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The learning organization: tracking progress in a developing country

A comparative analysis using the DLOQ

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Abstract

Purpose – The purpose of this paper is to survey the various measurement instruments of the learning organization on offer, leading to the adoption of a tool that was considered most suitable for gauging progress towards the learning organization in two sectors of the Lebanese economy, namely banking and information technology (IT).

Design/methodology/approach – The paper capitalized on a literature review to identify the various measurement instruments on offer in the context of learning organizations. The Dimensions of the Learning Organization Questionnaire (DLOQ) by Watkins and Marsick was adopted in light of the review to gauge the progress towards learning organizations in two progressive sectors of the Lebanese economy, namely banking and IT. The questionnaire was administered to a sample of six organizations from each sector, respectively, drawing on responses from a total sample of 227 employees and managers to benchmark progress towards the learning organization in a developing country context.

Findings – The findings suggest the integration of learning organization best practices in both sectors with good progress and evolution towards learning organizations in the IT sector in particular. The strengths of both sectors seemed to lie in individual level and global level dimensions (particularly strategic leadership) while their weaknesses lay in people empowerment and the creation of systems to share learning at the organizational level. The findings are explained in turn in light of the peculiarities of those two sectors, qualified in relation to relevant contextual realities, and analyzed capitalizing on a systems theory approach or perspective.

Originality/value – The paper turns attention to the various measurement instruments of learning organizations on offer and their respective strengths and weaknesses and presents an empirically grounded investigation of learning organization practices in a developing country context using the DLOQ. The value added is in highlighting the usefulness of a systems theory perspective in research on learning organizations.

Keywords Learning organizations, Diagnostic testing, Measurement, Developing countries, Lebanon

Paper type Research paper

Introduction

Twenty-first century organizations are facing an unprecedented wave of change and a business environment characterized by flux, velocity, turbulence, uncertainty and volatility. Modern organizations seem to have little choice but to adapt to the relentless pace of change or face the risk of extinction. Indeed, Charles Darwin's famous evolutionary principle seems increasingly applicable to the world of management and organizations. As argued in this paper, this backdrop of change has catalyzed a reassessment of traditional managerial concepts, the revisiting of traditional business

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models, processes and systems of delivery and the embracing of new management philosophies revolving around learning organization practices and principles.

Various drivers help account for the recent changes in management philosophy and practice. Complex and dynamic political, economic, socio-cultural, and technological factors have recently impinged on business organizations, necessitating adjustment and adaptation. These include the advent of globalization, intensifying competition, the proliferation of international global agreements and standards, the ascendancy of knowledge workers and changing lifestyles and expectations. Some analysts group these environmental triggers of change into four distinct categories under the acronym PEST (Johnson and Scholes, 1999) or STEP (Goodman, 1995), both of which refer to the political, economic, technological and socio-cultural triggers of change, which have influenced organizations and their management processes (Table I).

The constellation of these complex environmental change catalysts has exerted high pressure on businesses, necessitating a fundamental change in focus and orientation. There is a growing realization in this new environment that companies should not only aim at survival but also strive for excellence to ensure continuity and survival (Hitt, 1996; Peters and Waterman, 1982). Efficiency and cost reduction, centralized decision making, stable operations, and focus on internal operations have given way to value creation, quality, responsiveness, and innovation (Table II), with all of these latter streams corresponding in turn to the learning organization paradigm.

This paper reviews the basic premises and assumptions of the learning organization paradigm and examines a selected number of learning organization measurement

Political	Economic	Socio-cultural	Technological
Local laws	Competitors	Demographic trends	Information technology
International laws	Suppliers	Lifestyles	Internet
Wars	Exchange rates	Quantity, quality, mobility of labor	New production processes
Trade union activities	Wages	Gender issues	Process computerization
Trade agreements	Economic policies	Mobility	Transport technology
Government ideologies	Financial policies	Environmental and ethical concerns	Changes in transportation

Table I.
Environmental triggers of change

Source: Adapted from Jamali (2005)

Old	New
Survival	Excellence
Efficiency	Innovation
Cost reduction	Value creation
Quantity	Quality
Mass production and standardization	Customization
Stability	Flexibility and responsiveness

Table II.
Old vs new focus/orientation of business firms

Source: Adapted from Jamali (2005)

instruments available in the literature. The diagnostic tool adopted for this study is then explained, followed by the description and analysis of the empirical study conducted in Lebanon to gauge progress towards learning organizations in the banking and information technology (IT) sectors of the country. The findings are then compared to similar studies conducted in other countries, followed by conclusions and recommendations for future research.

The learning organization paradigm

The concept of the learning organization is not new. It has been around since the early twentieth century but has lately attracted significant interest because of the complex and dynamic milieu that organizations operate in, as discussed above. Publications striving to define the concept of the learning organization have proliferated in academic circles but without any consensus on a single definition and without the elimination of the ambiguity that still exists as to what a learning organization is or should be. Table III displays some of the definitions of learning organizations available in the literature.

