued that the cognitive perspective has been widely recognized in organizational learning models, but little research has examined organizational learning by using a contingency approach. Hence, Gnyawali and Stewart (2003) have adopted the contingency approach in proposing an integrative model of organizational learning, which emphasizes how environmental conditions affect organizational learning processes and result in different types of learning. This conceptual model contains antecedents of organizational learning, modes of learning, and interaction of the modes and resulting types of learning. The antecedents of organizational learning are one's perception of environmental conditions, which include perception of uncertainty and equivocality. This antecedent of organizational learning, perception of the external environment, is similar to Lipshitz, Popper, and Friedman's (2002) contextual facet, which focuses on exogenous factors, such as environmental uncertainty. Gnyawali and Stewart (2003) have suggested that the characteristics of external environment, uncertainty and equivocality, interact with the way an organization learns. In other words, how organizational members perceive the external environment influences organizational learning.

Organizational learning and its antecedents. From the resource-based perspective, an organization learns to develop organizational structures and systems to transform itself to become more adaptive and responsive to changes and jolts in the external environment (Dodgson, 1993; Meyer, 1982). Meyer (1982) has argued that such environmental jolts are a good opportunity for an organization to learn to deal with crisis. In other words, an organization improves performance and readjusts itself to the dynamic environment through the learning process. Also Gnyawali and Stewart's (2003) contingency perspective delineates how one's mental model towards environmental change and the organization's information processing are key concepts which have been elaborated in the early organizational learning literature, such as Daft and Weick (1984). These early organizational learning contributions have viewed an organization as an interpretation system of its environment. Daft and Weick (1984) have proposed that organizations, as open systems, rely on the interpretation formulated by organization and individuals, especially the top managers. The organizational interpretation is analogous to an individual's learning. An organization's overall interpretation functions as the information processing system with three stages: scanning, interpretation, and learning. Researchers have suggested that how individuals interpret the external environment influences organizational learning (Daft & Weick, 1984; Gnyawali & Stewart, 2003; García-Morales, Llorens-Montes, & Verdú-Jover, 2006). However, such conceptual propositions in how members within an organization perceive the external environment and its influence on organizational learning have not been investigated empirically. Therefore, when the external environment is perceived as an uncertain and complex system, organizational learning is generated.

Hypothesis 1-1: Perceptions of the external environment (as uncertain and complex) and organizational learning activities will be positively correlated.

Organizational learning and its outcomes. Bapuji and Crossan (2004) have indicated that there has been exponential growth in the organizational learning literature through the 1990s. Despite the growing popularity of the term, organizational learning, most literature has been focused conceptually and there has been relatively limited empirical research. Scholars in the organizational learning field have acknowledged the limited empirical research in examining organizational learning conceptual frameworks and models (Easterby-Smith & Araujo, 1999; Huber, 1991; Tsang, 1997; Dyck, Starke, Mischke, & Mauws, 2005). Most researchers have focused on the theoretical side of explaining organizational learning (Saru, 2005). Easterby-Smith and Araujo (1999) have pointed out that learning is a complex process with many potential levels to investigate empirically, and that is why researchers tend to focus on theory development. Vince, Sutcliffe, and Olivera (2002) have acknowledged that the lack of theoretical coherence and the fragmented nature of this field discourage researchers from pursuing larger scale empirical tests. Moreover, Santos-Vijande, Sanzo-Pérez, Álvarez-González, and Vázquez-Casielles' (2005) have indicated that it is difficult to develop a quantitative measurement of organizational learning. Therefore, as a result of limited available instrumentation, scholars have expressed concern about the insufficient empirical research.

