Received 31 July 2014
Revised 30 July 2015
Accepted 7 August 2015

Strategic learning capability: through the lens of environmental jolts

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Abstract

Purpose – This paper aims to deepen the understanding of strategic learning through the lens of environmental jolts.

Design/methodology/approach – Strategic learning is explained from the three paradigms of organizational learning.

Findings – Organizational learning provides a firm foundation to develop and elaborate the concept of strategic learning that can help organizations gain competitive advantage and adaptive capability.

Research limitations/implications – Alan Meyer's environmental jolt model is meaningful in that it is derived from stimulus–response model, which still explains important aspects of strategic learning.

Practical implications – Embedding a strategic learning capability will help organizations development fit with external environments.

Originality/value – This paper enlightens strategic learning as a Model II learning at the system level from a stimulus-response mechanism and opens up new possibilities of incorporating higher-order capability.

Keywords Strategic learning, Organizational learning, Environmental jolts, Strategic learning capability

Paper type Conceptual paper

Strategic learning is a powerful force for market pioneering (Garrett *et al.*, 2009), exploiting strategic opportunities and generating new alternative practices (March, 1991). Scholars (Casey and Goldman, 2010; Nicolaides and Yorks, 2009; Sloan, 2006) frame learning to think strategically grounded in experiential learning and meaning making at the individual level. Sadler-Smith (2008) emphasizes the development of shared meaning and intuition in collective learning. Although scholars (Crossan and Berdrow, 2003; de Geus, 1988; Kenny, 2006; Leavy, 1998; Mintzberg, 1987a, 1987b; Voronov, 2008) have tried to connect organizational learning with strategy, it is still in demand in the field of strategic management, and there is no agreed upon theory of organizational learning (Crossan *et al.*, 2011). Bierly and Hamalainen (1995) point out that even though attempts to integrate organizational learning into strategy have not been successful, scholarly efforts continue to be made to link the two. Theory development has not been valued in the field of organizational learning due to the lack of its usefulness, and organizational learning has been criticized for lack of theoretical

European Journal of Training and Development
Vol. 39 No. 7, 2015
pp. 628-640

2046-9012
DOI 10.1108/EJTD-07-2014-0055

integration (Prange, 1999). Huber (1991, p. 107) reports that organizational learning researchers seldom use "the results from the previous research to design or interpret their own research". Yet, organizational learning theory, as organizational phenomenon (Cyert and March, 1963), it is worth further extension of the theory. Therefore, integrating the organizational learning theory with strategic learning theory and applying it to the modern society is important for continuous theory development. This paper examines the theory development of strategic learning, focusing on how it integrates with organizational learning and how best to interpret strategic learning from the lens of Meyer's (1982) environmental jolts.

Strategic learning

Strategic learning is situated in the strategy development process of reinventing strategy, which allows continuous renewal of strategic knowledge in constant change at the organizational and system levels (Pietersen, 2002, 2010). Strategic learning involves "altering the fundamental sensemaking and knowledge management structures of the organization in potentially radical ways", which implies the possibility of double-loop learning (Thomas *et al.*, 2001, p. 332). As Mintzberg (1987a, p. 70) has noted, successful strategies are delivered with "flexibility and organizational learning".

Scholars indicate characteristics of strategic learning as possibilities of Model II learning (Thomas *et al.*, 2001), proactively learning for future uncertainties (de Geus, 1988) and learning at the system level (Pietersen, 2002, 2010) in that it accompanies higher-order capabilities.

Through strategic learning, organizations can build the capacity to prepare proactively for future uncertainties (de Geus, 1988). Slater *et al.* (2006) assume that the strategy formation capability might be a dynamic capability that helps organizations gain competitive advantage. Siren (2012, p. 497) indicates:

> […] strategic learning is a specific learning capability that enables top management to continuously integrate organization-wide experiences and knowledge into strategies that enable companies to cope with growing discontinuities and disruptions.