The major themes identifiable in the various definitions of the learning organization are continuous learning (Senge, 1990) and improvement (Gephart *et al.*, 1996; Griego *et al.*, 2000; Rowden, 2001), creation, acquisition and transfer of knowledge (Garvin, 1994; Lewis, 2002), individual, team and organizational learning anchored in concrete values, visions and goals (Senge, 1990; Moilanen, 2005), as well as change (Nervis *et al.*, 1995) and transformation (Pedler *et al.*, 1997). Armstrong and Foley (2003) and Nervis *et al.* (1995) refer in turn to the appropriate cultural facets, processes and structural facets that support learning and development. In line with these formulations, there is increasing consensus in the literature on the differentiating dimensions or attributes of learning organizations, encompassing elements of leadership, strategy, participative policy making, continuous learning, dialogue and inquiry, team learning, empowerment, and facilitating processes and structures (Hong and Kuo, 1999; Holton, 2001; Rowden, 2001; Reichart, 1998; Garvin, 1994; Holt *et al.*, 2000; Griego *et al.*, 2000; Thomsen and Hoest, 2001; Goh, 2003; Porth *et al.*, 1999; Gardiner and Whiting, 1997; Watkins and Marsick, 1998). It is the dynamic process of carefully crafting these basic ingredients into organizational archetypes and corporate DNAs that gives organizations an edge in terms of agility, adaptation and innovation (Jarshapara, 1994). It is also the long-term and dynamic nature of this evolutionary crafting and molding process that has invited various scholars to refer to the learning organization as a journey, rather than a destination (Burdett, 1993), a dynamic quest, rather than a concrete outcome (Gardiner and Whiting, 1997; Örtenblad, 2004), a "tentative road map, still indistinct and abstract" (Watkins and Golembiewski, 1995, p. 99) and a metaphor, which must be interpreted by each organization to suit its particular context (Pedler *et al.*, 1989, Smith, 1999).

Learning organization measurement tools

Similar to the variety of definitions of learning organizations encountered in the literature, there is also an abundance of tools available for measuring and diagnosing learning organizations. Through our literature review, seven such measurement instruments were identified which will be presented in this section followed by a comparison of these various instruments in terms of scope, depth and reliability

Author	Definition of learning organization
Senge (1990)	An organization 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 learning how to learn
Garvin (1994)	An organization skilled at creating, acquiring and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights
Nervis *et al.* (1995)	An organization that has woven a continuous and enhanced capacity to learn, adapt and change. Its values, policies, practices, systems and structures support and accelerate learning for all employees
Gephart *et al.* (1996)	An organization in which learning processes are analyzed, monitored, developed, managed and aligned with improvement and innovation goals
Pedler *et al.* (1997)	An organization that facilitates learning for all its members and consciously transforms itself and its context
Dowd (1999)	A group of people dedicated to learning and improving forever
Griego *et al.* (2000)	An organization that constantly improves results based on increased performance made possible because it is growing more adroit
Rowden (2001)	An organization in which everyone is engaged in solving problems, enabling the organization to continuously experiment, change, and improve, and increasing its capacity to grow, learn, and achieve its purpose
Lewis (2002)	An organization in which employees are continually acquiring and sharing new knowledge and are willing to apply that knowledge in making decisions or performing their work
Armstrong and Foley (2003)	A learning organization has appropriate cultural facets (visions, values, assumptions and behaviors) that support a learning environment; processes that foster people's learning and development by identifying their learning needs and facilitating learning; and structural facets that enable learning activities to be supported and implemented in the workplace
Moilanen (2005)	A learning organization is a consciously managed organization with learning as a vital component in its values, visions and goals as well as in its everyday operations and their assessment

Table III.
Sample definitions of learning organization

Source: Adapted from Jamali and Sidani (2008)

(drawing on the work of Moilanen (2001)) leading to the selection of the measurement tool that was used in the empirical component of this paper.

One of the main diagnostic tools, the Learning Company Questionnaire, was developed by Pedler *et al.* (1988, 1989) and used in a research study conducted in several British companies. The tool, which initially comprised nine dimensions (Pedler *et al.*, 1988), was later developed into 11 dimensions (Pedler *et al.*, 1991). The 11 dimensions of the learning company according to Pedler *et al.* (1991) are:

(1) a learning approach to strategy;

(2) participative policy making;

(3) informating;

(4) formative accounting and control;

(5) internal exchange;
(6) reward flexibility;
(7) enabling structures;
(8) boundary workers as environmental scanners;
(9) inter-company learning;
(10) a learning climate; and
(11) self-development opportunities for all.

