

Conceptualizing Organizational Learning System Model and Innovativeness

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Abstract

The link between organizational learning, organizational innovativeness and performance is very profound in the literature. Organizational Learning Systems Model (OLSM) focuses on organizational learning as a social organization and how it learns to exist in the surroundings. Emphasis on organization learning based like Parsons general theory of social action has linked performance and learning element in order to evaluate organizational performance. The Organizational Learning Systems Model (OLSM) grounded from Parsonian social system perspective which is active in nature help identifies the importance of working and learning process of adjustment. Organizational learning here is drawn from behavioural dimensions; acquiring knowledge, distributing and interpreting data, and organizational memory. Evidence has indicated that organizational performance increases when learning happens in an organization. Organizational innovativeness has shown the relationship with learning. This subject tries to evaluate the relationship between organizational learning systems model, organizational innovativeness that leads to positive output for the system.

Keywords: Organizational Learning System Model, Organizational Learning, Organizational Innovativeness

1.0 Overview

There have been many studies relating Schwandt's learning systems model in studies relating knowledge management, innovation, learning capacities and also information technology. Looking into the analogy that every learning accompanied by actions or performance, this research emphasis on how may these actions significantly affectservice quality performance. The Organizational Learning System Model (OLSM)created by Schwandt's aim to give a continuous solution towards learning and performance from a theoretical perspective. The organizational learning here acts as an action based which involves organization as social organization where employees work collectively, share experience and cognition. When learning action takes place, action in the form of performance happens simultaneously. Thus, both learning and performance make ends meet in the form of collective action in organizations. The Schwandt Learning Systems Model meant to be applied specifically perspective on the important dimension as organizational learning, innovation and performance. Organizational learning is seen as a system that able to transform information into valuable knowledge through its actions, actors, symbols and process for a long term sustainability of an organization (Johnson & Bailey, 2010: 7; Schwandt & Marquardt, 2000).

It consists of individual learning attributes which learning is an ongoing change. The nature and extent of changes is important to see whether learning has occurred (Spector & Davidson, 2006). Collective learning process involves all actors in the organization (Stiofán Deburca, 2000).

Further to this, numerous literature found organizational success does not work alone when comes to business performance. There are several factors or aspects that lead to organisational sustainability and success. This survey seeks to distinguish the important contribution of reading as a social system and the liaison with the sustainability intervention, that is innovation This concept is functioning with the relation of innovation in organizations. Studies found innovation increases in a learning organisation. (Hult, et al.,2004; Camisón & Villar-lopez, 2011;Calantone et al., 2002).

Past literatures indicate organizational innovativeness has shown mediating role and establish relationship with quality performance. Many literatures support innovation as a beginning of competitive advantage, however little research done along the organizational learning and organizational innovativeness relationship (Jiménez, 2008) though there are positive relationships found between and organizational innovativeness (Vakola&Rezqui, 2000). Additionally, organizational innovativeness shows a positive effect on organizational learning and organizational performance (Kuo, 2011; Nybakk, 2012).

Numerous studies tried to identify what drives innovativeness. Along with this organizational learning is one of the significant drivers of innovation (Rhee, et al., 2010). This relationship study is non-exhaustive because of the evolution of the learning theories and concepts. Till to date, it yet identifies a practical intervention of organizational learning approach. In this aspect, OLSM is believed to able to give a holistic picture in applying the learning system in organizations.

The field will try to count into the organizational learning perspective by applying the Organizational Learning System Model (Schwandt, 1997) which is grounded from Parsonian social action theory (Schwandt& Marquardt, 2000). This concept is attempting to relate to the term innovativeness.

1.1 Organizational Learning: The Underlying Theories

'Organizations with condition of uncertain, changing or ambiguous conditions need to learn' (Edmodson and Moingeon, 1996:7). The theory of organizational learning emerged in the past decades. In the 1960s it was found that individual goals are not the same as organizational goals (Schwandt& Marquardt, 1999) as this triggered to understand deeper the learning fit in the organization need to be examined which is beyond organizational context. The root of understanding organizational learning is from sociology and psychology (Schwandt& Marquardt, 1999). There were many theorists who have looked into the concept of OL for the past 50 years. The perspective of OL is tabled in **Table 1.1**.