Although the number of empirical studies is limited, there has been a substantial growth recently and the number of citations has demonstrated the high impact of the growing base of empirical work (Bapuji & Crossan, 2004). Bontis, Crossan, and Hulland (2002) have acknowledged that the relationship between organizational learning and performance has been referred to conceptually in the literature, but the nature of this phenomenon has not been fully explicated empirically. Scholars have investigated the relationship between organizational learning and particular phenomenon, business strategic performance, and market orientation. For example, from the marketing perspective, Hult's (1998) empirical study has indicated that the market-driven organizational learning strategy helps domestic and international strategic business units improve customer satisfaction and commitments. In addition, empirical research has shown that organizational learning has a positive effect on a firm's purchasing information processing and has a positive impact on the fast cycle time purchasing process (Hult, Hurley, Giunipero, & Nichols Jr, 2000). In other words, current empirical research has tried to use organizational learning as a

moderator variable to explain organizational performance (Bapuji & Crossan, 2004). Bontis, Crossan, and Hulland's (2002) empirical study has demonstrated that organizational learning at all levels has a positive impact on business performance. In addition, Lopez, Peon, and Ordas' (2005) empirical study has pointed out that organizational learning positively contributes to business financial performance and innovation. Therefore, the linkage between organizational learning and performance has not only been mentioned and assumed in literature but also has been supported with some empirical evidence. Yet, despite some of the limited empirical evidence, there is a compelling need to continue building the base of empirical research on organizational learning and performance outcomes that extend beyond business and financial performance to include other performance outcomes such as innovation performance, at both the individual and organizational levels. Innovation performance is considered to be a critical competitive advantage and has been recognized as an important current trend in HRD field, particularly from the strategic HRD perspective (Chapman & Hyland, 2004; George, Zahra, Wheatley, & Khan, 2001; Hamel & Prahalad, 1991; Vakola, 2000). Limited attention has been given to examining innovation performance from an organizational learning perspective.

Review of the Innovation Performance Literature

Since the industrial revolution, innovation has been considered as a kind of activity that advances economic growth (Heffner, 2006). Innovation is often characterized as a kind of "capital" for the organization and has been broadly defined as "an idea, a product, or process, system or device that is perceived to be new to an individual, a group of people or firms, an industrial sector or a society as a whole" (Rogers, 1995, p. 276). That is, innovation has been viewed as a method to sustain competitive advantage since the beginning of the industrial revolution (Prajogo & Ahmed, 2006). Based on a review of the literature, organizational learning is the critical competitive advantage in small and medium enterprises that serve as sources of strategic renewal and innovation (Jones & Macpherson, 2005; Saru, 2007). In other words, organizational learning can be described as an approach to foster innovation.

Barney (1991) has summarized two main streams of strategic analysis on innovation and competitive advantage. One is Porter's (1980) "five forces analysis" model, and the other is the resource-based view. Porter (1980) has proposed the "five forces analysis," which explains how industry external environment affects organization strategy for innovation and competitive advantage. Compared to Porter's (1980) five forces analysis, the resource-based view highlights that it is an organization's internal capacity and resources that have an influence on innovation and competitive advantage strategies thus differentiating performance. In other words, the differences on each organization's innovation performance can be explained by its own internal resources. According to resource-based view, internal resources are valuable to an organization to the degree that they are scarce, in demand, and appropriable (Collis & Montgomery, 1995). For example, the extent of valuable assets or resources an organization possesses determines its innovation performance. In addition, an organization's resources should satisfy these requirements to ensure the internal resources can form the competitive advantages that differ from other competitors. As Prajogo and Ahmed (2006) have stated, the second stream of innovation studies focus on human aspects that lead to innovation. Kanter (1984) has stressed that innovation is not only merely defined as technological innovation but also organizational learning and change processes in supporting and stimulating innovations. The vast body of literature on human factors puts emphasis on HRD related issues, such as organization development and training and development. The resource-based view is a theoretical perspective that has been used often to explain the importance of innovation capacity and performance in today's HRD practices. Based on the resource-based view, an organization's innovation performance is rooted in the human capital embedded in it that cannot be replicated and transferred (Huang & Lin, 2006). In other words, an organization with the most advanced technology but one that is lacking talented employees still cannot perform and conduct innovative projects. Therefore, the term innovation performance is closely connected to HRD practices, such as organizational learning.