With this questionnaire, the emphasis is on the role of the individual in the context of the whole organization, while managing the whole consciously or leading learning are not considered as imperative (Moilanen, 2001). This is attributed to the background of the authors in action learning (Moilanen, 2001).

The second diagnostic tool, the Learning Environment Survey, was developed and tested scientifically by Tannenbaum (1997). This questionnaire is not as comprehensive as the tool described above, but can still be used for diagnosing the learning organization (Moilanen, 2001). As its name suggests, the focus of this tool is on the learning environment with attention accorded to existing processes, including opportunities for learning, tolerance for mistakes, accountability and high performance expectations, openness to new ideas, in addition to policies and practices supportive of training and learning. This instrument can easily be used by managers as a checklist as they strive to foster and encourage learning within their organization.

The third diagnostic tool, the Learning Audit, developed by Pearn *et al.* (1995) has not been tested scientifically. This questionnaire consisting of five parts examines the role of the organization as a whole, the individual's specific role and that of the HR function in leading and encouraging learning. In the last section, it invites general comments from the participants regarding things that hinder their learning and what would help them to learn and acquire new skills (Pearn *et al.*, 1995). Therefore, it focuses on gauging participants' perceptions of the learning environment and assessing the role of departments and managers in fostering learning within their respective organizations.

The fourth tool, the Complete Learning Organization Benchmark, which was introduced by Mayo and Lank (1994) is quite comprehensive and consists of 187 questions grouped into nine dimensions. The questionnaire diagnoses the practices that should be fostered in pursuit of a learning organization. The emphasis is on organizational factors, individual and team-based learning, and managing and leading. It is a rather long and detailed questionnaire that is designed to collect data from both managers and lower level employees, which if administered properly can facilitate the compilation of relevant data regarding learning organization development (Moilanen, 2001).

The fifth tool, Recognising Your Organization, was introduced by Sarala and Sarala (1996) in order to identify whether an organization qualifies as a learning organization. This tool studies the following organizational dimensions: philosophy and values, structure and processes, leading and making decisions, organizing the work, training and development in addition to the internal and external interactions of the organization. These dimensions are then evaluated across different archetypes of

organizations, including bureaucratic organizations, quality management and process oriented firms, and learning organizations (Moilanen, 2001).

The Learning Organization Capability Assessment was introduced by Redding and Catalanello (1997). Similar to the tool by Sarala and Sarala (1996), this tool defines three archetypes of organizations, traditional, continuously improving, and learning organizations. The questionnaire is simple and easy to administer and can be used to gauge the basic practices and orientations of an organization, but is also general or not sufficiently tailored to gauge learning or learning organizational practices *per se* and hence does not provide a thorough understanding of capabilities needed in the context of learning organizations (Moilanen, 2001).

The last diagnostic tool to be reviewed is the Dimensions of the Learning Organization Questionnaire (DLOQ), which was introduced by Watkins and Marsick (1998). It is organized into five sections addressing individual level, team level, and organization level learning, and measuring the financial performance of the organization, with the last section gathering information about the organization and the role of the respondent in that organization. The questionnaire is organized around seven dimensions:

(1) creating continuous learning opportunities;
(2) promoting inquiry and dialogue;
(3) encouraging collaboration and team learning;
(4) establishing systems to capture and share learning;
(5) empowering people towards a collective vision;
(6) connecting the organization to its environment;
(7) modeling/supporting learning, as well as measuring financial and knowledge performance (Marsick and Watkins, 1999, p. 50).

The instrument is intended to gauge the perceptions of employees regarding these seven constructs at a particular point in time i.e. to take the pulse of an organization at a particular moment in time.

A review of the seven measurement instruments (Table IV) in relation to three basic dimensions, including scope, depth and validity, suggests that the DLOQ of Watkins and Marsick (1998) meets the three criteria of comprehensiveness, depth, and validity. This is true in view of the scope of the DLOQ and the fact that it addresses individual, team, organizational and global dimensions as will be further detailed below. Aside from breadth, the instrument has depth and integrates important attributes of learning organizations (e.g. continuous learning opportunities, learning and dialogue, team learning, empowerment, systems, and leading learning). The DLOQ has also been revised many times and scientifically validated to be reliable (Marsick and Watkins, 2003; Yang, 2003) as well as validated in a developing country context in specific (Hernandez and Watkins, 2003).