Parsons work comes along the line of modern sociologist Weber and Durkheim (Barber, 1998). According to Barber, the termed social institution was used prior to 'social system'. Parsons pioneered work was 'The structure of social action (1937) and in 1947 he published The Theory of Social System and further with 'General Theory of Action'. Barber concludes Parsons' theory contribute to extension of 'scientific sociology'. This concept supports learning in an organization which developed by Schwandt as an Organizational Learning System Model (OLSM) from the AGIL (Figure 1.3) framework of Parsons. Schwandt argued that even Parsons theory was not plausible to explain the dynamic and nonlinear nature of micro interactions. The AGIL model was also criticised as empirically limited (Barber,1998). Social action associated with learning and performing for transformation change takes place and the cycle continues and vice versa. Also, doing and learning actions can be termed as exploitation and exploration (March, 1991).

Spector and Davidson (2006) concluded from Orthner et al. (2006);Barlas & Yasaran (2006) and Lick (2006) that three analogous uses in assessing organizational learning, namely goal formation process, information process aspects, cognitively based information processing model. Peter Senge (1996) co-founder of the Organization Learning Center argued when a group of people determined to enhance their capability to produce the desired effect is what called as Organization Learning (Spector & Davidsen, 2006). They concluded three critical aspects of Organizational Learning, namely collective preferences, which being satisfied collectively and the means that increase satisfaction (Spector & Davidson,2006). They concluded that measurable aspects of Organization Learning are actions, goal formation process, leadership engagement, reflective activities, sentiment (reflected in attitudes and preferences), team process, tolerance for errors (Spector & Davidson, 2006).

Organizational learning system has been illustrated as descriptive (culture, experience, core competence) and normative (best practices, common process) (DiBella, Nevis & Gould, 1996: 42)(**Table 1.0**). When we study how organizations learn, it involves social system adaptation, change and process the input. Organizational point of analysis involves behavioural theories whereby the role of routines to role of interpretive involve organizational learning (Edmodson and Moingeon, 1996).Based onSchwandt and Marquardt(1999) work elaborated that development of Organizational Learning Systems Model (OLSM) was earlier has link with work organizational learning and the environment (Hedberg,1981), organizational transformation and learning cycles(Lundberg,1989), organizational memory and storage(Walsh, & Ungson, 1991),knowledge acquisition, information distribution, interpretation and organizational memory(Huber, 1991) and tacit knowledge (Nonaka & Takeuchi, 1995).

Organizational learning has been ontological, epistemological and terminologically different perspective (Lakhani,n.d.). OLSM signifies empirical evidence from a sociological perspective reconciles the gap of organizational theories (Lakhani,n.d.).

Organizational Learning Systems Model (OLSM) focuses on organizational learning as a social organization and how it learns to exist in the environment (Schwandt & Marquardt, 1990). It is grounded from Parsonian theory which rooted from the works of Pareto, Durkheim and Weber (Parsons, 1966). The OLSM comprise of a subsystem, functions and output for each tabled as below (**Table 1.2**).

Schwandt & Marquardt (1990) find that organizations are social system that change based on performance and learning (Gorelick, 2005). This is because of the Parsonian Theory of Social Action. Social Action Theory of Parsons is based on four integrated elements of social action (Gorelick, 2005; Schwandt & Marquardt, 1990).

1. Individual, group or collective as actor or subject
2. Situation where physical and social objects which actor relates
3. Symbol is the means through which the actor relates to different situation and assigns meaning to them, and
4. Rules, norms, values will be the guiding factors for the actors relations with the social objects in his/her environment.

The four functions of the Parsons General Theory of social action are applicable at all levels of analysis with the integration of social, psychological and cultural element of organizational dynamics (Gorelick, 2005); (Johnson & Bailey, 2010) (Schwandt and Marquardt, ,1990) (**Figure 1.1**).

