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Diagnosing and measuring learning organizations

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Abstract

Purpose – To explore and analyse various learning organizations and to attempt to outline the form of a holistic learning organization.

Design/methodology/approach – The tool described in this article is a continuation of the work published in a Licentiate thesis in 1996 and developed further in a doctoral dissertation in 2001. The Learning Organization Diamond Tool is based on a holistic concept of a learning organization being regarded as a structure of related elements: driving forces, finding purpose, questioning, empowering and evaluation at two interconnected levels of individuals and the whole. Data from 686 respondents were gathered from 25 Finnish organizations in 1998.

Findings – The outcomes of the study are mainly presented in the form of imaginary diamonds complying with the basic framework. In 24 organizations the individuals placed more trust in themselves and their own learning than in their organization as a learning environment. When comparing different business sectors the variation on the organizational side was clearly greater than on the individual side.

Originality/value – Developing a measurement instrument for learning organizations, administering it in practice, and analysing the "learning organization portrayals" created by this tool.

Keywords Learning organizations, Measurement, testing and instruments

Paper type Research paper

Learning organizations and their measurement

Learning organizations have been defined and described in almost countless different ways, but very seldom measured or diagnosed. For instance:

> 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. The learning organization eliminates structural obstacles of learning, creates enabling structures and takes care of assessing its learning and development. It invests in leadership to assist individuals in finding the purpose, in eliminating personal obstacles and in facilitating structures for personal learning and getting feedback and benefits from learning outcomes (Moilanen, 1999a).

The disparity is so clear that the need for more in-depth study and discussion about the issue is evident. Measuring or diagnosing is more complicated than defining or describing, but it could be very rewarding. It could offer more practical and applicable information about learning organizations, and thereby some more concrete ways of developing organizations towards actual learning organizations. In this article the emphasis is on developing a measurement instrument for learning organizations, administering it in practice, and on analysing the "learning organization portrayals" created by this tool.

The aims of this study are:

- to attempt some form for a holistic learning organization;

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- to analyse the variation between learning organizations in different business sectors; and
- to verify and visualise the existence of "learning" and "non-learning" organizations.

The theoretical background used can be found in the works of Mike Pedler, Tom Boydell and John Burgoyne, Chris Argyris and Donald A. Schön, as well as Peter M. Senge, because these writers seem to have the most holistic views of learning organizations. Had they also had suitable measurement instruments for these organizations, these could have been used in the study, but of them, only Pedler *et al.* (1997 pp. 15-16) have developed a diagnostic tool, which is called "11 characteristics of learning organizations".

Only a short summary of the views of these scholars is presented here. A thorough analysis has been presented in an article written about the whole process of developing the measuring instrument (Moilanen, 2001a). The concepts used in Table I were derived from the works of the scholars mentioned above. Since they used so many different concepts, and varying definitions for these concepts, it was necessary to attempt to classify these views by some means. The approach adopted was to group the concepts and elements as managing and leading (I), finding purpose (II), questioning (III), empowering (IV) and evaluating (V). In addition to this the holistic focus was also analysed. The outcomes of the grouping are presented in Table I.

Pedler *et al.* (1997) clearly have all the other elements in their model except for managing and leading. Senge's model is somewhat different, but he nevertheless has elements that could be categorised in these five groups. There are some slight differences, the most obvious being his minor emphasis on evaluating the learning organization as a whole entity. Argyris and Schön, then, do not have as many elements of the whole as do the others. Their main point is in mental models and their change, and not in the whole organization or in the suitable ways of constructing it.

Table I.
Learning organization – origins and the elements of the whole

	The whole	Managing and leading as driving forces (I)	Finding purpose (II)	Questioning (III)	Empowering (IV)	Evaluating learning and learning organization (V)
Pedler (1996), Pedler *et al.* (1988, 1989, 1991, 1997)	Yes	Inbaked but not very clear	Yes	Yes	Yes, wide range of means	Yes, assessing the whole (11 characteristics)
Senge (1990a, b, 1994, 1996)	Yes partly, mental models, systems	Yes	Yes	Yes, mental models	Yes, group-based means	Yes partly, assessing learning outcomes
Argyris (1993, 1997), Argyris and Schön (1978, 1996)	No, the core is in mental models	No	Not so evident	Yes, mental models of individuals and groups	Yes, group-based means	No

The viewpoints taken above form the main basis for the new diagnostic tool introduced below. Before that, however, eight measurement instruments have been selected to illustrate more closely the present state of diagnostic tools for learning organizations. Other instruments may exist, but as was mentioned above the documentation in the literature is relatively scarce regarding the whole of learning organizations.

The first diagnostic tool was presented as the result of a research study conducted in some British companies (Pedler *et al.*, 1988, 1989). Since then the idea of a learning company has been refined as a clearer form of the whole with a corresponding questionnaire (Pedler *et al.*, 1991, 1997). Strategy, looking in, structures, looking out, and learning opportunities are the main areas covered. The emphasis is on the whole and on the individual's role in this whole.