Accordingly, strategic learning involves an organizational learning process that has mechanisms to build strategic behavior and knowledge (Kuwada, 1998; Siren, 2012; Thomas *et al.*, 2001). The aforementioned literature (i.e. organizational learning literature) provides a foundation for strategic learning. Organizations learn in response to changes. Moreover, organizations are systems of interaction between individuals (Simon, 1991; Watkins and Golembiewski, 1995), and individuals learn through the system and in the system. Organizations interpret information and store it in organizational systems, which can be used for organizational learning and decision making (Daft and Weick, 1984; Huber, 1991).

Strategic learning capability can be understood from the dynamic capability perspective. Ali *et al.* (2010, p. 370) believe that dynamic capabilities can "enable a firm to renew constantly these substantive or functional competencies to achieve long-term competitive advantage". Organizations with dynamic capabilities can integrate, build and reconfigure internal and external competences to address rapidly changing environments (Teece *et al.*, 1997, p. 516). Moon *et al.* (2014) define strategic learning capability as the organization's capacity to retool rapidly to create and execute new

strategy through learning at the individual and system levels in response to changes and uncertainties in complex environments.

Organizational learning

Organizational learning can be defined in multiple ways depending on how the organization is defined. If an organization is a group of individuals, does that indicate that it has a capacity to think, experiment and learn? Is an organization a culture consisting of beliefs, values, languages and cognitive constructs?

Learning in organizations has been, and still is, important in the field of strategic management. Organizational learning has supported the success of an organization via organizing, learning and strategizing (Hedberg and Wolff, 2001) and has evolved as the practices of management have changed. Organizational learning literature offers a framework to examine how an organization learns. Whether organizations learn through individuals by informal and incidental learning (Marsick and Watkins, 1990) and situated learning (Brown and Deguid, 1989; Lave and Wenger, 1991) or organizations learn by themselves is a matter of constant debate. An organization learns through individuals, but individual learning does not guarantee organizational learning. Organizational learning is more than the sum of individual learning (Argyris and Schon, 1978, 1996; Fiol and Lyles, 1985; Senge, 1990; Marsick and Watkins, 1999), as it incorporates an organizational capacity to respond quickly to a rapidly changing environment by enhancing learning in a collaborative way (Marsick and Watkins, 1999). Even if organization members leave the organizations, their knowledge stays with the organizations because individual knowledge is already embedded in the organizations as an organizational memory.

Learning entity

Unlike the individual learning process, the organizational learning process is collaborative and connected to various organizational factors such as the organization's routines, standard operating procedures, its products and processes, its technologies, layout and structures and its culture. Whether individual learning can be amplified into organizational learning has been discussed in the literature. An integrative approach of learning in individuals, groups and organizations through *intuiting*, *interpreting*, *integrating and institutionalizing*, which was developed by Crossan *et al.* (1995), well traces individual learning that becomes embedded in organizational systems and culture, and vice versa.

Organizational learning is most closely associated with management's learning paradigm, which stresses that organizations are systems that support multiple levels of learning. The focus is on learning, whether it is an individual, a group, an organization or a society. If the entity is an organization, the learning process is systematic and mechanical, which indicates learning occurs via logistical processes (Huber, 1991). Organizations learn through available resources, the information processing capabilities and the preference axioms of rationality; thus, organizations make constant efforts to "improve the informational and analytical basis for organizational action and to develop consistent, stable organizational objectives" (Levinthal and March, 1993, p. 96). Individuals are involved in the learning, but the focus is not on their learning but rather on the organization's.

Organizational memory

As the organization is a learning entity, the concept of organizational memory (Daft and Weick, 1984) applies to a specific case that even if individuals leave an organization, the organization memorizes tacit and explicit knowledge, which becomes the foundation for the future of the organization (Hedberg and Wolff, 2001). For example, one of the fast food franchises introduced a new deep-dish pizza at their pizza stores, but all of the stores faced the problem of how to distribute the pepperoni evenly over the pizzas. After experimenting several times to solve the problem, one successful method was implemented – distributing the pepperoni on the pizza before it was cooked in "a pattern that resembled spokes on a wheel" (Argote, 1999, p. 71). This turned out to be an effective solution to the problem. This new knowledge became embedded in the organizational routine and diffused to virtually all the franchises. Once the process of learning is institutionalized, organizations can continue learning through individuals and groups.