Later Schwandt (1997) emphasizes the learning aspect of change in the Parsons General Theory of Social Action (**Figure 1.2**):

1. Environmental Interface Subsystem(adaptation): information obtained requires to secure, filter and expel information [output: new information]
2. The action/reflection subsystem(goal attainment): creation of valuable knowledge of new information, the goal of learning system [output: goal referenced knowledge]
3. Dissemination/Diffusion(Integration): transfer the information and knowledge within the organization through informal and formal way [output: structuring]
4. The Meaning and Memory Subsystem (culture or pattern maintenance): establishment of criteria for judgment, selection, focus, control of organizational learning system. Beliefs, values, assumptions and artefacts - cultural component of the organization. [Output: sensemaking]

Organizational Learning is changing behavioural routine, addressing learning system that inhibits change (Hyland, Gieskes & Sloan, 2001). Recent years learning styles studied as stated by Honey and Mumford (1986) and Kolb (1984) of experiential learning (Hyland, et al. 2001).

Action on Parsons theory is dependant on situation of goal orientated: situation of means and condition, end/goal, norms and values, relating end to the situation (Casey,2005)The subsystem of actions is necessary for the social subsystem to function (AGIL). The AGIL has mutual exchange:

1. Adaptation to environment (A)
2. Allocation of resources and goal attainment (G),
3. Interaction of systems action (I)
4. Latent motivation patent (L)

The essence of Parsons theory sees that social system adapt to an environment which comes from learning and performance action. This leads to knowledge creation and performance. This organizational innovativeness can be divided to perform system and learning system for theoretical analysis (**Figure 1.4**). This comes with the four prerequisites subsystem (AGIL).

1.2 Organizational Learning and Learning Organization

Learning needs to be explored as a social and psychological process (Stiofán Deburca, 2000). In that respect are various definitions for organizational learning from literature on encoding and modifying routines, getting useful knowledge, increase organizational capability, interpretation and sense making, acquiring knowledge about action-outcome relationship and detection correction and error (Edmondson and Moingeon, 1996).

Organizational learning somewhat can be defined as ‘an information management scheme that consists of systematic attempts to transfer knowledge throughout an entire organization’ as there is no universally agreed definition (Spector & Davidsen, 2006:64). Organizational learning is significant for organizational success because it is the source of competitive advantage (Edmondson and Moingeon, 1996).“... *Learning is characterized as how (organizational members engaging in a process designed to transfer and/or improve existing skills and routine) and why (organizational members inquiring into causality using diagnostic skills)*”(Edmondson and Moingeon, 1996:27).

Learning involve changes involving abilities, attitude, belief, capabilities, knowledge, mental models, skills, etc. that tend to persist over time (Spector & Davidsen, 2006: 67). Learning may not be effective always on achieving desired outcomes, whether continuous, intentional or unintentional (Spector & Davidsen, 2006).A learning organization is where organization able to create clear goals, monitor progress towards goals and make a suitable judgment to the dynamics of a circumstance as they evolve (Spector & Davidsen, 2006:67). Organizational Learning is not may not be synonymous with learning organization ideas as the latter is the extent of activities or process reached by organization in learning (Deburca,2000).

Organizational learning was analysed based on acquiring the knowledge, distributing information and data and organizational memory (Jimenez, 2008). Organizational Learning dimensioned into inquiry climate, learning practice, information sharing pattern and achievement mindset.

Learning result in new behaviour(Fiol& Lyles, 1985) and such behaviour related to performance of action (Schwandt & Marquardt,2000).Cyert and March (1963) on adaptive theory finds that individual and organizational learning are the same unlike Argyris & Schön (1978) state that OL is not self-productive rather integration of member knowledge (as cited in Wang & Ellinger, 2011). Duncan & Weiss (1979) idea agreeable as organizational learning is cognitive system that create collective learning and full and Fiol & Lyles (1985) view as a modification of the knowledge system. Senge (1990) advanced it to adaptive learning and generative learning. Every bit we can see Schwandt’s Organizational Learning Systems Model supports all the components of organizational learning. Organizations need continuous learning to be a learning organization. The process of this learning is what the research covers as organizational learning.

