

Role of Learning Disciplines in Building a Learning Organization: A study of Software Houses in Pakistan

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ABSTRACT: *This paper investigates five disciplines of learning organizations—system thinking, team learning, mental models, shared vision, and personal mastery—as facilitators toward a learning organization. Arithmetic Means and Standard Deviations are calculated for variable responses collected through five point Likert Scale. Majority of the means are above the mean of scale i.e. 3, which shows that all are making contribution towards transforming organizations into learning organizations. It was, however, found that team learning (Mean 3.89) was the strongest predictor of learning organization in IT sector. System thinking (Mean 3.84), Personal mastery (Mean 3.78), Shared vision (Mean 3.60), and Mental models (Mean 3.51) have been found to be the second, third, fourth, and fifth most significant predictors of learning organizations, respectively. Cronbach Alpha of all the dimensions has been calculated separately to ensure the reliability of the instrument.*

Keywords: Learning organization, predictors, facilitators, disciplines, system thinking, team learning etc.

Many believe that to be a successful organization in today's world, organization has to be a learning organization. Nowadays, learning is considered as the best retainable competitive advantage that an organization can retain. In order to keep competitive advantage of learning, organizations have to learn faster than their competitors. Organizations have to keep an eye on the outside world and need to develop creative solutions which could be possible only if the culture of learning is flourished in the organization. In today's world, it is believed by many organization's leaders that environment in which organizations deal is not static. The volatility in the environment is so high that organizations always remain in the process of change. To get adjust in this kind of state; everyone in the organization should be familiar with the fast learning processes. Organizations should be flexible in adapting the change so that they can pursue towards success in today's changing environment.

In today's fast moving economies, only adaptive and learning organizations will excel. The concept of learning organization was first of all given by Peter M. Senge in his book which was published in 1991. He described that environment in which organizations are operating is attached with a change. Only those organizations would be successful which adapt the change quickly. To adapt a change, organization should be a learning organization. In order to develop a learning organization, "Peter M. Senge has identified five components of an organization that are namely system thinking, personal mastery, mental models, shared vision and team learning" (Senge 1991). These five components enable the organizations to realize their present state and identify their shortcomings so that they can shape their future as per their aim.

Many organizations tend to adopt the concept of learning but lack of knowledge and poor implication lead them towards poor results. Even in Pakistan, organizations have realized the importance of learning. They have started to realize that without learning their organization stands nowhere and ultimately their organization is heading towards slow death. "Developing a learning organization is not an overnight process but it comes from the cultivated attitudes, commitments and management processes that accumulate slowly and steadily" (Garvin 1985). He described that in order to develop a learning organization; the first step is to set an environment which is favorable to learning.

In Pakistan, different industry sectors have started to work on learning of their organizations especially in the IT sector. This sector heavily relies on learning and research process as with every passing day, new technologies and tools are introducing in the market. If a software house is not up-to-date with the latest happenings in the market then in the mere of few

years, the existence of software house wouldn't be anymore. The dynamic environment of this industry forces the organizations to keep learning in order to sustain their competitive advantage in the market. The organizations should adopt pro-active approach rather than using reactive approach to sustain in this kind of highly competitive environment.

The focus of this study is to determine the relationship between learning facilitators and learning disciplines. For this purpose, five organizations have been selected as a sample and on the condition of anonymity and due to this reason their names wouldn't be disclosed. There is a well-developed toolkit (Al-Outop, Moh'd Futa et al. 2011) on the basis of learning disciplines and learning facilitators. As per the nature of our study, this toolkit suits the most so we include it in our study.

Literature Review

Peter Senge described learning organization as "an organization which people continuously expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspirations is set free. And where people are continually learning to see the whole world together" (Senge 1991). "There is a positive and meaningful relationship between learning of the organization and its productivity, to enhance the productivity of the organization professional's knowledge and organizational information should be enhanced" (Asadi, Ghorbani et al. 2009). While adopting learning, organizations normally invest heavily on acquiring new knowledge but their weakest field is managing knowledge (Cesnovar 2010). Human resource plays a significant role in developing a learning organization and by using Senge's five principles, human resource management strategies could lead the organization towards learning (Herisi and Khodabakhsh). Learning disabilities along with organizational dysfunction are a major reason which prevent the organization to achieve its full potential (Haldeman 2010).