The DLOQ

Watkins and Marsick (1993, 1996) originally defined the learning organization as an organization characterized by continuous learning for continuous improvement and by the capacity to transform itself. In operational terms, they interpreted this definition to

Name of the instrument	Holistic	Profound	Tested
Pedler *et al.* (1991, 1997): The Learning Company Questionnaire	Yes	Yes	–
Mayo and Lank (1994): The Complete Learning Organization Benchmark	Yes	Yes	–
Tannenbaum (1997): Learning Environment Survey	–	Yes	Yes
Pearn *et al.* (1995): The Learning Audit	–	–	–
Sarala and Sarala (1996): Recognising Your Organization	–	Yes	–
Redding and Catalanello (1997): Learning Organization Capability Assessment	Yes	–	–
Watkins and Marsick (1998): Dimensions of the Learning Organization Questionnaire	Yes	Yes	Yes

Source: Adapted from Moilanen (2001)

Table IV.
Comparison of learning organization questionnaires

imply a group of people aligned around a common vision, who scan and interpret their dynamic environment, and create new knowledge, which they use to produce innovative products and services, designed to meet customer needs (Marsick and Watkins, 1999). They identify in turn seven action imperatives or dimensions that characterize companies striving to become learning organizations. Table V illustrates

Component	Definition
Create continuous learning opportunities	Learning is designed into work so that people can learn on the job: opportunities are provided for ongoing education and growth
Promote inquiry and dialogue	People gain productive reasoning skills to express their views, and the capacity to listen and inquire into the views of others; the culture supports questioning, feedback and experimentation
Encourage collaboration and team learning	Work is designed to use groups to access different modes of thinking; groups are expected to learn together and work together; collaboration is valued by the culture and rewarded
Establish systems to capture and share learning	Both high and low technology systems to share learning are created and integrated with work; access is provided and systems are maintained
Empower people towards a collective vision	People are involved in setting, owning and implementing a joint vision; responsibility is distributed close to decision making to motivate people to learn that for which they are accountable
Connect the organization to its environment	People are helped to see the impact of their work on the entire enterprise; people scan environment and use information to adjust work practices; organization is linked to community
Leaders model and support learning	Leaders model, champion and support learning; leadership uses learning strategically for business results

Source: Adapted from Marsick and Watkins (2003)

Table V.
Constructs integrated into the DLOQ

these action imperatives and what is measured for each dimension. The DLOQ is thus based on these seven action imperatives, and on performance outcomes that are sensitive to learning (Marsick and Watkins, 1999).

These seven action imperatives are integrated into their Learning Organization Model, which is illustrated in Figure 1. The Learning Organization Model supporting the DLOQ emphasizes the importance of systems level continuous learning, and the management of knowledge outcomes, which are assumed to lead to improvement in the organization's performance and ultimately its value, as measured through both financial and non financial intellectual capital (Marsick and Watkins, 1999). Thus implicit in the model is the idea that learning helps people to create and manage knowledge that builds a system's intellectual capital over time (Marsick and Watkins, 1999).

There are two important features to this model. First, as illustrated in Figure 1, the model emphasizes continuous learning not only for individuals, but for teams and the organization as well. The systems-level learning refers to the aptitude of an entity as an integrated system to learn. According to Argyris and Schön (1996), a system must have structures, processes and a culture in place to embed and support organizational learning in order to make it habitual and enduring. The second component, management of knowledge outcomes, is the result of intentional learning and learning is the process through which the use of knowledge becomes meaningful. For organizational learning to take place, there should be mechanisms in place to disseminate knowledge throughout the organization and to put it to use (Loermans,

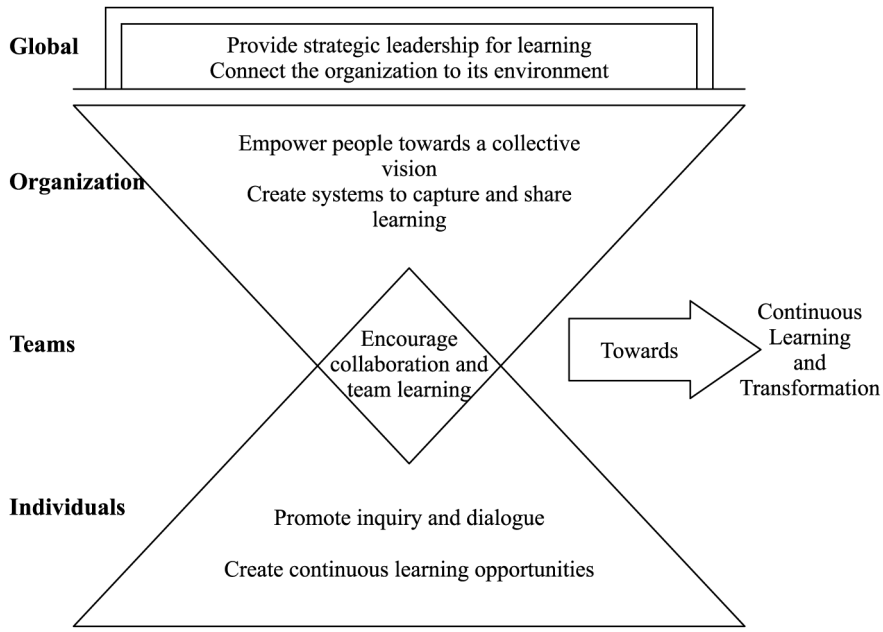

Figure 1.
Learning organization action imperatives

Source: Marsick and Watkins (1999, p. 11)

2002). Finally, consistent with this model, many studies establish a positive correlation between embedding learning organization characteristics and having a greater company value when value is measured by both assets and intangibles or intellectual capital. These intangibles are the result of knowledge resident in individuals and systems, and encompass human, structural, and customer capital (Stewart, 1997; Sveiby, 1997).