One research on Indian power plant turned out to identify an integrated scale for organizational learning through learning enablers, learning achieved and performance outcome (Jyothibabu, Farroq & Pradhan, 2010).They contended that there is yet to receive an appropriate scale to be developed for OL which leads to conceptual confusion. In their subject field, they used Watkins & Marsick’s to measure the facilitator of organizational learning and learning outcome at individual, group and organisation. Organizational size is the control variable as its big number of employees have more difficult time to share knowledge. Organizational level dimensions are employee empowerment, embedded system, system connection and leadership for learning which found closely related with each other. Organizational learning also directly contributes to performance than at an individual or group. The OLSM model used focusing on action/reflection (goal referenced knowledge) and meaning/memory (sense making)(Hazy, Tivnan&Schwant,2003). Next, organizational innovativeness affecting aspect of organizational learning is discussed further.

1.3 Organizational Innovativeness

Innovativeness is ‘capability to produce and introduce products or process’ (Azadegan & Dooley, 2010).Organizational innovativeness referred as an overall organization’s innovative capability in introducing novel merchandise to the market or to open fresh markets, through a combination of strategic orientation, innovative behaviour and operation (Wang & Ahmed, 2004).‘...*Innovativeness is also seen as ability of organization to novel ideas, to accept innovation and to support idea generation...*’(Hanvanich, Sivakumar, & Hult, 2006).

Innovation can be a new product or service, a new production process, or a new social organization or administrative system (Hult, Hurley & Knight (2004). Innovation and innovativeness can be used interchangeably. Innovation measured by product, process and administrative (Manu,1992). It depends on how managers acquire and act on market intelligence. It was found that learning orientation has an effect on innovativeness (Hult, et al.,2004;Calantone,2000).

Organizational innovation defined as 'the notion of directness to novel ideas as an aspect of a firm's culture' (Hurley & Hult, 1998:44 as cited in Kunz, Schmitt & Meyer (2011). Kunz et al., (2011) further elaborated that organizational innovativeness is also based on the main perceptions of organizational stakeholders (e.g. Employees and managers). Innovation relates 'to some form of specific change that is new and that leads to what is in some sense a better accomplishment of goals at a system level' (Ellström, 2010: 28). The underlying theories of innovation are logistical functional form and economic theories (Brewer, 1980). In another study, '... innovativeness refers to corporate environment that promotes and supports novel ideas, experimentation and creative process that may lead to new product, techniques or technologies.' (Weerawardena, 2003:5).

Kunz et al. (2011) further elaborated that organizational innovativeness reflects the primary perception of national stakeholders (e.g. Employees and managers). It was described that organizational behaviour adopt new procedures when organizations face changes. The literature supports that innovation as a source of competitive advantage, however, research is lacking in relating to organizational learning (Jiménez, 2008).

One study on hospital innovativeness by Tabak and Jain (2003) innovation as constructed by Roger (1962) comes with initiation/sense making activities (interpretation lead to the decision to adopt) and perception and implementation (activities lead to ultimate usage of innovation). Adoption of new technology is important to acquire and adopting innovations.

Learning on systematic evaluation and observations improve innovations as it reduces errors, use of initial experience for efficient delivery, refine and improve procedural steps, determine how individuals can contribute to innovation (Brewer, 1980). Evaluation innovation is determines the innovator successful or not. Based on learning model, 'try to innovate' increases when they're less experienced (case) and it becomes otherwise and eventually becomes constant. Curve 'b' takes place if any improvement anticipated in the curve replication.

Innovation happens in different part or system of the company like product, process, at fundamental or incremental level, or technical and administrative. Innovation is needed for long term survival and success (Wang & Ahmed, 2004; Ellonen et al., 2008). Innovation dimension is varied and dynamic based on literature (Wang & Ahmed, 2004; Ellonen et al., 2008). Calantone and Gracia (2002) identify the degree of newness and Johannessen, Olsen, Lumpkin (2001) identified six different types; developing products, service, method of production, opening market, source of supply and ways of organization (Uzkuur, Kumar, & Ensari, 2013). Subramaniam and Nilakanta (1996) found that organizational innovativeness involve a technical and administrative functions. Later, a study conducted on a more narrowed perspective of innovativeness, Wang & Ahmed (2004) came up with, multidimensional conceptualization. However, Ellonen et al. (2008) based on their work claimed that product and market dimension by (Wang & Ahmed, 2004) can be considered as a single dimension. This is because their study was not extensively done. The underlying factors behavioural changes, process, strategic rather than only seeing product innovativeness based on Wang and Ahmed (2004) extensive work. They created work based on five dimensions of innovative capability for organizational product, market, process, strategic and behavioural innovativeness.