The second questionnaire is introduced in the book by Mayo and Lank (1994). This complete learning organization benchmark is very broad and includes 187 questions and nine dimensions. The emphasis is on diagnosing the actions that should be taken to achieve maximum impact on the development process of a learning organization. The emphasis is also on organizational factors, as well as on individual and team-based learning and managing and leading. Tannenbaum (1997) composed his tool on the basis of scientific research and tested it with scientific methods. The main point in his tool is the learning environment. The main emphasis is on the processes and on training, but also on the ways of job-related learning. Support also has a role in this tool, but it is supposed to come from supervisors as well as from co-workers. Pearn *et al.* (1995) developed a tool that is comprehensive from the point of view of leading and encouraging learning, but superficial from the point of view of the whole learning organization. The main focus of the questionnaire is on the way learning is encouraged by various departments and managers. The fifth questionnaire is introduced in a book by Sarala and Sarala (1996). The statements included in this instrument have been grouped under philosophy and values, structure and processes, leading and making decisions, organizing the work, training and development, and the internal and external interaction of the organization. The focus of the tool is on establishing whether an organization is a learning organization or not.

A quick test for learning organizations (Otala, 1996) is a questionnaire composed of 20 statements. This questionnaire is very short and therefore very easy to fill in. But the questionnaire is also at a very general level and does not provide a clear idea of the whole learning organization concept.

The next tool to be introduced here is by Redding and Catalanello (1994 1997): learning organization capability assessment. This instrument defines three archetypes, which are categorised as:

(1) traditional;

(2) continuously improving; and

(3) learning organizations.

It is also very straightforward and easy to fill in and the value of this tool is in getting some basic idea of where the organization stands in terms of its orientation.

The last and probably the most comprehensive questionnaire is by Watkins and Marsick (1998): Dimensions of the Learning Organization Questionnaire. It is organized in four sections addressing individual, team, organizational and global issues. In 1998 the core of the instrument was presented with seven dimensions,

namely: continuous learning, dialogue and inquiry, team learning, embedded system, system connection, empowerment, provide leadership, financial performance, and knowledge performance (Yang *et al.*, 1998, p. 85).

The learning organization diamond

The roots of this study and the measurement instrument developed are clearly in the literature reviewed, and particularly in the works of Pedler *et al.* (e.g. 1991 1997) and Senge (e.g. 1990a). Some details have their origin in the work of Argyris and Schön (e.g. 1978 1996). Furthermore, Finnish managers and companies have also had a clear impact on the new diagnostic tool described below. Before going any further with the instrument, the basic idea of the tool is illustrated by presenting it in the form of an imaginary diamond (see Figure 1).

A diamond was chosen to visualise the basic ideas of the whole learning organization. This metaphor offers several advantages: for instance, diamonds are everlasting and full of opportunities. Diamonds and learning organizations are composed of two halves that are in reciprocal dependence in terms of each other: organization (upper half of the diamond) and individuals (lower half). Learning is a continuous process and a learning organization should be an everlasting state of an organization, because of the continuous need for learning. (Moilanen 1999a, b)

Composition and structure of the instrument

The core of the measurement tool is in creating a holistic picture of an organization and seeing the present state of the learning organization. Two separate portrayals can be created (organizational and individual sides) as well as separate pictures of the different respondent groups of the organization. The statements have been formulated in order to operationalize these two sides and the ten elements. The aim was to use such formulations of the statements that filling the questionnaire would be possible for everyone in different organizations and at all organizational levels.

The learning organization diamond tool is composed of 40 statements; 20 of them focus on the organizational level and 20 on the individual level. The statements are presented in two clusters for answering, but during the analysis phase and in the

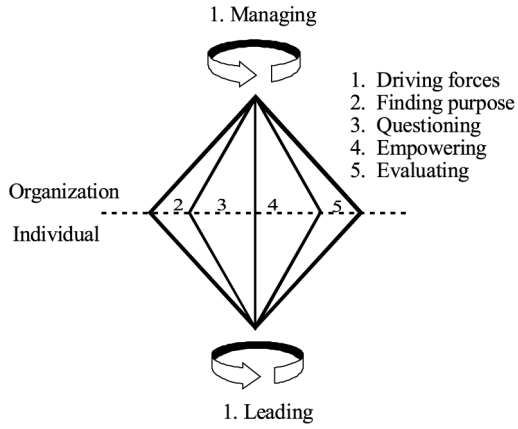

Figure 1.
The learning organization diamond

feedback they are clustered according to the basic model of the learning organization diamond (driving forces, finding purpose, questioning, empowering and evaluating).

The visualisation of the data has been done by means of imaginary diamonds, the first one visualising the organizational side of the data and the other one visualising the individual side. The size of the diamond is significant, because it shows the number of assessed elements. Respondents have provided highest scores if the diamond is in its largest form, and lowest scores, if it is in its smallest form.

The structure and the contents of the tool can be simplified as shown in Table II. The basic ideas behind the elements can be exemplified as shown in Table III.