"Developing a learning organization is not an overnight process but it comes from the cultivated attitudes, commitments and management processes that accumulate slowly and steadily" (Garvin 1985). "Active and versatile learners subsequently consider themselves more frequently involved and engaged in leadership behaviors as compared to others" (Brown and Posner 2001). "Circular design tends to act as a facilitating infrastructure for so call triple loop learning which ultimately explores the structural opportunities and key competencies that people need to make choices regarding policies, objectives and other organizational issues" (Romme and Van Witteloostuijn 1999). The

absorptive capacity normally considered as the part of organization's resource allocating decisions in case of R&D budgets which should not be done in this way as absorptive capacity is not a byproduct (Cohen and Levinthal 1990).

"The organizations which implemented the four aspects namely learning at work, organizational learning, developing a learning climate and creating learning structures should be considered as learning organizations and organizations which have implemented only one aspect should be considered as partial learning organizations" (Örtenblad 2004). An organization has a significant and positive relationship between learning and executive's motivation. Before implementing a new business concept, an organization has to transform its culture at first instance rather than simply implementing the change (Pool 2000). Adaptive learning depends upon the expert's ability to utilize the resources and on gathering of information which could only be possible with the help of practices, beliefs, occurrences and concrete settings (Tyre and Von Hippel 1997). The intellectual thinking that is developed in the human beings served as the foundation for the development of the higher-order system thinking skills and if there is lack of system thinking till then majority of them will make significant progress and the main reason of this is individual cognitive abilities (Assaraf and Orion 2005).

"The supportive learning environment is an environment in which unwillingness to alter the behavior is at minimum level, incentives are being provided to encourage new ideas, a space is being created for learning, psychological safety is being provided and mistakes are being accepted that arises due to system problems" (Shabbir 2009). In Pakistan, factors of supportive learning like psychological safety and time for reflection are considered as very important but private organizations have more supportive learning as compared to public sector organizations (Ali, Bajwa et al.). Although capability based framework enable us in understanding that how organization learning works but it doesn't explain that why organization develop their capabilities and how they learn? (Lejeune). "HRD departments must partnership with other strategic functions of the organization in order to lead the organization towards learning. Transforming an organization into a learning organization should be the vision of HRD" (McCutchan 1997).

Methodology and Procedures

As per the findings of the prior studies and based upon previous research work, the main hypothesis of this research work is to find a significant relationship between the learning disciplines (Personal mastery, mental models, shared vision, team learning and system

thinking) and learning facilitators (Learning culture, organizational structure, human resource management strategies, management information system and leadership). The questionnaire which was used has three parts. Among these parts, first deals with the characteristics of the sample. Second part deals with the Senge's learning disciplines and third part deals with learning facilitators. 5-point Likert type scale was used with value ranging from 1= strongly disagree to 5= strongly agree. 130 questionnaires were distributed and collected and from these responses, 111 were analyzed. In order to calculate the characteristics of sample respondents, frequency distributions along with percentages are used. Arithmetic mean was used in order to analyze and describe the respondent's degree of acceptance regarding the questions of the study. Standard Deviation is also used in order to analyze the degree of positive and negative deviation from the actual mean.

For checking the reliability of data, Cronbach Alpha coefficient was calculated. The results are shown in table (1) and they show that all variables are above 60% which is widely acceptable as per Sekaran 2004. At the end, Pearson Correlation Coefficient was used so that the association between learning facilitators and learning disciplines could be analyzed.

Findings and Discussions

In table (2), sample respondent's characteristics are displayed which shows that majority of respondents were male (69.4%) and the as far as age is concerned, majority of respondents are from the age group of less than 25 years (79.3%). Majority of respondents have university degree as (75.7%) holds Bachelor's degree among the sample.

