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Transforming Public Organizations into Learning Organizations: A Conceptual Model

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Abstract The concepts of organizational learning and learning organizations have gained popularity in recent organization theory literature as complementary subjects. So far majority of studies on these issues focused on the relationship between organizational learning and its ultimate consequences such as increased innovative capacity, increased productivity, and higher competitive advantage of organizations. Nevertheless, many researchers examined the processes of organizational learning from the standpoint of private enterprises, paying little attention to the dynamics of organizational learning in public sector. This paper is aimed to fill this gap by introducing and discussing the basic constituents of a novel conceptual model which demonstrates the relevant steps in transforming of public organizations into learning organizations.

Keywords Public organizations · Learning organization · Organizational learning · Knowledge creation

Introduction

The concept of organizational learning and the evolution of learning organizations have gained popularity in recent organization theory literature. Several scholars have developed theoretical models based on the work of Peter Senge (1990), demonstrating the relationship between these abstract phenomena and depicting organizational success as the ultimate goal behind continuous endeavors to promote organization wide learning.

Nevertheless, most of the studies delineated the processes of organizational learning and primary characteristics of learning organizations from the standpoint of private enterprises, paying little attention to the dynamics of organizational learning

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in public sector. Also, those organizations which perform quite well in public sector were not examined comprehensively in terms of their distinctive characteristics that facilitate the development of a "learning culture" within their boundaries.

This paper aims to fill aforementioned gaps by proposing a novel conceptual model that demonstrates the relevant steps in transforming public organizations into learning organizations. In the first part, organizational learning is scrutinized within the context of six disciplinary perspectives which provide distinct contributions and conceptions of problems regarding the learning process in organizations. Then, dynamics of organizational learning and distinctive features of learning organizations are explored based on a review of existing literature. Finally, subsequent to the discussion of challenges and alternatives for public sector organizations on the way of becoming learning organizations, the new "transformation model" is presented.

Disciplines of organizational learning

Organizational learning, which is defined as "the capacity or process within an organization to maintain or improve performance based on experience" (Nevis et al. 1995; p. 73), has recently become one of the most striking subjects in management literature. Although the concept is mostly covered and delineated in organizational studies, different academic perspectives have made prominent contributions to its understanding. There are basically six disciplinary perspectives discussed by Easterby-Smith (1997) which provide distinct contributions and conceptions of problems to the comprehension of organizational learning.

As the two earliest perspectives that incorporate organizational learning into their spheres, *psychology and organizational development* focus on human development within the organizational context (Easterby-Smith 1997) and assume that ideas about individual learning can be directly adjusted to organizational learning. Accordingly, cognitive maps and frames of individuals are deemed to be very important to surface the interrelationship between individual thinking and actions as well as the organizational ones. The main problems identified within the scope of these perspectives are the transfer of the learning content from individuals to collective groups, defensive reactions to learning among individuals and groups, and ultimately, 'communication deficiencies' in organizations due to the lack of effective dialogues.

Another perspective, *management science*, concentrates on the gathering and processing of information in organizational settings (Easterby-Smith 1997). This perspective specifies four main stages in organizational learning which are knowledge acquisition, information distribution, information interpretation, and organizational memory (Huber 1991). According to the management science, knowledge can be acquired either in the form of inherited knowledge of organizational members or external knowledge provided by new staff. Distribution and interpretation phases, on the other hand, are restricted by both the amount of information and cognitive capacities of individuals. In the overall learning process, distortion and suppression of information by organizational politics and irrational behaviors of managers are portrayed as two important organizational barriers for learning (Easterby-Smith 1997) together with the conflict between short-term agendas and long-term plans.