This questionnaire offers a framework for analysing learning organizations. The framework is rather general, because organizations are different; their backgrounds, histories, cultures, processes and businesses vary enormously. But in spite of this variety, frameworks or models are needed to assist managers in their efforts of diagnosing their organizations. The learning organization diamond model offers a tool that not only makes it possible to see the whole, but also to identify the elements of this whole.

The whole that is covered by this tool can, of course, vary. The framework chosen directs the logic of the tool and the further choices at a more concrete level. This measurement instrument is based on theory and tested statistically, but the crucial question is, of course, whether it gives enough information. It could have been composed by following another set of guidelines, but a holistic view of learning organizations was chosen as the main criterion. From the research point of view, the

Focus	Organization	Individual
Driving forces	Building the whole	Leading learners
Finding the purpose	Where and why?	
Questioning	Why not, what hinders?	
Empowering	In what ways?	
Evaluating	To know if succeeded	

Table II.
The core of the Learning Organization Diamond Questionnaire

Focus	Organizational level	Individual level
Driving forces	Building a learning organization is a priority and has many resources in our organization	Leaders support and encourage my learning
Finding the purpose	Learning is seen as a vital part of our organization's competitiveness	The goals of my organization direct my development and learning
Questioning	Learning obstacles have been eliminated in our organization	I am not afraid of big changes
Empowering	Our people are coached to master new processes and techniques	I am able to apply my learning to develop my work
Evaluating	The development goals are meaningful, because they are evaluated	I am able to assess the outcomes and methods of the work of our team

Table III.
Some statements operationalizing the framework

comprehensiveness of the instrument could also be questioned, because the questionnaire has only 40 statements, but the aim of developing a short and easily accessible questionnaire was seen more important than the number of statements particularly since reliability and validity measures were also to be taken into account. For practical purposes, however, the number of statements is perhaps too high, but the idea is to reduce the number on the basis of the findings.

Methods

The survey instrument, which was piloted in 1996-1997 (see Moilanen 1996, 1998) was used with a group of 691 respondents (686 accepted) and 25 organizations. In order to test its feasibility, the primary aim of the data collection was to have a varying group of respondents for analysing the tool, and not to analyse these organizations themselves as whole organizations. However, it became evident that the need to know more about organizations themselves also increased the necessity of analysing the data from this point of view. Publishing the results of this last part of the research project was delayed because of other projects taking priority.

The 25 organizations chosen were categorized into six groups: the public sector with 148 respondents (21.6 per cent), information technology 109 (15.9), manufacturing 52 (7.6, the smallest group), banking and insurance 219 (31.9, the biggest group), training/educational companies 105 (15.3), and wholesale/retail 53 (7.7). The boundaries between these six groups are not as clear as they could be in more formal settings, because the purpose of the categorization into different lines of business is merely to assist in the interpretation of the outcomes of the study.

The public sector includes four groups of Finnish local authorities and one technical and two education groups (seven all together). Information technology is composed of six organizations representing "traditional" information technology, but also software import and telecommunications (six). The third group is the smallest one with two factories representing Finnish food industry (two), and the fourth group consists of three banks or insurance companies, as well as one related organization. In addition to this, one individual case was located in this fourth group, namely one hotel (five). The fifth group is composed of three training units owned by private organizations (three), and the sixth group of two retail and wholesale organizations (two). Most of the organizations were large and the respondent groups represented only small sections of the staff of these organizations. Almost all of them have operations all over Finland and some are also international.

The background information gathered included questions about the gender, age and the period of time the respondents had been employed by the organization in question. Their occupation was also asked, as well as their educational background, but these variables were not in numerical or coded form. A very interesting feature is the clear majority of women among the respondents. The most typical age varied between 41 and 50, and over half of the respondent group were between 31 and 50 years old. Half of the group had worked in their organizations from six to 25 years, i.e. long-lasting employment was typical. The spectrum of different occupations was broad: teachers, trainers, cleaners, shop assistants, salesmen, clerks, factory-workers, information technology specialists, and naturally also several types of foremen and middle managers. The educational background of the respondents was as variable as the occupation, and the levels from lower to higher education were well represented.

The data gathering was monitored by one person in each organization. In 24 cases the questionnaires were handed out personally or mailed, the package including a two-page questionnaire, instructions and a background information sheet. One organization wanted to respond by e-mail and for them the questionnaire was transformed into electronic form.

Data analysis

The information provided by the questionnaires was recorded and filed and an Excel-based software application was used to process the data. The data were processed for two purposes: first the research purpose, involving the testing of the instrument itself, and second for a more practical purpose, namely to give feedback to organizations participating in the study. For the scientific purpose, the data were collected on a combination chart, which was transformed to the SPSS-form. After that the reliability of the tool was measured.

Reliability

To examine the reliability of this learning organization diamond tool, Cronbach's alphas were analysed at different levels: first the level of the whole tool (1), then the levels of the organization and the individuals (2) and as the last, the level of the chosen units of the tool (10). The coefficients analysed were as shown in Table IV.