Based on the model illustrated in Figure 1 and the action imperatives presented in Table V, the DLOQ was developed to gauge in user-friendly terms the characteristics of a learning organization (Redding, 1997). According to Watkins and Marsick (1998), assessment establishes a benchmark against which an organization can repeatedly track progress, which can stimulate innovation and change. Like most other diagnostic tools, the DLOQ takes the pulse of the organization at a particular point in time. The pulse can be taken periodically to track progress in implementing initiatives against baseline data. The DLOQ can be used to examine areas of strength as well as weaknesses and to initiate a process of group analysis and visioning as firms strive to sculpt and mold their own versions of the learning organization.

Research methodology

In line with what is described above, this paper adopts the Model of the Learning Organization by Watkins and Marsick (1998), and their DLOQ to gauge progress towards learning organizations in the banking and IT sectors of Lebanon. We have adopted the DLOQ developed by Watkins and Marsick (1998), while omitting the last section pertaining to financial performance, given the near impossibility of obtaining this kind of information in the Lebanese context. Thus, while retaining the bulk and essence of the questionnaire, we omitted the section pertaining to "measuring performance at the organizational level". We considered this justifiable, given that our purpose was not to track the improvement in the organization's performance and value, but rather to take the pulse of a sample of organizations at a specific point in time and gain insights into learning-related strengths and weaknesses. Hence, as illustrated in Table VI, the questionnaire came to include 49 questions (instead of 60), five sections (instead of six) and seven dimensions (instead of eight). The seven dimensions of learning organization which we have included/studied are continuous learning, and inquiry and dialogue at the individual level; collaboration and team learning at the group level; systems that capture and share learning and people empowerment at the organizational level; connecting the organization to its environment and strategic leadership for learning at the global level. A six-point

Section	Dimension	Items
Individual level	Continuous learning	7
	Inquiry and dialogue	6
Team or group level	Collaboration and team learning	6
Organizational level	Systems that capture and share learning	6
	People empowerment	6
Global level	Connecting the organization to its environment	6
	Strategic leadership for learning	6
Company/respondent demographics		6

Table VI. DLOQ composition in our study

Likert scale was used to rate the 43 statements of the questionnaire. The scores of all respondents of a specific company for each statement were averaged to obtain the score of the company for that specific statement. Then, the score of each dimension was calculated by averaging the scores of the statements corresponding to that dimension. The average of each dimension across all companies within an industry was calculated to determine the score of the industry for that specific dimension. The total score for each company or industry was obtained in turn through the summation of the scores of the seven dimensions making up the DLOQ.

A convenience sample of 12 companies, six in each of the two sectors surveyed, was chosen based on accessibility to their top management and their willingness to participate in the survey. Care was taken to survey small, medium, and large organizations. The survey was completed during the period extending from July 2006 to September 2006. In each company, 20 individuals from different departments were chosen randomly and requested to fill the survey to offer a representative pool of opinions/views. Thus the final sample consisted of 227 individuals (123 managers and 83 employees) drawn almost equally from the banking and IT sectors as illustrated in Table VII. Names of companies were kept anonymous for confidentiality reasons.

In addition to the survey conducted, the researchers met with the human resource managers of two of the banks and two of the IT organizations surveyed in order to gain greater insights, clarify specific vantage points and generally shed some light on the research findings. Those meetings were particularly useful in terms of gauging and compiling direct feedback from internal constituencies who are familiar with the intricacies and dynamics of the respective organizations. The next section presents and analyses the findings of our survey of the banking and IT sectors in more detail.

Company symbol	No. of employees	Respondents	Respondents		
			Managers and supervisors	Employees	Not specified
Banking sector					
A	1,400	22	13	4	5
B	1,300	18	15	3	0
C	800	20	13	7	0
D	320	17	13	3	1
E	220	24	6	11	7
F	120	11	8	3	0
Subtotal		*112*	*68*	*31*	*13*
IT sector					
AA	99	19	8	9	2
BB	70	21	11	9	1
CC	50	26	13	13	0
DD	25	15	6	7	2
EE	20	19	7	9	3
FF	25	15	10	5	0
Subtotal		*115*	*55*	*52*	*8*
Total		*227*	*123*	*83*	*21*