Sociology and organization theory disciplines encompass broader social systems and organizational structures where the learning may be embedded and which may influence organizational learning process (Easterby-Smith 1997). There are four different views delineated by Easterby-Smith (1997) within the context of sociology and organization theory, namely, functional, contingency, constructivist, and critical views. Functional view aims to identify the reasons behind organizations' inability to learn. It proposes that structural aspects such as inclination to bureaucratic models hinder organizational adaptability to environmental changes. According to the cognitive view, characteristics of the organizational learning systems differ in line with the nature of the organization, either being bureaucratic or participative. Constructivist view emphasizes the importance of informal learning and perceives it as both the process and outcome of social construction. Finally, critical view concentrates on the individuals' ability to provide valid and practical knowledge to the organization as well as the effects of hierarchical differences in organizations on this specific ability. On the whole, sociology and organization theory disciplines present fundamental questioning of the nature of learning in organizations and in benefiting parties (Easterby-Smith 1997) by proposing the idea that triangle of politics, conflict, and power is a critical impediment for organization wide learning which primarily rests upon social relationships and cannot be avoided by technology–based measures such as the improvement of information systems.

Distinct from the previous disciplines, *strategic perspective* views organizational learning as a competitive tool that provides advantage to the organizations over their competitors. According to this perspective, organizations should be able to learn more efficiently than their competitors and maintain good relationships with their environment in order to adapt well to changes and respond quickly to different stakeholder demands. Easterby-Smith (1997) specifies two main contributions of strategic perspective to organizational learning literature, which are elaboration of competitive advantages gained through the implementation of principles of organizational learning and adaptability of the organizations to rapidly changing environmental conditions through direct experience and collective learning.

Production management discipline primarily outlines the relationship between learning and organizational productivity and/or efficiency. "Learning curve" approach which is founded on the idea that production costs reduce in proportion to the cumulative number of units produced, gives direction to the early studies in this field. Nevertheless, in subsequent studies it is argued that assumptions of the learning curve may not be applied to the real life cases since organizational knowledge can depreciate over time. The primary concerns for this discipline are employment of single criteria to compare organizational configurations and some methodological limitations in conducting comparative researches (Easterby-Smith 1997).

Finally, *cultural perspective* depicts culture both as a source and outcome of organizational learning. In view of this perspective, different scholars (e.g., De Long and Fahey 2000; López et al. 2004) examine whether some cultures, which can be regarded as "learning" or "collaborative cultures", may go beyond others in the facilitation of organizational learning. Within the context of cultural perspective, relativity of cultural beliefs, norms, and values and difficulty in transferring

knowledge from one culture to the other are depicted as prominent impediments for organization wide learning.

Dynamics of organizational learning

Organizational learning literature provides divergent definitions for the "learning" concept in organizational settings. Initially, Argyris (1977) defines organizational learning as "a process of detecting and correcting error" (p. 15) while Fiol and Lyles (1985) portray the term as "a process of improving actions through better knowledge and understanding" (p. 803). With a more comprehensive stance, Dodgson (1993) defines organizational learning as "…the ways firms build, supplement and organize knowledge and routines around their activities and within their cultures, and adapt and develop organizational efficiency by improving the use of the broad skills of their workforces" (p. 377). Though these definitions put emphasis on different constituents of organization wide learning, they all draw upon the following assumptions.

Organizational learning involves three different levels of learning

From the perspective of Argyris and Schön (1978), organizational learning comprises three complementary levels, which are single-loop (adaptive) learning, double-loop (generative) learning, and deutero-learning. Single-loop learning is related to the identification and correction of errors in organizational systems to attain the predetermined goals within existing structures. As a higher level, double-loop learning occurs when organizational members question long-held assumptions about the organization's mission and capabilities, and develop new ways of looking at the world. It is proposed that double-loop learning is generally frame-breaking, and by challenging the theories and procedures in use, it can facilitate openness, flexibility, and autonomy in the organization (Beeby and Booth 2000). The highest learning level, deutero-learning, involves organizational members' reflection on and inquiry of previous experiences on organizational learning (Argyris and Schön 1978) and many scholars consider this level as a comprehensive form of "cognitive rethinking" (Visser 2007; p. 659) and critical evaluation of an organization's core assumptions (e.g., Thomsen and Hoest 2001; Wijnhoven 2001).