The main conclusion to be drawn about the reliability of this diagnostic tool is that nine out of 13 alphas analysed here are over 0.7, as recommended in 1978 by Nunnally (Peterson, 1994). The four alphas gaining the level of the previously set standards, but not the 1978 level, are all located on the individual side of the tool. As a whole, the reliability seems to be at a very acceptable level in view of the fact that this instrument has a very exploratory background (Moilanen, 2001b).

Validity

> The term validity denotes the scientific utility of a measuring instrument, broadly stated in terms of how well it measures what it purports to measure (Nunnally and Bernstein, 1994, p. 83).

The purpose of measuring is the main point here. The learning organization diamond tool purports to measure the whole learning organization, not any particular part of it, but the whole as seen from the manager's point of view. The whole has been composed

	Alpha (α) Organizational level ($n = 661$)		Alpha (α) Individual level ($n = 686$)
The whole tool with 40 statements		0.9500	
Levels with 20 statements	0.8672		0.9566
1, 6 Managing the whole	0.8617		0.8274
2, 7 Finding purpose	0.8479		0.6803
3, 8 Questioning	0.7582		0.5467
4, 9 Empowering	0.7959		0.5141
5, 10 Evaluating	0.8499		0.6225

Table IV.
Results from analysing Cronbach's alphas

of various types of elements driving to cover the whole as widely as possible, while also keeping in mind the framework of the whole.

The whole of a learning organization is based on certain theories. The most relevant parts representing the idea of holistic learning organizations were chosen and a structure covering the whole was developed. The whole was composed of two levels, and ten elements or domains were established, and the statements to make the whole more operational were chosen. The process of developing the theoretical framework has been presented more thoroughly in previous papers (Moilanen, 2001a, b).

In this field, there is no agreement on the concept itself or the elements of the whole. A great variety of domains and variables are related to the concept of a learning organization. As noted by Nunnally and Bernstein (1994 p. 86) domain size and specificity are intimately related; the larger the domain of observables related to a construct, the more difficult it is to specify the variables that belong in the domain.

Findings

The data covers Finnish organizations very widely, because there are answers from 25 different types of organizations. This is a very interesting starting point for analysing the data, but also somewhat restricting, because the variety makes generalization difficult. In other words these data provide information about these organizations, but not necessarily as whole organizations. This is due to the fact that the data were gathered for analysing the validity and reliability of the measurement instrument, (Moilanen, 2001a) and not to analyse the organizations themselves. In any case, some conclusions can also be drawn from the point of view of these organizations. The main emphasis is on three areas:

(1) on the portrayals created from the data as one organizational unit;

(2) on the six lines or sectors of business; and

(3) on some individual organizations.

The data as a portrayal of one large organization

The whole data were gathered with 691 questionnaires, but 686 were only accepted, because five questionnaires did not comply with the aims of data analysis. If these 686 respondents were representing only one company, the portrayals would be as presented in Figure 2. Before going any further in the analysis one comment should be made about the shape of the portrayal. In Figure 1 the shape of the diamond was slightly different compared to the figures below, because driving forces were not within the diamond, but acting on (i.e. spinning) it. For the sake of clarity, all the elements are included in the portrayals. The shape is now also slightly changed in that the diamond has been split in two halves and the halves have been turned to be viewed from the top (organizational side) and from the bottom (individual side). The bigger the portrayal the higher the scores given by the respondents.

The first portrayal describes the organization-wide elements seen by the respondents and the second portrayal illustrates the respondents' beliefs about themselves as learners. There is one exception to this distinction between the organizational and individual aspect. The element called leading learners and their learning mainly represents the way people are treated as individuals, and not their personal beliefs. The assessed elements are driving forces (managing and leading),

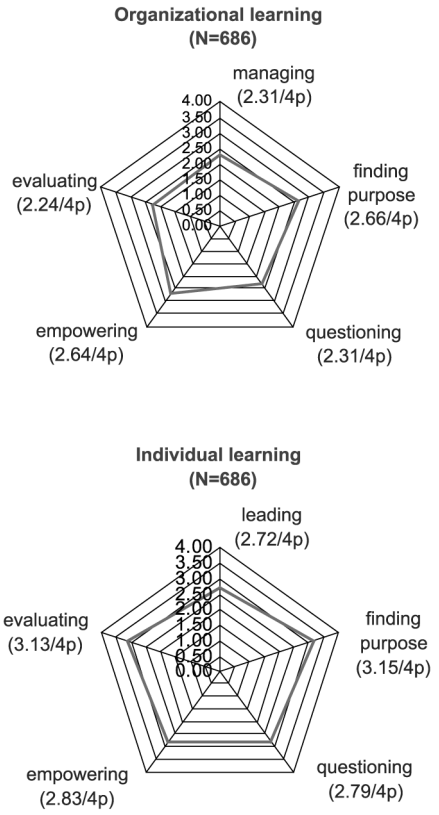

Figure 2.
The data as a portrayal of one large organization

finding purpose, questioning, empowering and evaluating. The core of the elements assessed is the same, but the weight is either on the organizational or the individual side of the element. The portrayal of the organizational side is relatively balanced, but the size is not as large as it could be. The mean values of the elements vary between 2.2 and 2.7, but they were nowhere near the maximum values. None of the elements are distinct from the others; only finding purpose and empowering have slightly higher scores than the other three elements. The second portrayal, which creates the sum of respondent's opinions about themselves as learners, is clearly larger than the organizational portrayal, and it also covers the whole better. All the mean values are near 3, e.g. 2.7-3.15. It is in balance, despite the minor variation in the first element, e.g. the way individuals feel that they are being treated as learners.