Organizational learning as information processing

Huber (1991) elaborates four constructs that are linked to organizational learning: knowledge acquisition, information distribution, information interpretation and organizational memory. Huber's (1991) perspective of organizational learning is grounded in three assumptions:

(1) organizations learn when any of their units seek knowledge for their potential benefit;

(2) organizations learn when more organizational components require knowledge; and

(3) organizations learn when various ideas are developed around this knowledge across units.

In contrast to shared understanding of this knowledge, Huber (1991) values various interpretations of the information. Information acquisition is carried out through congenital learning, vicarious learning and grafting.

Organizational learning as knowledge creation

Knowledge is an outcome of organizational learning, and it is significant in understanding how organizational learning contributes to creating knowledge (Nonaka, 1994). March (1991) makes a distinction between two types of organizational learning: exploitation and exploration. Exploitation includes making full use of and deriving benefit from a resource such as "refinement, choice, production, efficiency, selection implementation, [and] execution" (p. 71). Exploration includes the action of traveling in or through an unfamiliar area to learn about it, such as "search, variation, risk taking, experimentation, play, flexibility, discovery, [and] innovation" (p. 71). These types of organizational learning occur in knowledge-based or knowledge-seeking activities. In Argyris and Schon's classification, single-loop learning promotes similar activities in different ways, whereas double-loop learning triggers metalevel changes that incorporate radical remodeling and innovative responses (Hedberg and Wolff, 2001).

Knowledge creation is a practical representation of organizational learning with systemic support of technology. Argote (1999) identified organizational learning processes as sharing, generating, evaluating and combining knowledge. Not every organization follows the same process for learning, and various knowledge creation

processes exist, but tacit or explicit knowledge is involved in the learning through the meaning-making process of individuals' interaction (Spender, 1996). The important finding from the process is that learning requires new knowledge among members.

Theoretical understanding of definitions

The concept of organizational learning was first introduced by March and Simon, 1958 (Casey, 2005) and was further developed in the late 1970s by Chris Argyris, but the field of organizational learning has grown rapidly since the 1990s. Argyris and Schon (1978, p. 29) clearly stated how organizational learning takes place:

> Organizational learning occurs when members of the organization act as learning agents for the organization, responding to changes in the internal and external environments of the organization by detecting and correcting errors in the organizational theory-in-use, and embedding the results of their inquiry in private images and shared maps of organization.

A single-loop learning process is adaptive and takes place in the processes of a learning system, which is framed in a theory of action, but a double-loop learning process includes defining situations, questioning stimuli and assembling responses, which is framed in a theory-in-use (Hedberg and Wolff, 2001).

Organizational learning process can be understood as a problem-solving process, informal and incidental learning (Marsick and Watkins, 1990) and experiential learning (Kolb, 1984, 2002). Informal and incidental learning is based on the theory of action (Argyris and Schon, 1978) in that individuals learn through the problem-solving process, and they use their experiences and memories to solve the problem. However, individual learning theories can only partially explain organizational learning at the individual level. From the knowledge management perspective, we have also learned that organizations preserve knowledge, behaviors, mental maps, norms and values via knowledge sharing so that learning continues regardless of individual turnover (Daft and Weick, 1984). Situated learning (Lave and Wenger, 1991) and community of practice (CoP) also support this notion, but situated learning is still more self-directed and individual-focused than organizational learning; thus, a more systemic approach is needed.

According to Fiol and Lyles (1985, p. 803), organizational learning involves "the process of improving actions through better knowledge and understanding", which includes the content and levels of learning. The content of learning is defined as "the behavioral outcomes that reflect the patterns and/or cognitive associations that have developed" (Duncan and Weick, 1979 as cited in Fiol and Lyles, 1985, p. 806). The levels of learning have been described as two general levels – lower- and higher-level learning (e.g. single-loop and double-loop). The lower-level single-loop learning is the repetition of past behaviors in that learning is based on routines and temporary problems. The higher-level double-loop learning is the development of complex rules and associations regarding new actions. The various frameworks and definitions of organizational learning are summarized in Table I.