Organizational learning is more than the sum of individual learning in organizations

According to Hedberg (1981), it would be a mistake to perceive organizational learning as a cumulative outcome of individual learning of organizational members. The author states that "members come and go, and leadership changes but organizations' memories preserve certain behaviors, mental maps, norms, and values over time" (p. 3). Lundberg (1995) supports this view by proposing that organizational learning develops common understandings of both internal and external conditions through various activities and systems that do not rely on particular members. Nevertheless, the author also states that organizational norms, values, and routines are acquired, disseminated, and modified through different

forms of individual learning such as socialization and professionalization activities such as professional training, orientation and coaching, and personnel movements.

Organizational learning is a dynamic, inter-level process

Argyris and Schön (1996) argue that in addition to individual learning process, a theory of organizational learning should consider the interactions between higher-level organizational entities such as departments, divisions, or groups of managers. Coghlan (1997) enhances this view by proposing that four discrete levels of complexity, which includes individual, team, interdepartmental group, and organizational levels, influence the development of learning in organizations. According to this author, organizational learning represents a 'flow of change' through individual, team, interdepartmental group, and organizational levels and its performance depends on the effective management of inter-level activities. As the first level in organizational learning process, individuals move through the learning cycle of experiencing, processing, interpreting, and taking action. At the team level, the content of learning is composed of certain group tasks, process issues, and group dynamics which influence the group cohesion through dialogue. Learning at the interdepartmental group level, on the other hand, is characterized by conscious attention to the effects of different departmental perspectives and cultures on the content and process of learning. Negative inter-group dynamics where rigid distinctions are surfaced among departments may inhibit the process of organizational learning. With respect to the organizational level learning, Coghlan (1997) states that learning at this level requires the integration of the learning at the previous levels with the learning about external environment and organizational strategy.

Organizational learning and knowledge management go hand in hand in organizations

According to Cross and Baird (1999), organizational learning requires a shift from simply acquiring more knowledge to put into the databases to promoting different ways that knowledge can freely migrate into the organization and affect its performance. López et al. (2004) link learning process in organizations directly to knowledge management which involves acquisition of knowledge through external sources or internal development; distribution of knowledge to all members of the organization; interpretation of knowledge through sharing different aspects of knowledge and developing a common understanding; and finally, organizational memory, which stocks knowledge for future use. As stated by different authors, acquisition, distribution, interpretation of knowledge, and development of an organizational memory are complementary processes for organizational learning but may not have any practical use unless they create a considerable effect on organizational performance (Cross and Baird 1999).

Knowledge creation is an integral part of organizational learning

Knowledge creation by organizational members supplements the general organizational learning process. According to Nonaka (1994), knowledge is created through

conversion between tacit and explicit knowledge accumulated by the individuals in organizations. Explicit knowledge refers to the "knowledge that is transmittable in formal, systematic language" (Nonaka 1994, p. 16) whereas tacit knowledge "has a personal quality, which makes it hard to formalize and communicate" (Nonaka 1994, p. 16). The author states that there are four modes of knowledge creation for transforming one knowledge type to the other. The first mode of knowledge creation, *combination*, involves individuals' use of social processes such as meetings, databases, and inter-departmental activities to combine different groups of explicit knowledge. In the second mode, *socialization*, individuals integrate tacit knowledge through social interactions. Transfer of information is realized through shared experiences in which individuals develop similar thinking processes as reflected in mentorship and on-the-job training activities. In the conversion of explicit knowledge to tacit knowledge, the *internalization*, which is similar to the traditional notion of "learning", is the relevant mode since individual actions and practices are highly related with the internalization of the transmitted knowledge in a particular setting. Finally, *externalization* is based on the metaphors and analogies, telling of stories and anecdotes, and contrasting of situations that are used to convert tacit concepts into explicit knowledge.

After elaborating on the different modes of individual knowledge creation, Nonaka (1994) draws attention to the fact that "organizational knowledge creation takes place when all four modes of knowledge creation are organizationally managed to form a continual cycle" (p. 20). The cycle he proposes involves a series of shifts between different modes of knowledge creation. Accordingly, interactions between tacit and explicit knowledge are predisposed to grow progressively and more rapidly as more actors around the organizations join in the cycle. The author illustrates the organizational knowledge creation process in a spiral model which starts with the individual level and moving up to the hierarchy until it reaches the organizational and sometimes inter-organizational level.