The last interesting viewpoint taken is the clear difference in the size of the portrayals. The individual diamond is distinctly larger than the organizational one. For elements I-III, e.g. driving forces, finding purpose and questioning the distinction is about 0.4 to 0.5, whereas empowering has 0.2 and evaluating 0.8. The portrayals also visualise some different weights in these two sides of a learning organization. The organization diamond has got the biggest means in finding purpose and empowering,

whereas the individual diamond is slightly emphasized in finding purpose and evaluating.

To sum up, the whole data give some ideas about the essence of organizations as learning organizations and individuals as learners. The whole is quite balanced in both cases, but the whole is clearly larger when reviewing the individual side. None of the elements seem to have clearly higher weights on either side of the diamond.

Business sectors

In general, the portrayals of the different business sectors were not full diamonds in any of these lines of business. Some had more of the measured elements than the others, but most of the highest mean values of the elements were between 2.5 and 3.1 on the organizational side and between 2.9 and 3.4 on the individual side of the instrument. This means that individuals regarded the elements concerning themselves as more descriptive than the elements concerning the whole organization. The shape of the portrayals was also different, the individual diamond being more balanced than the organizational diamond.

Another general point was the minor difference in the portrayals in the individual side. The respondents in different lines of business regarded themselves very similarly as individual learners, and, thus, the majority of the diamonds of the individual side has almost the same shape and the same size. In contrast, the shapes and the sizes of organizational portrayals diverged much more.

When the results were analysed according to the lines of business, some very interesting outcomes could be seen. The best diamonds on both sides of the instrument were found in retail and wholesale business, whereas the smallest portrayals were in information technology business. Table V gives the basic information about the comparison of mean values, describing the whole composed of the ten different elements of the instrument. The mean values for all elements are presented according to the lines of business involved. The organizational side of the instrument is presented first, to be followed by the individual side.

Table V.
Mean values of the elements for the six lines of business and the whole data

	Public sector ($n = 148$)	Information technology ($n = 109$)	Traditional manufact. ($n = 52$)	Banking and insurance ($n = 219$)	Training ($n = 105$)	Retail and wholesale ($n = 53$)	All ($n = 686$)
Organizational side							
Management	2,2482	2,0142	2,082	2,328	2,490	2,799	2,308
Finding purpose	2,5164	2,4238	2,505	2,717	2,833	3,061	2,660
Questioning	2,3175	2,0330	2,096	2,367	2,425	2,594	2,312
Empowering	2,6186	2,3703	2,413	2,730	2,671	3,071	2,642
Evaluating	2,2135	1,8373	2,034	2,408	2,345	2,457	2,236
Individual side							
Leading	2,7449	2,3578	2,692	2,744	2,945	2,877	2,720
Finding purpose	3,1250	3,0321	3,125	3,151	3,200	3,373	3,150
Questioning	2,7821	2,7592	2,928	2,781	2,721	2,910	2,799
Empowering	2,8530	2,6950	2,716	2,861	2,910	2,934	2,835
Evaluating	3,1233	3,0161	3,154	3,150	3,183	3,231	3,134

A very general and speculative observation about Table V is the splitting of the data. A careful analysis of the table shows that its left side (public sector, information technology and traditional manufacturing) has smaller means than the rest (banking and insurance, training and retail and wholesale). The differences are statistically significant.

This finding might be due to the fact that the lines of business represented on the right side of the table are more human-intensive than the others. Particularly traditional manufacturing and also information technology are characterised by a very heavy weight on end products and the production itself. Heavy pressure on productivity, cost awareness and time limitations are characteristic of these organizations, whereas less emphasis has been directed to people and resources for learning. The organizations representing the public sector are somewhere in the middle (in these data), but information technology is here clearly grouped together with traditional manufacturing. There are of course many other different features, but the main point is the way in which the organization operates. Information technologies also include creative units like product development, but the basic orientation is more machine-like than human-intensive.

To repeat, the fullest diamonds of the organizational side were found in the lines of business that are more human-intensive than technical or machine-like. These lines of businesses were retail and wholesale (1, biggest portrayal), training (2) and banking and insurance (3). The other three were public services (4), traditional manufacturing (5) and information technology (6). The shape of the organizational portrayal was similar in all businesses. Three elements, e.g. management, finding purpose and empowering had the highest average means in all business lines. Only information technology and manufacturing had a slightly lower average means in management than the others. The "weakest" elements in practically all businesses were questioning and evaluating.