Table VII.
Sample description

Research findings and discussion

The total scores of banking companies ranged between 23.44 and 27.99, with a sample average of 25.96 out of 42 that shows above average results (Table VIII). Even the ratings of the respective dimensions were above average, with the lowest (3.35) pertaining to people empowerment, and the highest (3.96) corresponding to the strategic leadership dimension. While our findings generally show some variation across companies in the banking sector, empowerment seems to be a weakness area across the board, followed closely by collaboration and team learning and the creation of systems to share and capture learning. In other words, the weaknesses of the banking sector seem to lie in the organizational and group level dimensions. Conversely, the areas of strength across the sample are the global level dimensions, including strategic leadership and connecting the organization to its environment, followed closely by individual level dimensions including promoting inquiry/dialogue and creating continuous learning opportunities. No correlation was found between the size of banks in our sample and their scores on the various learning organization dimensions.

It is worth dwelling on and qualifying these results within the realities of the banking sector as well as national contextual realities. Although the banking sector is one of the oldest and most progressive sectors in the Lebanese economy, it continues to be mostly bureaucratic, governed by hierarchical structures, rigid rules, and standard procedures and processes which leave a narrow aperture for employee participation in decision making. Decisions regarding resource allocation are centralized at the head office where vision and strategy are set by top managers and employees are expected to implement them. This may help account for the low ratings on the employee empowerment dimension. The same mechanistic structure prevalent in the banking sector with its emphasis on specialization, departmentalization, standardization, and formalization may undermine opportunities for collaboration. Employees are generally assigned to narrow and specialized tasks, with limited need, opportunity, or incentives for collaboration. Discussions of the results with the two HR managers confirmed in turn that structural and cultural norms within the banking sector play against team reward and sharing. The HR managers also confirmed the salience of job insecurities

Dimension	Average	Companies A	B	C	D	E	F
Individual level							
Create continuous learning opportunities	3.79	4.18	3.34	3.86	3.45	3.81	4.10
Promote inquiry and dialogue	3.81	4.04	3.11	3.72	3.43	3.84	4.71
Group level							
Encourage collaboration and team learning	3.55	3.76	3.35	3.73	3.30	3.78	3.37
Organizational level							
Create systems to capture and share learning	3.66	4.00	3.86	3.58	2.91	3.91	3.71
Empower people toward a collective vision	3.35	3.43	3.18	3.79	3.13	3.26	3.32
Global level							
Connect the organization to its environment	3.84	3.62	3.57	3.87	3.62	3.75	4.61
Provide strategic leadership	3.96	4.14	3.90	4.13	3.60	3.82	4.17
Total	*25.96*	*27.17*	*24.31*	*26.68*	*23.44*	*26.17*	*27.99*

Table VIII. Results of the banks by action imperative

and competitiveness among employees and limited appreciation for teamwork and the value added of collaboration. It is interesting to note that the HR managers did not attribute the low ratings on the empowerment and collaboration dimensions to the absence of systems to create and share learning, although this dimension had equally received a low rating.

It is also worth dwelling on areas of strength and qualifying them accordingly. The findings suggest that at the individual level, employees are somehow encouraged to ask questions, state their views, and that opportunities are made available for learning and self-development. This is clearly reflected in the good scores obtained in relation to the individual level dimensions. We also note areas of strength related to perceptions of strategic leadership and the connectivity of the organization to its environment. This can be attributed to the high regard employees bestow upon their leaders in a high power distance society. The HR managers interviewed attributed this rating in turn to the flair and skills of leaders in meeting corporate objectives and taking their companies forward. Banks are also the backbone of the Lebanese economy and have made significant strides in recent years at expanding regionally and forging links globally. Interestingly, the highest ratings obtained are at the global and individual levels. Nevertheless, the positive patterns at the individual level do not seem to permeate the level of the collective. In other words, learning does not seem to have evolved into a systemic process and a collective experience. One ruptured link is related to the weakness of systems to share learning as well as the limited leveraging of teams as vehicles for learning as illustrated in Table VIII.

Our findings in the IT sector suggest that the total scores for IT companies ranged between 26.95 and 34.75, with a sample average of 29.70 out of 42 which shows superior achievement (Table IX). The scores for respective dimensions were all above four (out of six), with the lowest (4.01) pertaining to people empowerment, and the highest (4.48) relating to promoting inquiry and dialogue. While our findings generally show some variation across companies in the IT sector, empowerment seems to be one of the lowest rated dimensions, followed by the creation of systems to share and capture learning. This is very similar though less accentuated than the banking sector, where we have also detected weaknesses in the organizational level dimensions. Conversely, the areas of strength across the IT sample are in the leadership dimension