Units of innovation performance analysis. Glynn (1996) has argued that individual-level innovative behavior acts as an antecedent of the organizational innovation. An organization with sufficient individual-level creative ideas of innovation may enhance the organization's intelligences to develop innovation. In other words, an organization's organizational-level innovation processes and mechanism relies on its members' innovative mechanism (Bharadwaj & Menon, 2000). However, compared to the research history of organizational innovation, the history of individual innovative behavior is relatively short (Zhou & Shalley, 2003). The vast body of innovation literature has used the firm or organization as the unit of analysis with a lack of substantial literature on elaborating the importance of individual innovative behavior within the organization (Åmo & Kolvareid, 2005). As a result, the conceptual framework has embedded both individual-level and organizational-level innovation performance to address the concept of innovation performance.

Hypothesis 1-2a: Organizational learning activities will be positively associated with individual-level innovation performance.

Hypothesis 1-2b: Organizational learning activities will be positively associated with organizational-level

innovation performance.

Individual-level innovation performance. The term innovation and creativity at the individual-level are sometimes used interchangeably (Scott & Bruce, 1994). Åmo and Kolvereid (2005) have defined individual innovative behavior as “an initiative from employees concerning the introduction of new processes, new products, new markets or combinations of such into the organization” (p. 8). The initiative of innovative behavior could be inspired by the organizational learning mechanism, the external environment change, and the individual characteristics (Åmo & Kolvereid, 2005; Glynn, 1996). In other words, individual factors and organizational factors are two key factors influencing the individual-level innovation performance. In Scott and Bruce’s (1994) individual’s innovative behavior conceptual model, not only the individual’s attitudes but also the organizational management practices influence the psychological climate for innovation that further affects individual innovative behavior. Also Glynn (1996) has articulated a conceptual framework of organizational learning, in which the connections between the individual innovative behaviors and organizational innovation is influenced by the organizational conditions that enable innovation. That is, an organizational innovation occurs under the conditions that enable individual-level innovation to transfer and contribute to the organization. For example, an organization with adequate learning resources and supports, such as encouraging knowledge sharing, will enable and motivate an individual to explicate his or her innovative ideas to other organization members to generate and speed organizational innovation. Moreover, Scott and Bruce (1994) have argued that innovative organizations are those that support their members in implementing and pursuing innovation. Therefore, an organization with a commitment to innovation may stimulate and support organizational members to initiate innovation performance.

Organizational-level innovation performance. Most prior organizational learning research has predominantly adopted the firm or organization as the unit of innovation performance analysis (Åmo& Kolvereid, 2005). In fact, organizational learning is based on individual-level efforts that to contribute to organizational-level innovation performance (Dixon, 1992; Huber, 1991). The organizational learning literature is primarily underpinned by the concept that individual-level efforts may contribute to organizational-level performance (Dixon, 1992; Huber, 1991; Ron, Lipshitz, and Popper, 2006). Also researchers have applied individual learning theories, such as cognitive psychology theory or behavior theory as the fundamental basis to build the organizational learning constructs. Without the individual’s focus and intention towards the new opportunity and innovative information, an organization would have difficulty to achieve and initiate entrepreneurial activities. Although the sum of the individuals’ innovative behavior might not equal organization-level innovation performance, organizational-level innovation performance is based on its members’ innovative behaviors. As a result, individual-level innovation performance has positive impact on organizational-level innovation performance.

Hypothesis 2a: Individual-level innovation performance will be positively associated with organizational-level innovation performance.

Hypothesis 2b: Organizational-level innovation performance will be positively associated with individual-level innovation performance.