Figure 3 illustrates the organizational and the individual diamonds of retail and wholesale as well as information technology. The size and the shape of the portrayals and also the differences between separate elements are to be noticed here.

On the individual side of the diamond the variation between these two lines of business was clearly smaller and the portrayals are very close to one another. The ranking of the lines of business from the largest to the smallest portrayal is: retail and wholesale, training, public, banking, manufacturing and IT. The only considerable change in the list is the public sector with its placement as the third. The shape of the diamond on this side is more balanced than on the organizational side of the instrument. The highest mean values are in the elements of finding purpose and evaluating. The other three elements were not markedly smaller, but, still had the lowest means of all these five elements.

Two exceptions could be found, the first one concerning the information technology business and the element leading learners, and the second one the training business and the element questioning. These elements on these special lines of business had slightly lower mean values when compared to other industries. The first exception means that IT-specialists do not feel that they have as much "leading them as learners" as do the representatives of the other lines. The second exception indicates that the training business seems to involve slightly less questioning than do the others.

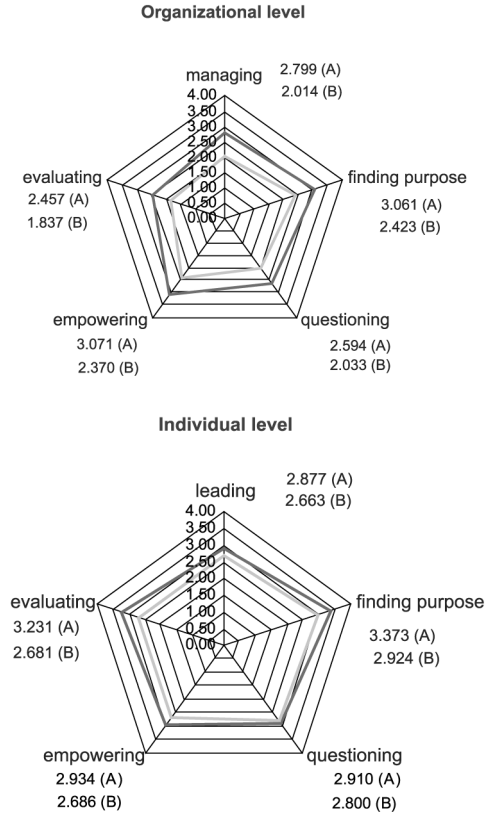

Figure 3.
Retail and wholesale business (A) compared with information technology (B) – both sides of the instrument

The comparison of organizational and individual sides of these analysed businesses is interesting. The respondents felt that they are better in being learners than their organizations are in being learning organizations. The same phenomenon appeared in all business sectors regardless of the size of the portrayals. The difference was smallest in the retail and wholesale business and greatest in the information technology business as well as in the other businesses with small organizational portrayals.

The greatest and the smallest portrayals

At the level of separate organizations the variation was very clear. The highest means were between 3.0 and 3.5 and the lowest between 1.5 and 2.0. In this section the "best" and the "least good" organizations are introduced and the shape, size and the means of the elements are analysed. These organizations are illustrated in Figures 4 and 5.

This hotel is a good example of organizations assessed by the personnel as being a learning organization. The hotel is a privately owned and well-managed hotel in Lahti, in Southern Finland. The Hotel Salpaus has 140 rooms and two restaurants and its turnover was EUR 2.2 to 2.5 million per year in 1996 and 1997. The hotel was established in 1990, and in 1996 it was bought by three persons, who still own the hotel.

The total number of personnel was at that time some 40-45 and the questionnaire was completed by 11 persons. Almost half of these personnel are full-time staff and the

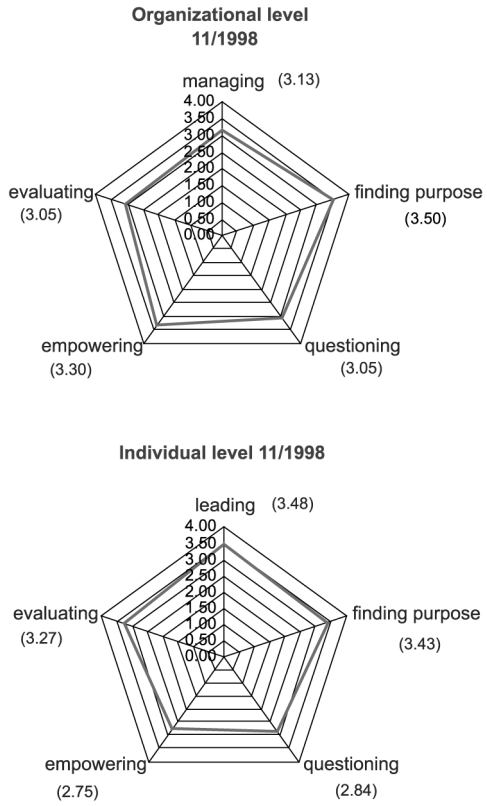

Figure 4.
The two portrayals of the "best" organization: Hotel Salpaus

rest work on a part-time basis. The average age of this group is clearly under 30, so the people involved are young and able to learn and act in a very flexible way. What is characteristic of this organization is job rotation and variety at work. A clear emphasis is on customer satisfaction, but this aim is meant to be reached through better personnel satisfaction, not at the cost of it.