Two interesting aspects of organizational learning were unveiled in the review of literature – cognition and behavior change. Organizational learning as adaptive processes (Fiol and Lyles, 1985; March, 1991) includes the occurrence of behavior change to improve performance, whereas organizational learning as knowledge creation (Argote 1999; Nonaka, 1994) includes creating, sharing and embedding knowledge. Drawing on the Darwinian evolutionary perspective (Nair, 2001), organizational

Table I.
Definitions of organizational learning

Scholars	Frameworks/typology	Definitions
Argyris and Schon (1978)	Single-loop, double-loop and deuteron-learning Theory of action/theory-in-use Stimulus/response	Organizational learning is composed of single-loop and double-loop learning. This fundamental learning loop is one in which individuals act from organizational theory-in-use, which leads to the match or mismatch of expectations with outcome and thence to confirmation of disconfirmation of organizational theory-in-use (p. 18)
Crossan *et al.* (1995)	Four processes: intuiting, interpreting, integrating and institutionalizing	Organizational learning is defined as "a process of institutionalization, in which the learning becomes embedded in the design of the systems, structures, and procedures of the organization" (p. 347)
Daft and Weick (1984)	Organizational memory	Organizational learning is interpreted as organizational memory. Individuals come and go, but organizations preserve knowledge, behaviors, mental maps, norms and values over time. The distinctive feature of organization-level information activity is sharing
Duncan and Weiss (1979)	N/A	Learning is "the process within the organization by which knowledge about action-outcome relationships and the effect of the environment on these relationships is developed" (p. 84)
Fiol and Lyles (1985)	Organizational adaptation	Organizational learning is composed of the content of learning and levels of learning–which involves "the process of improving actions through better knowledge and understanding" (p. 803)
March (1991)	Exploration and exploitation Stimulus/response	Organizational learning is defined as an adaptation process The decision-making process: adaptation of goals, adaptation in attention rules and adaptation in search rules
Nair (2001)	Four phases–problem, conceptualization, action and evaluation	Learning is based on the learning and experience curve effect or "facilitating organizational processes of adaptation and growth, and development and sustenance of competitiveness" (p. 506)
Nevis *et al.* (1995)	Learning system/learning organization	Organizational learning is illustrated as "the capacity or processes within an organization to maintain or improve performance based on experience" (p. 2)
Weick (1991)	Organizational response systems	"Individual learning occurs when people give a different response to the same stimulus, but organizational learning occurs when groups of people give the same response to different stimuli" (p. 121)

learning has been interpreted as a changing process in which the entire organization or its components adapt themselves by selectively adopting organizational routines (Argyris, 1999). From a cognitive perspective, change can be part of learning, but learning means more than behavior change, which implies that learning does not always lead to observable changes in behavior (Huber, 1991; Weick, 1991). As behavior change does not need understanding, though individuals learn new knowledge as a learning outcome, it does not always lead to real action plans.

Adapting to environmental jolts

Organizational learning theories have changed and shifted their focus from stimulus-organizational response, information processing and knowledge creation (Casey, 2005; Nair, 2001).

Scholars have discussed organizational learning from the stimulus-response approach (Argyris and Schon, 1978; Hedberg and Wolff, 2001; March, 1991; Meyer, 1982; Weick, 1991). The stimulus-response model plays an important role in organizational learning. Weick (1991) introduces four types of combinations of stimulus and response (e.g. same-same, different-different, different-same and same-different) and further explains that same-different may occur for reasons other than learning.

Meyer (1982) offers a model of organizational adaptation to jolts, which explains how organizations go through the theory of action and an organizational response during the period of environmental jolts. When there is a trigger from the environment, organizations interpret the stimuli and select strategies and ideologies, which reflect the theory of action. On the other hand, the slack – "a disparity between the resources available to the organization and the payments required to maintain the coalition" (Cyert and March, 1963, p. 36) – and the structure – "the formal system of work roles and authority relationships that govern how associates and managers interact with one another" (Hitt *et al.*, 2011, p. 487) – that hold embedded behavior repertoires influence the organizational response.