Learning organizations

The concept of learning organization has gained popularity with the publication of the book Fifth Discipline by Peter Senge in 1990. The author defines learning organizations as places "where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learn how to learn together" (p. 3). To achieve the goal of building a learning organization, Senge (1990) calls attention to certain prerequisites, which are personal mastery (i.e., continually clarifying and extending one's personal vision, focusing his/her energy, developing patience, and seeing reality objectively), development of mental models (i.e., building up deeply ingrained assumptions, generalizations, or visualizations that influence how one sees the world and how he/she acts on it), building shared vision (i.e. discovering shared pictures of the future that create commitment rather than compliance), team learning (i.e., developing the capacity of a team to put back assumptions and engage in open thinking together), and system thinking (i.e., integrating the previously discussed disciplines and building a specific framework

for the observation of interrelationships among the parts of "wholes" rather than the parts themselves).

With an alternative approach to Senge (1990), Slater and Narver (1995), suggest five critical components of learning organizations two of which are elements of organizational culture and the others are elements of climate. According to these authors, cultural elements consist of market orientation and entrepreneurship whereas climate elements involve facilitative leadership, organic and open structure, and a decentralized approach to planning. In addition, defining a learning organization as "one that is open to change or even more so, one that can change from within itself" (p. 132), Finger and Brand (1999) emphasize the importance of adaptive or reactive stance against environmental pressures which enable organizations to change and learn faster than the others who prefer to act defensively.

In view of the previous arguments, Örtenblad (2004) has developed an integrated model in which four aspects of the learning organizations (i.e. organizational learning, learning at work, learning climate, and learning structure) and their linkages are demonstrated.

The first constituent of the model, *organizational learning* is represented by three levels, which are single-loop learning, double-loop learning, and deutero learning, in compliance with the classification by Argyris and Schön (1978). The author argues that organizations should be able to improve their existing systems and principles (single-loop learning), build capacity to question these processes (double-loop learning), and learn how they actually learn (deutero learning) in order to attain continuous learning. The knowledge acquired through previously discussed levels is proposed to be kept in the memory of organizations (Hedberg 1981) in the form of organizational routines, shared mental models and standards, documents, etc. and regulate the behaviors of organizational members (Örtenblad 2004).

The second constituent*, learning at work*, refers to the on-the-job learning that can be more readily converted to flexible action by organizational members (Revans 1998) when compared with the conversion potential of knowledge gained through formal courses and trainings. With the existence of a *learning climate* which signifies a favorable atmosphere for the facilitation of learning process, individuals can feel secure to experiment on their jobs and experimenting -though not at all times result in favorable outcomes- challenges the well-established routines in organizations as well as producing incremental gains in knowledge (Garvin 1993).

The final aspect discussed by Örtenblad (2004) is *learning structure.* According to the author, one of the most desired outcomes in learning organizations is "flexible action" and this outcome is achieved through decentralized, flat, team-based, informal structures, where everyone is free to make independent decisions in the organization's best interest and through the establishment of a strong organizational memory, which enables every organizational member to know what knowledge is available in the organization and how to access this knowledge.

Other than the previous arguments, in a recent article which presents a diagnostic survey for companies to help them determine how well they perform as a learning organization, Garvin et al. (2008) define learning organizations as "places where employees excel at creating, acquiring and transferring knowledge" (p. 110) and specify three building blocks of such entities: (1) a supportive learning environment (2) a concrete learning processes and practices, and (3) leadership behavior that

reinforces learning. According to these authors, a *supportive learning environment* is created when an organization provides psychological safety for employees, promotes appreciation of differences and openness to new ideas, and allows time for a pause in the daily routine that encourages thoughtful assessment of organizational processes., The second building block, *concrete learning processes and practices,* represent the generation, collection, interpretation, and dissemination of information together with some other systematic practices. The last building block, *leadership behavior that reinforces learning*, comprises certain leader behaviors such as actively questioning and listening to employees; encouraging multiple points of view; and providing time, resources, and venues for reflecting and improving on the past performance (Garvin et al. 2008). The authors also emphasize that these three building blocks reinforce one another in learning organizations and to some extent, they overlap.