Conceptual Framework

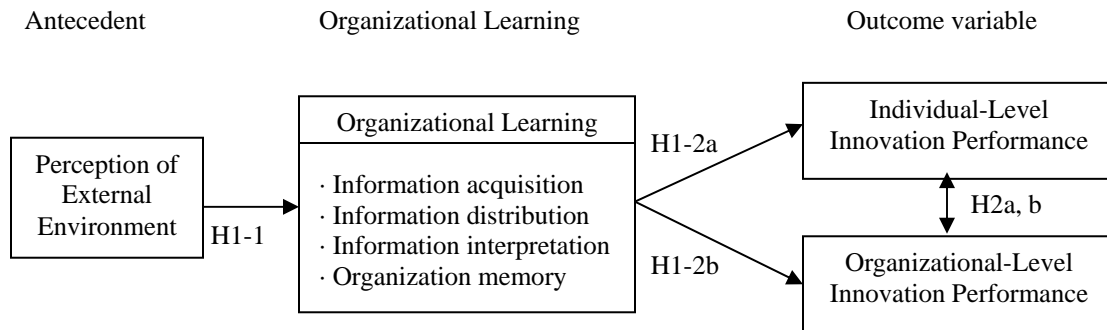


Figure 1. Conceptual Framework

Based on the reviews of organizational learning and innovation performance literatures, we have proposed Figure 1 to represent the conceptual framework from which the above research hypotheses have been developed. Grounded upon and informed by Huber (1991), Dixon (1992), and Gnyawali and Stewart’s (2003) organizational conceptual frameworks, the researchers have developed the framework to included organizational learning, its antecedent,

perception of external environment, and individual and organization-level innovation performance as the outcome variables. The organizational learning process contains four sub-processes: information acquisition, information distribution, information interpretation, and organization memory.

Future Research and Implications for Practice in the HRD Field

The testing of this conceptual framework will make contributions to the scholarly literature by advancing the limited empirical research on organizational learning and innovation performance by examining the antecedent, perceptions of external environment, of organizational learning and the linkage between organizational learning processes and individual-level and organization-level innovation performance. Not only is it anticipated that the findings will extend the literature in these unique ways, but will also offer the potential to further validate an instrument that measures organizational learning processes. Since instrumentation is limited in the field of organizational learning, offering a validated measure of organizational learning processes may also stimulate future research on organizational learning. In addition to the organizational learning antecedent and outcome variables included in the proposed conceptual framework, future research can embed other moderating or facilitating factors in this framework, such as entrepreneurial opportunity recognition. For other researchers, this conceptual model can serve as a foundational conceptual framework for other empirical studies. For example, future empirical research examining organizational learning can focus on samples that are drawn from industries or organizational settings in competitive and rapidly changing industrial environments, for example, the high technology industry, where innovation and learning are critical and possibly more pervasive than other industry settings. Perceptions about the external environment may provide insights and information flows for organizations to keep up with technological advances, new markets and customers' needs.

From a pragmatic perspective, learning at the individual, group, and organization levels is becoming a critical imperative in organizations and HRD professionals are being challenged to become strategic business partners that can impact learning and change to improve performance and enhance organizational functioning in a competitive global business environment. HRD professionals' understanding of how to maximize such learning may enable HRD professionals, who may provide internal or contract services to organizations, to engage at more strategic levels to promote learning and innovation performance at both individual and firm-levels in the organizations. Furthermore, understanding how perceptions of the environment influence organizational learning may promote the importance of environmental scanning and may encourage organizations to develop systems and practices that encourage organizational members to become more aware of the external environment and the threats and opportunities for the organization that such awareness may foster. Moreover, understanding how organizational learning processes enhance organizational performance, specifically innovation performance, may enable HRD professionals to improve specific organizational learning practices within their respective organizations. More specifically, HRD professionals' understanding of the relative importance of these four organizational learning subprocesses may provide them with practical knowledge in creating or adapting related learning infrastructures and improving upon practices to effectively guide and foster organizational learning processes. For example, improving upon systems and structures that strengthen information distribution and interpretation may augment organizational learning.

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