Dimension	Average	Companies AA	BB	CC	DD	EE	FF
Individual level							
Create continuous learning opportunities	4.21	3.50	4.80	4.22	4.96	3.77	4.05
Promote inquiry and dialogue	4.48	4.15	4.56	4.43	5.02	4.16	4.56
Group level							
Encourage collaboration and team learning	4.21	4.26	4.60	3.85	4.73	3.93	3.93
Organizational level							
Create systems to capture and share learning	4.17	4.13	4.21	4.03	4.97	3.29	4.44
Empower people toward a collective vision	4.01	3.69	4.03	4.05	4.93	3.50	3.90
Global level							
Connect the organization to its environment	4.19	3.90	4.42	3.94	5.00	4.00	4.03
Provide strategic leadership	4.43	3.93	4.62	4.07	5.14	4.30	4.52
Total	*29.70*	*27.56*	*31.24*	*28.59*	*34.75*	*26.95*	*29.43*

Table IX.
Results of IT companies by action imperative

at the global level and the promotion of inquiry and dialogue at the individual level. No correlation was found between the size of IT firms in our sample and their scores on the various learning organization dimensions.

These findings need to be interpreted and qualified in relation to the realities of the IT sector and the nature of the environment in which IT companies operate. According to the HR managers, the nature of work of IT or software development companies is increasingly project and team based, capitalizing on systematic collaboration and the creation of various systems to capture and share knowledge. This may help account for the higher scores obtained in relation to the group level dimensions in the IT sector than what was observed in banking. On the other hand, the HR managers pointed out that their IT companies have moved in recent years toward the adoption of lean and organic structures to enhance flexibility and expedite decision making. Such built-in flexibility is considered increasingly essential to foster innovation and agility in the context of high environmental volatility. Our findings also suggest that IT companies are making systematic efforts at connecting the organization to its environment and providing strategic leadership, with those two dimensions increasingly considered essential according to the HR managers interviewed for a competitive positioning of the firm in a dynamic environment.

When comparing the results of the banking and IT industries in Lebanon, we notice that the IT sector has exhibited significantly superior ratings and results in relation to all dimensions studied (Table X). This implies that the sector to which the respondent belonged was an excellent predictor of the variance in the answers provided. In other words, according to managers and employees working in those sectors, IT firms in Lebanon have made more progress than banks towards the integration of learning organization practices. Although both sectors exhibited lowest ratings and performance in the organizational level dimensions, the IT sector exhibited significantly higher scores across all dimensions due possibly to better appreciation of the importance of learning and collaboration in the context of high environmental complexity/volatility.

Table XI presents the aggregated means of the learning dimensions across the four study levels including individual, group, organizational and global for the whole

Dimension	Banking		IT		
	Mean	SD	Mean	SD	Sig.
Individual level					
Create continuous learning opportunities	3.79	0.93	4.21	0.85	*
Promote inquiry and dialogue	3.81	0.92	4.48	0.85	*
Group level					
Encourage collaboration and team learning	3.55	0.87	4.21	0.80	*
Organizational level					
Create systems to capture and share learning	3.66	0.96	4.17	0.95	*
Empower people toward a collective vision	3.35	0.85	4.01	0.91	*
Global level					
Connect the organization to its environment	3.84	0.85	4.19	0.89	*
Provide strategic leadership	3.96	0.91	4.43	0.90	*

Note: * Significant at $p < 0.001$

Table X.
Comparison of banking and IT sector scores

sample and for each sector individually. The highest ratings for the overall sample are in the global dimension and individual level dimensions. This may imply the existence of strong visionary leaders who are keen to foster a sense of strategic direction and continuous connectedness of the organization to its environment. Individual level dimensions have also been rated highly across the two sectors, suggesting a commitment to learning and self-development at the individual level, and the general fostering of environments where personal mastery is both valued and possible. The weakest ratings across the two sectors relate to group level and most flagrantly to organizational level dimensions, suggesting limited appreciation for team learning or the need to diffuse knowledge and skills from the level of individuals to the members of the collective, a limited sense of team empowerment and the scarcity of perceived mechanisms rewarding learning and experimentation at the group level.

As summarized in Table XI, in terms of statistical significance, the differences between the four areas were all significant in the banking sector, except differences between individual and global dimensions on one hand and group and organizational dimensions on the other. Within the IT sector, all differences were not significant (given that scores were close to each other) except for the differences between global and organizational levels on one hand, and differences between individual and organizational levels on the other hand. In summary, in both sectors, the differences between individual and organizational level scores obtained were significant and the differences between the global and organizational level scores were also significant.