Learning organizations in public sector

With the rise of globalization, technological progress, and emerging global possibilities for big enterprises, public sector organizations have encountered new and unexpected pressures from external environment. As nation-states lost control over the industrial development processes, they triggered a legitimation problem on the side of public organizations and consequently, these organizations have faced "a double challenge of increasing competitive pressure on one hand and the erosion of the nation-state on the other" (Finger and Brand 1999, p. 133).

In addition to the previous changes, as a direct effect of globalization, foreign investment initiatives have increased largely in any part of the world in the last two decades and activities of multinational companies extended to those fields, which are traditionally dominated by public sector. As a result, public enterprises started to compete with their private-sector counterparts, particularly in their most profitable segments (Finger and Brand 1999) and had hard times in keeping up with the technological developments and maintaining their operational efficiencies.

As another challenge, with emergence of international and multilateral organizations such as IMF and WTO, national policies were directed towards the deregulation of the public sector and public sector organizations withdrew their operations from highly productive areas in most parts of the world (Finger and Brand 1999). National policy makers viewed privatization and deregulation as practical solutions for overcoming certain problems associated with public sector inefficiency and lack of customer orientation.

Having been used to stability and continuous protection, public sector organizations are now challenged to adapt this new and rapidly growing context (Finger and Brand 1999).What is more, in most of the developing countries, these organizations perform poorly (Grindle 1997) due to different contextual factors including poverty, economic crises, corruption, and political instability which make it extremely difficult for public organizations to compete with their private sector counterparts. Although in 1990s several reforms were implemented to increase the efficiency, effectiveness, and responsiveness of public sector organizations, focusing generally on stabilization and structural adjustment of public sector, they did not solve the problem of poor performance.

In light of the previous arguments, it can be proposed that the problem of poor performance and low market responsiveness of public sector organizations cannot be merely defeated by macro-institutional initiatives which are generally generated outside organizational boundaries. The change should be generated from within. In his theory-driven article, which scrutinizes the chaos and transformation theories in historical and complementary standpoints and analyzes their contributions social science and public management, Farazmand (2003) states that "organizations that learn, adjust, and adapt to external pressures causing systems breakdown and bifurcations can survive and evolve, and their evolution comes through internal learning and transformation" (p. 362). Accordingly, public organizations should not only strive to keep up with the rapid change in environmental conditions but they should also learn something from change process and combine it with their own structure. In other words, public organizations should gradually transform themselves into learning organizations which are characterized by constant organization learning, flexibility, and an adaptive stance.

Nevertheless, this transformation process is not free of obstacles. First of all, public sector organizations, which operate in a political environment where the interests of political actors, citizens, and society have to be served simultaneously and properly, face with complexities in their functioning and management. From a broader perspective, they are part of a larger system with various stakeholders, which requires the transformation of system as a whole for the transformation of one single constituent. Secondly, having been protected from competition and even from comparison for long, these organizations have become quite bureaucratic. Accordingly, organizational learning signifies form of a threat for them as it often occurs in a radical way and under a short period of time. Finally, gaining competency in each of the five learning disciplines proposed by Peter Senge (1990) is extremely difficult for public organizations owing to their persistent structural, cultural, and mental barriers (Bayraktaroğlu and Kutanis 2002). To illustrate, formation of a common vision in these organizations is quite a challenging job since the vision can change according to the prevalent vision and policies of governments. What is more, it is also difficult to promote a systems thinking within their boundaries since they mostly act unsystematically, in accordance with the concerns of different stakeholders. With respect to personal mastery, public enterprises are again in a disadvantaged position as public workers are inclined to put forth only "required" effort for assigned jobs and hardly question the existing system for performance improvement. Hierarchical relationships in the bureaucratic structure hinder team-level or interdepartmental learning and lack of opportunities for open dialogue causes existing mental models to resist organization wide learning.

In order to overcome these obstacles in transformation process, public sector organizations should primarily focus on developing a "learning climate" within their boundaries which immediately facilitates organizational learning and attempt to implement sound knowledge management process in which both internal and external knowledge is acquired, disseminated, interpreted, and stored effectively. The key building blocks of the proposed transformation model are demonstrated in Fig. 1.