The main finding is in the fullness and balance of the first portrayal. This portrayal is exceptional because it is so large and also very well balanced. None of the elements exceeds the other elements and therefore the portrayal is in good balance. The second diamond (individual side) is also exceptional, but this time because it is of the same size as the organizational diamond and heading towards the top. The hotel's staff of employees seems to be very satisfied with their managers' leading them and their learning.

The comparison of these two diamonds reveals some unexpected features about Hotel Salpaus and its management and leading. The elements called questioning and empowering have higher means at the organizational level than at the individual level. This reflects a situation in which discussion is allowed and encouraged and means for change and learning are provided. Leading learners and their learning (element one at the individual level) has particularly high scores, e.g. 3.5, the average of the whole data being 2.7.

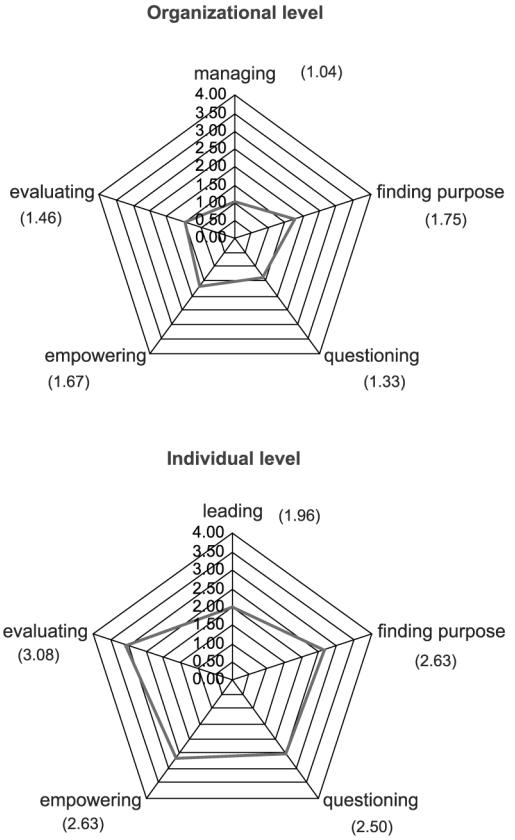

Figure 5.
The two portrayals of a less learning organization

The second organization to be analysed and visualised in Figure 5 differs totally from the first organization. The two portrayals presented next support this observation.

This second organization has totally different origins from the first one. It is a small part of an old, previously very bureaucratic organization and it operates in the whole country as numerous smaller and larger units. This unit was chosen to illustrate the organizations assessed as "non-learning" organizations. First of all, the size of the organizational diamond is very small. All the elements have been assessed to be between 1.0 and 1.75. Particularly small means are in management and questioning, but none of the other elements are high either. The main concern among the respondents is that they feel that the management is not at all attentive to, e.g. taking care of the organizational learning and the learning environment.

The same concern, but at the individual level, is seen in the other portrayal, where the average mean for leading learners and their learning is only 1.96. The other elements have higher mean values. The other elements and the size of the individual diamond is actually quite close to the individual's diamond based on the whole data. The important question is how well could this unit be operating and developing itself, when the individuals regard themselves as so much better than their own organization?

Discussion and conclusion

Learning organizations have been discussed very widely over the past decade. The discussion has most often been at the level of describing and defining, and much more seldom at the level of diagnosing. The more the discussion is flourishing the more separate ideas of learning organizations are emerging. It almost seems that the field is like a field of flowers, and all flowers are allowed to flourish. There is nothing to be said against this situation, but some questions will inevitably rise from it. What is the future of this discussion and thereafter the concept of a learning organization? Will "the learning organization" be left to be as a soap sliding from our hands or as an amoeba that cannot be touched or caught? How are we handling this many sided and apparently very important concept? Shall we share our opinions with others or shall we raise new concepts before analysing the previous ones? Are we able to deepen the discussion by diagnosing existing organizations?

This article presents one potential step towards diagnosing. The measuring instrument developed for diagnosing purposes has been statistically analysed and the results of the 686 respondents and 25 organizations reviewed. The reasons for gathering this type of fragmented data was originally in carrying out tests about the measuring instrument and getting some ideas of the analysed organizations, and not in analysing the organizations as whole entities. Nevertheless, some analyses of the data have been conducted and some conclusions have been drawn even in the sense not originally intended.

The main conclusions are presented in the following in the order of the aims presented at the beginning. The aims were:

- To attempt some form for a holistic learning organization.
- To analyse the variation between learning organizations in different business sectors.
- To verify and visualize the existence of "learning" and "non-learning" organizations.

The imaginary learning organization, which could be outlined on the basis of the whole data seems to have the following characteristics:

- Individuals relied more on themselves and their learning capabilities than on their organization as a learning environment, which was seen in the bigger portrayals of the individual side.
- The whole organization reached average values between 2.2 and 2.7. Not one of the elements had clearly higher values than the others, so the diamonds were in quite a good balance.