Schumpeter (1934) as cited in Miller & Friesan, (1983) identified four dimension product, process, behaviour and strategic. Wang and Ahmed (2004) has applied these components in validating innovation scale. The Schumpeterian theory innovation by Schumpeter (1934) also consists of creating a product, market, organization and technology in novelty (Anderson, 2009). It can be inferred that any innovation takes place when innovative action or process happens which is anything that relate to novelty or different. This newness helps organization to sustain in a competitive business environment. However, an organization needs to comprehend that innovativeness happens when some form of knowledge gain and that knowledge or information is being able transfer by stakeholders in the organization. The below discussion identified the relationship between the innovation and learning in organizations.

1.4 Organizational Learning and Organizational Innovativeness

Studies show that learning orientation, which has a significant relationship with innovation. (eg. Sinkula et al., 1997; Calantone et al., 2002; Hult et al., 2004; Keskin, 2006; Garcia Morales et al., 2006; Liu, 2002; Rhee, et al. (2010). Organizational Learning and Organizational Innovativeness locked into a strategic relationship to promote organizational entrepreneurship found that organizations need to learn to innovate and generate higher performance (García-Morales, Llorens-Montes, & Verdú-Jover, 2006). Finding shows that organizational learning, foster innovation and even higher.

The performance of an organization is mediated by innovation with the relationship of the organization (Jiménez, 2008). Organizational memory and learning capabilities are the antecedent of non-technical innovation to achieve sustained competitive advantage in a 159 companies in Spain (Camisón & Villa-López, 2011).

Organizational Learning facilitates product innovation (Hyland, Gieskes & Sloan, 2001). In order to compete organizations need to have internal diversity strategy, structure and people and process to facilitate innovation (Hyland et al., 2001). There have been various theories of innovation that explains the performance (Anderson, 2009). According to Bach (2004) resources for innovation in the form of information and knowledge play important roles in term of ability to contribute to the organization. Thus, we can concur that knowledge is one of the resources that a firm could have to innovate and to meliorate performance (**Figure 1.6**)

Calantone et al. (2002), Gracia-Morales et al. (2006), Hult et al. (2004), Keskin (2006), Lee and Tsai (2006) are some of the important authors whom linked performance and innovativeness (Rhee, Rhee, Park & Lee, 2010). Ability to innovate is one of the important factors to influence performance (Hurley & Hult, 1998). The degree of innovativeness increases with the extent of learning has occurred and whereby the knowledge has been explored (Rhee, et al., 2010). OLSM is parallel to this idea (Schwandt & Marquardt, 2000). The ability to create new knowledge is a prerequisite for organizational transformation and that knowledge creation and result social action of human collective and cognitive structure (Gorman & Schwandt, 2005). Knowledge structure includes content and structure. This involves environmental change. The ideas and empirical findings identified that organizational learning has a direct effect on organizational innovativeness.

Research on learning helps organization learn, adapt and develop to competitive advantage. A study done by Hurley & Hults (1998) of 9648 employees from 56 organizations in the United States supports the statement by affirming higher levels of innovativeness in the firm culture are associated with a higher ability to adapt and innovate (Tajeddini & Tajeddini (2012). The culture in their research described as learning, development and participative decision making. Learning orientation is one of the aspects function as an antecedent for innovation orientation. The innovation to innovate and the capacity to implement innovation that determines organization performance and learning is the antecedent. Innovativeness is a prerequisite and a determinant of performance (Cooper, 2010). Study by Rhee et al. (2009) examining the drivers of innovativeness with mediating effect towards learning orientation. Learning as part of organizational culture allows employees to receive new ideas Rhee et al. (2009). Further, they explained, apart from it innovation is seen as an action base capacity to create new ideas thus it related to learning activities.