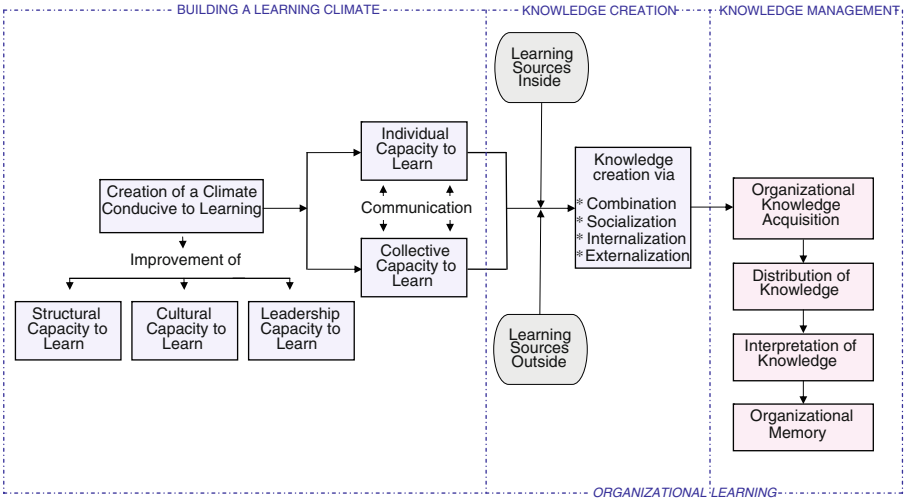

Fig. 1 Transformation of public organizations to learning organizations

Transforming public sector organizations to learning organizations

In the proposed model for transforming public sector organizations to learning organizations, the first and the foremost phase is the development of a "learning climate". Serving to this aim, organizational leaders should primarily focus on improving structural, cultural, and leadership capacities to learn which will in turn lead to the creation of a climate conducive to both individual and collective learning.

In order to enhance *structural capacity to learn*, leaders of public sector organizations should capitalize on the benefits of decentralized structures allowing for more participation, flattened hierarchies, small units, or cross-functional teams as well as the integration of central functions into the line. Bureaucratic impediments for the formation of more flexible and flattened structures should be eliminated. The new structure should facilitate 'knowledge' sharing between departments (Teece 1998) through formal and informal coordination mechanisms such as formal procedures, rules, liaison roles, and task groups (Willem and Buelens 2007) accompanied with personal contacts, informal communication, and socialization processes (Reger and Gerybadze 1997). In addition, the structure should allow for the information sharing between different units and networks of experts outside the organization (e.g., those working for private enterprises). Any new knowledge should be transmitted to key decision makers both quickly and accurately (Garvin et al. 2008).

As organizational norms and values significantly affect individual and collective learning processes, espousal of those values which promotes creation of a proper learning environment is essential for public sector organizations. In the transformation process, adoption of certain values such as long-term vision and advanced management of change, trust and respect for all individuals, tolerance for ambiguity, communication and open dialogue, and tolerance for risk-taking contributes to the enhancement of *cultural capacity to learn* (e.g., Elkjaer 1998; Gupta et al. 2000; Nevis et al. 1995; Ruggles 1998). In a supportive organizational culture, which

grants individuals psychological safety in expressing their thoughts, which appreciates individual/group differences and new ideas, and which allows time for a pause in the action to stimulate analytical review of organizational processes (Garvin et al. 2008), individual and collective capacities to learn are expected to improve considerably.

The final component in the creation a favorable learning climate is the improvement of *leadership capacity* to learn. The leaders have a significant impact on individual and collective learning in organizations through their leadership styles and distinctive capabilities which include ability to coach, mentor, and question existing views and the ability to develop alternative solutions for organizational problems. Garvin et al. (2008) identify some specific leader behaviors that reinforce learning in organizations, such as inviting input from others in discussions, asking probing questions, encouraging multiple points of view, and providing time, resources and venues for identifying problems. The authors also state that when people in power show through their own behavior that they are willing to listen and appraise alternative points of view, employees are encouraged to suggest new ideas and opinions.