As part of the adaptation to jolts, one of two responses occurs – organizations absorb the stimulus and rebound to their original states (e.g. resilience, single-loop learning, incremental learning and different-same response), or organizations modify the theory of action and lead change (e.g. retention, double-loop learning, transformational learning and different–different response). Weick (1991) points out that new learning does not occur when the pattern *different–same* occurs, which means organizations tend to behave in the old way. This is the most common sequence in organizations, and organizational learning occurs through routines. For an organization to learn, should the stimulus situation be stabilized cognitively or by action? Weick (1991) suggests that when strong cultures are embedded or persistent enactment is maintained, learning occurs but varies depending on the routines, not the degree of stimulus. If an organization has developed weak routines, a discretionary response occurs, but strong routines bring experimentation. Therefore, Hedberg *et al.* (1976) point out that the pattern of *different–same* can actually involve dynamics that reinforce the efforts to undo or operate new and "deviating stimuli".

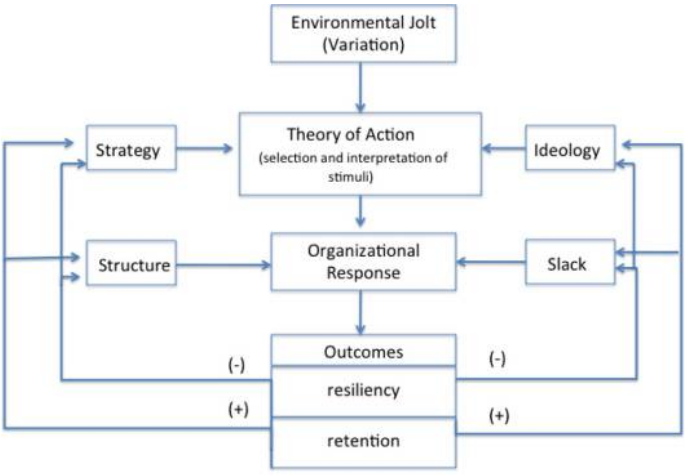
In terms of the *same–different* response, learning might not occur, but strategy might initiate creating a different response. To behave differently, strategy is the key, but organizations struggle to create conditions for learning in this case. As a result of Meyer's (1982) empirical study, among the four factors – strategies, ideologies,

structures and the slack resources – that hypothetically influence organization's adaptation, only ideological and strategic variables predicted adaptations to jolts (Meyer, 1982). In short, entrepreneurial strategies and adaptive ideologies enhance learning during the jolts, whereas rigid structure hinders learning, but learning is enhanced in the decentralized structure. Slack resources such as people and technology work as the cushion to absorb the impact. Organizations that undergo incremental learning and transformational learning survive somehow through environmental jolts (Figure 1).

Understanding strategic learning capability through an organizational learning framework

As the field of strategy paid attention to strategy as a process, the organizational learning perspective gained attention in the strategy realm (Hedberg and Wolff, 2001). Scholars (Bierly and Hamalainen, 1995) point out the importance of incorporating a strategic perspective into organizational learning.

Meyer's (1982) environmental jolt model provides the empirically tested model that depicts organizational adaptation from the stimulus-response perspective, and how an organization select the type of organizational learning through its interpretation mechanism. An environmental jolt was explained as the stimulus from the external environment. Theory of action represents the selection and interpretation of the stimuli. Strategic learning capability can be explained as the adaptive mechanism that receives the stimulus and processes it before taking any action. The notion of complex adaptive system is not relatively new in organizational learning, which describes the organizational phenomenon as learning in complexities (Chiva-Gómez, 2003). Strategic learning capability decides the level of learning that organizations will adopt that includes Model I (single-loop learning) or Model II learning (double-loop learning). From dynamic capability perspective, it allows firms to adapt to fast-changing environments (Teece *et al.*, 1997).



Source: Meyer (1982)

Figure 1.
Environmental jolt

As scholars (Hedberg and Wolff, 2001) emphasize the notion of strategizing through organizational learning, strategic learning capability plays an important role in terms of interpreting macro-environment (Andrews and Smith, 1996), industry and competitors and learning from them. In addition, strategic learning capability translates and operationalizes strategy to engage the organizational system and workforce (Garavan, 2007).