Based on the above analyses the link between learning and innovativeness is so far obvious. The learning model like the learning system requires more empirical research on the relationship study and assessment of the outcome of the organization. This, therefore will give a comprehensive understanding for policy implementation and contribution to the theory.

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Table 1.0: A Model of Organizational Learning

Descriptive (What and where learning occurs)	Normative (What promotes learning)	Outcome
Learning orientation, which comprise learning style culture, experience, core competence	Facilitating factors best practices, common process	Organizational Learning System

Source: DiBella, Nevis & Gould (1996)

Table 1.1: Compilation Organization Learning Approaches

Theorists	OL Approach
Katz and Kahn (1979) Weick (1979) March and Olsen (1977)	Psychology and sociology Systems theory Classic model of complex cycle of organizational choice
Argris and Schön (1970) Marsick and Watkins (1996) Shrivastava (1983)	Single, double and deutero learning Workplace learning Four approaches of organizational learning and organization as a social phenomena
Fiol and Lyles (1985) Daft & Huber (1975)	Cognitive or behavioural changes Systems structured and interpretive perspective.

Source: Schwandt and Marquardt (2000)

Table 1.2: The Subsystems, Functions and Outputs of Organizational Learning Subsystem

Organizational Learning Subsystem	Function	Output
Environmental Interface	Adaptation	New Information
Memory/Meaning	Pattern Maintenance	Sensemaking
Dissemination,Diffusion	Integration	Structuring
Action/Reflection	Goal Attainment	Goal Reference

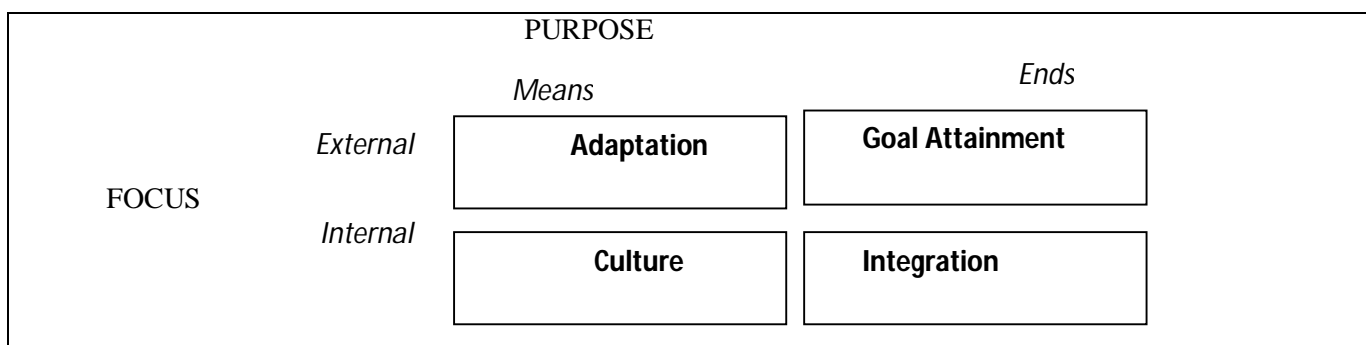


Figure 1.1: Parsons Four Functions

		PURPOSE	
		<i>Ends</i>	
FOCUS	<i>External</i>	Environmental	Action/Reflection
	<i>Internal</i>	Meaning & Memory	Dissemination & Diffusion

Figure 1.2: Schwandt Learning Subsystem (Schwandt & Marquardt, 2000)