The six lines of business varied as follows:

- Organizations as learning environments differed more from one another than individuals feel that they themselves vary as a group of learners.
- Respondents representing the retail and wholesale business gave the highest scores to their organizations, and the smallest scores were in the information technology business. This is not a universal truth, but describes the situation in the organizations analysed.

- The best lines of business in terms of learning seem to be more human-intensive than machine-like.

"Learning" and "non-learning" organizations could be identified as follows:

- Hotel Salpaus was a good example of an organization assessed high in this research. The organizational side was markedly greater than on the average, whereas the individual side did not deviate to any great degree form the average. Hotel Salpaus is exceptional in one particular aspect: the organizational diamond was larger than the individual one, whereas in the other organizations the order is reversed.
- The "non-learning" organization had clearly lower scores. The shape of the organizational diamond was exceptional because management got very low points. The individual side was not considerably different from other organizations. What is exceptional is that the element evaluating had equally good scores as did the average in other organizations.
- Hotel Salpaus got twice as good average means as the "non-learning" organization. The lack of driving forces in the "non-learning" organization and the plenitude of them in Hotel Salpaus was distinctive.

As was mentioned above, the data analysed in this study were gathered for a statistical analysis of the measuring instrument, and not for analysing the organizations directly. However, the extensiveness of the data comprising 25 organizations and almost 700 respondents also offered interesting opportunities, which stimulated some wider use of the data. However, the data also had restrictions in this respect, in that it does not include large organizations as whole entities. Only a few of these organizations included could be said to be representative. To start, there seemed to be one particularly interesting viewpoint or result in this study, and this might raise some discussion. There was a clear difference between the organizational and individual levels. When analysing the results as a whole and comparing this study to similar studies, the reason for this difference could be found in some more general aspects. For instance, it is probably true that individuals can identify more easily with statements regarding themselves than with corresponding statements regarding "the world outside them". The findings were so uniform that this might be the most probable reason for the difference between individual and organizational views.

We will continue the discussion by evaluating the approach and interpretations themselves. The "whole" in this study was not a real organization, but one created by the data. Therefore, it was also affected by the measuring instrument by which the data were gathered. The effort to pursue this type of an approach to learning organizations was, nevertheless, taken, because defining and describing learning organizations are still more popular approaches than diagnosing real organizations and because there is an obvious need to develop instruments for this type of development work. A more comprehensive portrayal of the whole could have been created if the data had included some larger samples, but at this point this was not possible. The next step is to aim at more holistic portrayals of fewer organizations.

The whole divided into six lines of business was also slightly speculative, because comparison between different lines of business is always somewhat provocative. Organizations with different values, principles, background, personnel, clients and so

on are not fully comparable because of the number of variables involved. The best possible use for this, and similar tools is internal use within an organization, and not as a tool for comparison.

Ranking the organizations according to their mean values was not the main task here, because it does not tell the whole truth. However, further discussions and questioning could perhaps be raised by analysing the data in as versatile a manner as possible. Some reasons for the ranking order established in the study can nevertheless be found. For instance, one possible reason for the best average means in the wholesale and retail business could be in the very active change and training process that has taken place in the organizations analysed here. Another point worth considering is that the sector of information technology with its low mean scores could also be connected with the wider situation. The "millennium problems" and the very rapid development of the products and processes of this field could be reasons for such means values of this IT business. Whatever the reasons, this was the order established by the data concerning these 25 organizations analysed.

The variation between the 25 organizations is very interesting. They have totally different learning organization diamonds, which on the one hand verifies the differences between the organizations, and on the other hand the usefulness of measuring them. The variation can well be captured by diagnosing the organizations and analysing the results, but to be able to fully utilise the data, a framework is really needed. Separate statements or elements will not give the information needed to help managers in their work of developing their organizations towards learning organizations or scholars in their efforts to understand the great complexity of the concept.

The last part of this discussion concentrates on the key lessons for researchers and practitioners. There were already some suggestions above, but some of the most important ones are presented here. From the practitioners' point of view the best use for the learning organization diamond tool and other similar types of measuring instruments is without doubt in its internal use in one organization, and not in comparing different organizations with one another. Raising discussion and questioning, finding the best practices and also the weakest elements from the point of view of learning becomes possible and more pointed when some learning organization measurement instrument is used. Some ideas for developing learning organizations could also be given on the basis of this study. Particularly the role of managing the whole and leading learners and their learning seem to be worth pursuing.

The lessons for researchers can be drawn from the very basic viewpoints. Understanding the theoretical background and working with the concepts is particularly important. Since the field of diagnosing learning organizations offers almost endless opportunities and perspectives, the aims of each measuring attempt have to be analysed and established thoroughly. Diagnosing produces outcomes typical for that tool, and other tools will give some other types of outcomes. If the aims are in some specific areas, then the measuring should be directed differently than when the purposes are more general. In any case, the field is open for various types of analysis, and all of them are needed.

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