As demonstrated in the model, existence of a climate that is conducive to learning enhances individual and collective capacities to learn in public sector organizations. Individual capacity to learn denotes "individuals' ability and competence to learn." (Finger and Brand 1999, p. 150) When the individuals in an organization are able to think systematically and critically, put themselves in the minds of others, and are open to new information and experiences, *individual learning capacity* is heightened. On the other hand, *collective learning capacity*, which results from successful interaction among individuals, is enhanced with the successful management of group spirit, multi-functionality, and a capacity to deal with group and organizational conflicts productively.

The enhancement of individual and collective learning capacities will facilitate *knowledge creation* in public organizations, which can be regarded as one of the prominent processes in organizational learning. Knowledge creation takes place with the use of one or more of the relevant knowledge creation modes (i.e., internalization, externalization, socialization, and combination) which reflect the conversion between tacit and explicit knowledge gathered through different internal and/or external learning sources. Internal sources of learning consist of formal training and educational activities such as practice seminars, conferences and regular meetings, informal training through job rotation and self-directed learning teams, open access to statistical data, and management information systems. External sources include customer panels, feedback loops, market research, benchmarking, analysis of the press, and in particular, public and private networks which contribute the outside sources through inter-organizational learning. Collaborative learning arrangements with private sector organizations as well as many other public enterprises (e.g., central/local public authorities, research centers or universities) will provide public organizations the chance of learning from the experiences of others. These arrangements can be held in the form of regular workshops, knowledge sharing sessions, inter-organizational team meetings, or joint educational and training programs.

Knowledge creation should be complemented in public organizations by another prominent process, which is "knowledge management", to ensure the effective management of "what is learnt". Knowledge management process starts with

organizational *knowledge acquisition* which involves the exploitation of knowledge created at different levels of the organization through distinct levels of learning such as single-loop, double-loop, and deuteron-learning. The second step, *distribution of acquired knowledge*, can be attained with the utilization of formal and informal knowledge sharing mechanisms within the organization. Serving to the former purpose, a specialized unit can be charged with the fast and accurate transfer of new knowledge to relevant departments and individuals. This unit should be also responsible for sharing information with the networks of experts within and/or outside the organization. Informal knowledge sharing mechanisms, on the other hand, generally include personal contacts and socialization processes developed inside the organization. The next step in knowledge management process, which is *interpretation of knowledge,* requires sharing of experience and different aspects of knowledge among organizational members which eventually produces shared understanding and coordinated decision making in public organizations. As the final step in knowledge management process, *organizational memory* represents the storage of knowledge for future use, either in organizational systems designated for this purpose or via formal rules, procedures, and systems.

On the whole, the proposed transformation model shows that there are three consecutive processes in converting public organizations into learning organizations. Firstly, public organizations should strive to build a learning climate within their boundaries through enhancing structural, cultural, and leadership capacities to learn that will respectively increase their existing individual and collective learning capacities. As these capacities increase, they will facilitate higher knowledge creation within public organizations with the utilization of both internal and external sources of learning. Knowledge creation can be considered as the initial step of organizational learning that should be complemented by an effective knowledge management process in order to achieve the goal of being a "learning organization". Though not shown in the model, the first and foremost outcome of these three interconnected stages is "flexible action" followed by increased productivity and adaptability of public organizations.

Conclusion

The deficiency in developing solutions for the enhancement of a learning climate and organization-wide learning within their boundaries makes public organizations prone to several inefficiencies. Having been used to stability and continuous protection, public sector organizations face difficulties in adapting to the rapid changes in the environment and responding the compelling demands of different stakeholders.

In this conceptual paper, a transformation model is presented to demonstrate how public organizations can convert themselves into learning organizations. These organizations are primarily advised to develop a learning climate through the creation of a favorable atmosphere for individual and collective learning; and subsequently invest in organizational learning through higher knowledge creation and better knowledge management processes.

It is believed that by examining the learning organization concept under the context of public organizations and proposing a novel model of transformation, this

paper makes a prominent contribution to existing literature. In addition, by providing a thorough discussion of the different steps in transformation process, it paves the way for further research that examines these steps either independently or collectively.

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