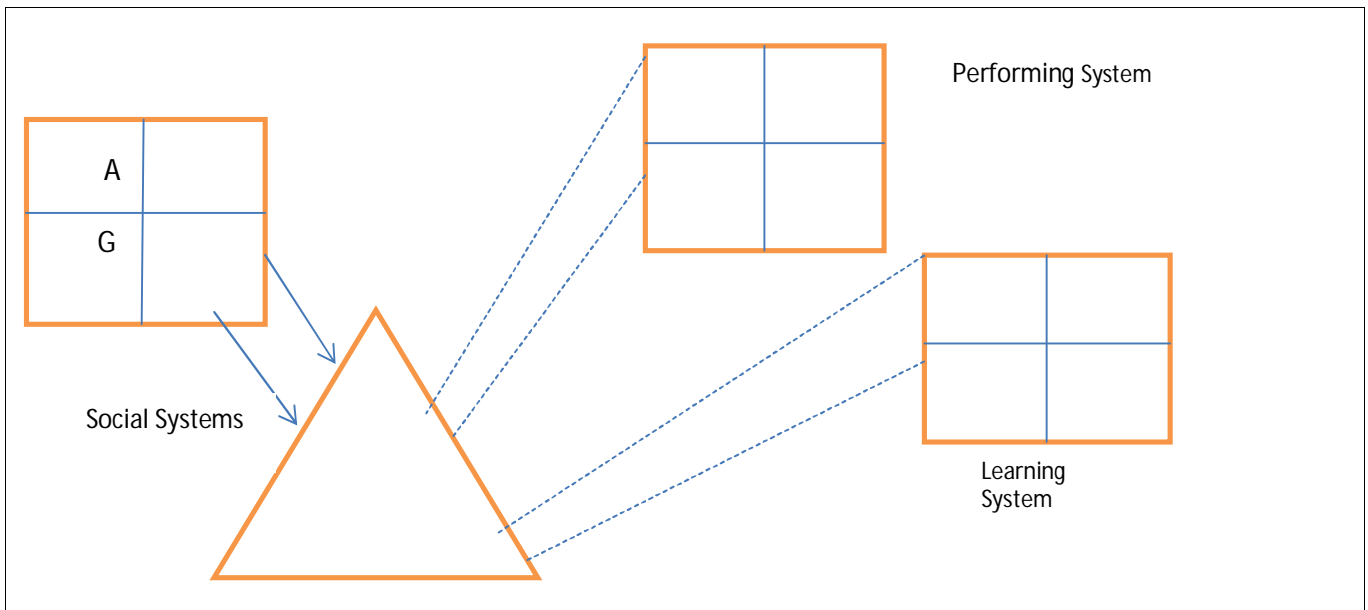


Figure 1.3: Separation of the Social System of Actions into a Performing System and a Learning System (Schwandt, 2000)