The noted significant differences between individual and organizational level learning scores across the two sectors are particularly interesting and certainly worth reflecting and dwelling on. Learning at the group and organizational levels depends mostly on a positive propensity to teamwork and good communication, both of which tend to be under valued in the context of Lebanese organizations. While the Lebanese are mostly collectivist in the context of their society, families or sects (Sidani and Gardner, 2000) they are more individualistic and competitive in their work orientations and ascribe to the traditional paradigm of mutually exclusive success or advancement. Organizations and their leadership should also bear some responsibility in this regard, in the sense that they are not fostering team learning through systematic incentives and rewards (Jamali and Sidani, 2008) nor are they embedding the infrastructure needed to capture/share learning as suggested in our findings. Lebanese on the other hand generally place high value on education, personal development, and continuous self-improvement, which can also help account for the significant differences detected between the scores obtained for individual and organizational level dimensions.

Level	All sample	Banking	IT	Significance
Individual	4.05	3.76	4.33	Significant differences between individual and organizational level scores in both sectors
Group	3.90	3.59	4.20	
Organizational	3.82	3.55	4.07	Significant differences between global and organizational level scores in both sectors
Global	4.08	3.87	4.28	

Note: Significant at $p < 0.001$

Table XI.
Ratings across the four learning areas

Significant differences between global and organizational level scores derived are mostly attributed to the fact that while leaders may be according systematic attention to issues of strategic direction and external environmental spanning, they do not seem to be according equal attention to issues of embedding learning at the organizational level, which also seems reflective of general leadership patterns and practices in the Lebanese context.

Systems theory can also shed light on the findings reported in Table XI and how the various levels of the DLOQ need to be considered simultaneously and in an integrated manner. Systems theory conceives of learning organizations as comprising inter-dependent building blocks at the individual, group, organizational and global levels. The idea is that the dimensions and propensities detected at various levels necessarily combine, interact and co-evolve to shape the disciplines of an advanced learning organization (Jamali *et al.*, 2006). In other words, obtaining higher order learning performance is necessarily contingent on making progress in each of the respective dimensions, addressing gaps, and enhancing multiple value adding interactions and synergistic relationships (Jamali *et al.*, 2006). The main implication here is that the visible progress detected at the individual and global level dimensions in the Lebanese context needs to be complemented with equal progress in relation to team learning and group level dimensions to foster a complete effective learning cycle and the overall capabilities of an advanced learning system.

Concluding remarks and prospects for future research

This paper examined the concept, diagnosis and measurement of learning organizations through a thorough literature review. Various measurement tools were presented. A slightly modified version of the DLOQ by Watkins and Marsick (1998) was adopted to conduct an empirical study of the Banking and IT sectors of Lebanon. Our findings suggest that companies in both sectors are evolving towards learning organizations and that IT companies have made more progress in this regard. This was attributed to the differences in the nature of work, structures, and environments of these sectors, with organizational design and environmental uncertainly identified as two salient variables that are worth considering in research about learning organizations. Our study thus makes clear that different sectors place different demands on employees to learn more aggressively and that these demands are shaped by the peculiarities of the sectors in question. The IT sector seems to be integrating learning organization practices as a way to address successfully the demands of innovation and critical change challenges in a volatile context.

In terms of strengths and weaknesses of our sampled firms, our findings suggest strengths in individual and global level dimensions, implying systematic attention to issues of employee learning as well as strategic leadership in the context of Lebanese firms. Learning thus seems to be integrated into individual development plans and leaders seem to be assuming proactive roles in modeling the values of the organization and pushing learning forward. The weaknesses seemed to lie mostly in organizational level variables. While group level variables have been noted as also weak in the context of banks, empowerment and the creation of systems for learning emerged as weaker areas across the board, suggesting the need for Lebanese firms to empower individuals and teams to assume responsibility and take action related to their work and the creation of user friendly systems for sharing information and knowledge. Consistent

with the idea of systems level continuous learning advanced by Marsick and Watkins (1999), our findings also lend support to the salience of a systems theory perspective and analysis in research on learning organizations. It is useful to conceive of learning organizations as comprising interdependent building blocks at the individual, group, organizational and global levels, which are mutually reinforcing with multiple interactions and spill over effects. Such holistic view of the learning organization can go a long way in terms of highlighting the need to work in parallel on various fronts and various levels to address gaps, foster effective progress, and to ensure synergy and overall coherence of action.

Although this exploratory excursion and the implications derived are very interesting and encouraging, it is important not to make broad generalizations because of the limitations of our research arising from the small number of companies surveyed (six from each sector) and the convenience sampling methodology adopted. It is also important to keep in mind that what was actually measured relates to the perceptions of employees and managers rather than absolute indicators of learning organizations. The DLOQ is indeed a self-report instrument and a perceptual measure (Marsick and Watkins, 2003). Further research can help shed more light on the issues raised in this paper. It would also be valuable to link the perceptions of employees and managers of learning to other dimensions such as financial and knowledge performance. We did not venture into this, particularly that as noted by Marsick and Watkins (2003), only middle and higher level managers are comfortable answering performance-related questions and that these would serve as proxy measures of actual performance at best. This could very well serve as the scope for future research on the topic.

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