Whether to exploit or explore relies on the types and the impacts of the stimulus (Meyer, 1982) and how it is interpreted through strategic learning capability. An organization can decide to earn a living for a short period or create the new pattern of activity (Winter, 2003).

Organizational strategic learning capability helps selecting the type of organizational mode that is either single-loop (e.g. Model I learning) or double-loop learning (e.g. Model II learning). The alignment of organizational design and culture with organizational capabilities helps organizations perform effectively (Beer *et al.*, 2005). In introducing organizational fit, these scholars underlined achieving fit with the external environment and fit between internal organizational components.

Strategic learning incorporates Models I and II learning depending on the level of learning intensity required from the business environment to address the strategic goals (Argyris, 1993). Model I learning is composed of sensible activities that enhance an organization's position in its current state, but it cannot substitute for the Model II learning of "new routines and strategies" (Levinthal and March, 1993, p. 101). The ways in which organizations learn during transformation require Model II learning. Organizations are meaning systems beyond transformation systems and control systems in that making meaning among individuals can occur via different types of communication channels, such as informal organizational meetings, etc. (Daft and Weick, 1984) (Figure 2).

Conclusions, implications and recommendations

This manuscript elaborates the idea of strategic learning capability based on the Meyer's environmental jolt model. Strategic learning is informed by the organizational learning literature. Organizational learning models and processes (Argote, 1999; Casey, 2005; Nevis *et al.*, 1995; Huber, 1991) that illustrate how organizations create, share and

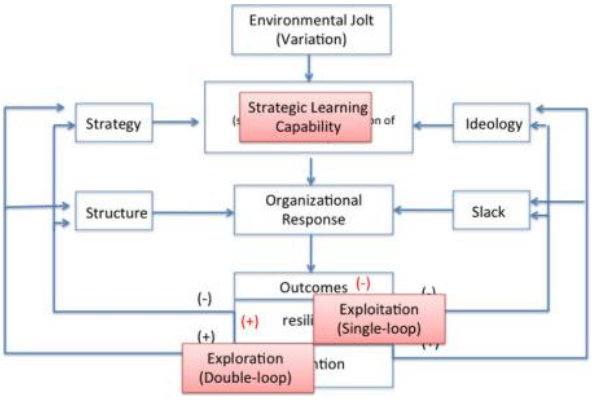


Figure 2.
Strategic learning capability

combine knowledge explicate strategic learning processes to generate and implement strategic knowledge. Strategic knowledge triggers organizational learning which creates organizational routines (Ali *et al.*, 2010). Also important to strategic learning capability is a deeper understanding of stimulus–organizational response (Argyris and Schon, 1978; Hedberg and Wolff, 2001; March, 1991; Meyer, 1982; Weick, 1991), information processing (Huber, 1991), and knowledge creation (Argote, 1999; Nonaka, 1994). Organizations must interpret the stimuli to decide whether to exploit or explore.

We have reviewed strategic learning from a framework of organizational learning. Strategic learning incorporates the organizational learning paradigm that draws from stimulus-response, and it finds its best fit to optimize organizational strategy. Strategic learning can be explored from the perspective of dynamic capability that will bring an integrative approach to understand the theory (Teece *et al.*, 1997). Scholars (Beer *et al.*, 2005) suggest developing fit and alignment with external environments through building an organizational capacity. The focus is whether an organization can create an inimitable strategy and implement the strategy successfully through strategic learning. Strategic learning enhances creating strategic knowledge and organizational change that can help organizations gain competitive advantage and develop long-term adaptability (Kuwada, 1998). Therefore, scholars and practitioners will continue to investigate how to foster strategic learning and build strategic learning capability. We will examine more closely the way in which organizational learning literature provides profound theoretical frameworks (Argyris and Schon, 1978; March, 1991; Fiol and Lyles, 1985) for strategic learning. This study is meaningful in that it attempts to review the classical organizational learning model and draw findings to understand the fairly new concept, which is strategic learning capability.

Future research can further conceptualize and theorize strategic learning and its capability grounded in organizational learning, its models and dynamic capability.

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