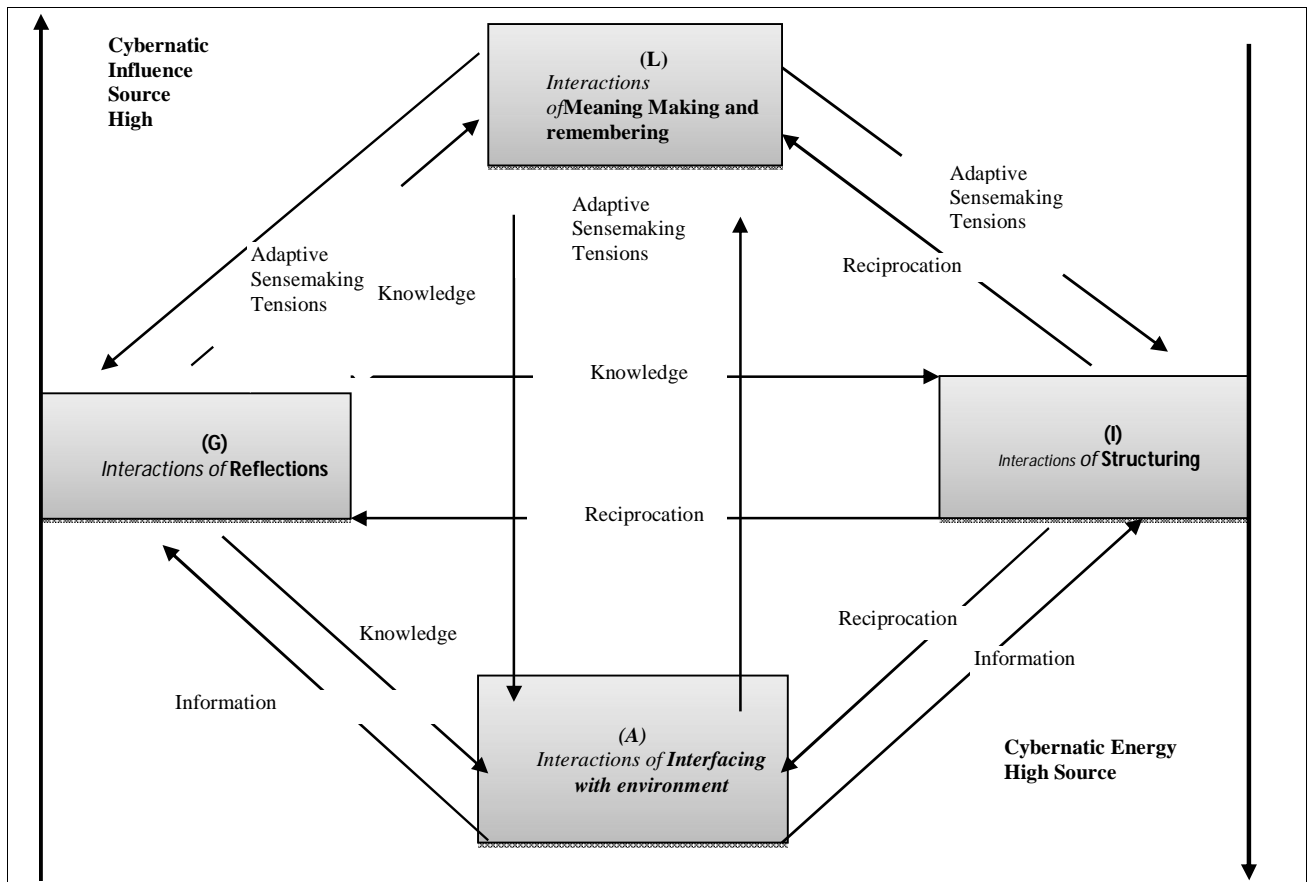


Figure 1.4: Collective Learning System Model: Subsystem Situated in the Cybernetic Hierarchy (Schwandt,2000,2009:32)

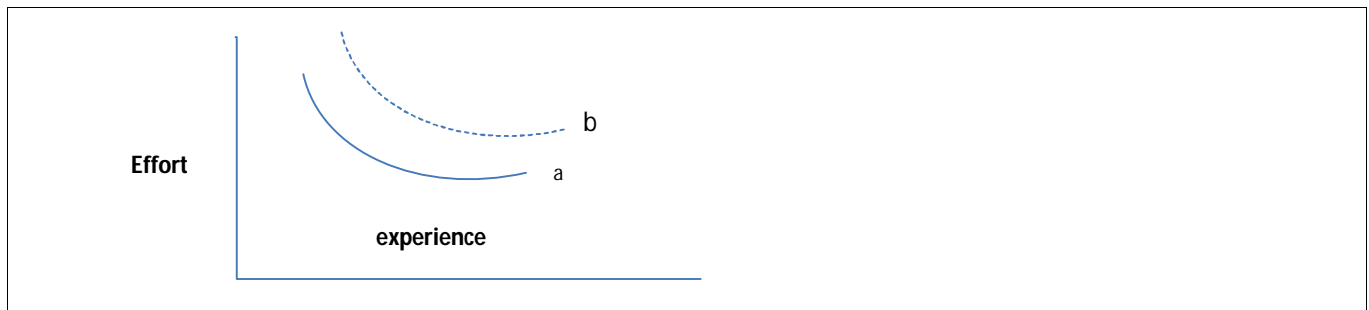


Figure 1.5: Innovation curve

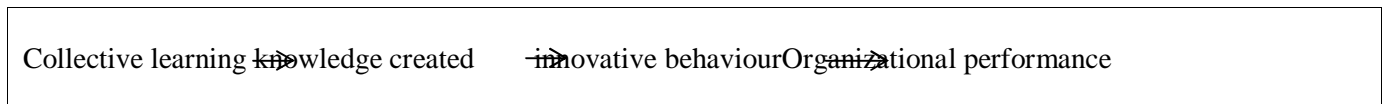


Figure 1.6: Innovation and Performance