In this study, Peter Senge's learning disciplines are considered as the predictors of transforming an ordinary organization into a learning organization. Table (3) shows the mean and standard deviation values of the respondent's responses to the research statements on a 5 point Likert scale. Majority of the means are above the mean of scale (3) which shows that all are making contribution as predictors of transforming into a learning organization regardless of the fact that how much contribution they are making individually. It was found that team learning (3.89) was the most important predictor of transforming into learning organization in the IT sector. It means respondents consider that they have been more rewarded as teams and they have the opportunity to apply their knowledge more efficiently in teams as compared to individual efforts. The next one is system thinking (3.84) which comes in the list which means that respondents feel that their company consists of integrated subsystems and deals with the external environment factors as one system unit.

Personal mastery (3.78) comes at third place among all five disciplines and as per means of these three disciplines, it could be concluded that they are major factors which are making impact in transforming a learning organization. Shared vision (3.60) comes at the fourth place and mental models (3.51) come at fifth place. It means that creative/generative thinking is not being encouraged. As compared to above three learning disciplines, these two are relatively less impact maker as learning predictors.

Table (3) also shows the mean and standard deviation of learning facilitators and it is analyzed that Management Information System (MIS) with a mean value of (4.19) is the main impact maker as per respondent's responses. It means that respondents feel that learning opportunities in their organizations are being facilitated by effective communication systems and collection and analyzing of information is an important matter of their daily routines. It also suggests that information is made available within the organization so that it could be accessed at will for reference and for strategy making process too.

The next is HRM strategies (4.01) which suggests about strong and clear staffing policies. It also suggests that evaluation is carried out on performance basis and training processes are carried out only when they are required genuinely. Then it is organization culture (3.88) that lies on third place among other learning facilitators and it has a significant impact on employees of the organization. Leadership (3.81) and Structure (3.67) places at fourth and fifth place. From the above mentioned results, it is clearly analyzed that MIS and HRM strategies are playing a major role while culture, leadership and structure are playing a moderate role in facilitating a learning organization.

Pearson's correlation coefficient was also used and its results are also included in tests statics under Table (4). The main purpose of using this test is to analyze the main hypothesis along with relationship among the variables too. As per the results that are shown in Table (4) it is analyzed that there are statistically significant and positive relationships and the significance level (p) between the five facilitators and learning disciplines is $p=0.00$. According to analysis, it was found that Structure has strongest impact in facilitating a learning organization that is $r = 0.718$ which means that among the other learning facilitators, structure has significantly positive and strong relationship with learning disciplines. As compared to other learning facilitators, structure is contributing the most part in facilitating a learning organization. Then at second place, its culture with $r = 0.718$ which also shows strongly positive and significant relationship. Culture is contributing less than structure as a learning facilitator but more than all other remaining learning facilitators as per this study.

Leadership is at third place among the learning facilitators with $r = 0.597$ and it is less correlated as compared to structure and culture but still it is positively correlated with learning disciplines and hence making a significant impact. MIS and HRM strategies are at fourth and fifth place with $r = 0.441$ and $r = 0.440$ respectively. These two learning facilitators have positive relationship with learning disciplines but they have very weak correlation as compared to other learning facilitators. Among all learning facilitators, the weakest relationship with learning disciplines is of HRM strategies which are showing moderate relationship strength.

Conclusions and Recommendations

As per the findings of the study, it is implied that software houses in Pakistan are transferring into a learning organizations with reference to the learning facilitators and Senge's five learning disciplines. It was found that among all learning facilitators, Structure was the most correlated with learning disciplines which was followed by Culture, Leadership, MIS and HRM. As per study findings, it is suggested that software houses in Pakistan, should enhance the learning capability by enhancing learning disciplines along with efficiently improvising the impact of learning facilitators.

Organization's flexible structure and competitive environment that is developed through organization culture plays a major role in facilitating a learning organization. Human resource management along Management information system should be considered as most critical factors that should be handled carefully and efficiently in order to sustain a competitive advantage in the market. Companies must learn rapidly in order to enhance the skills of employees and management of information efficiently and effectively.

As this study contributes in realizing the relationship between learning facilitators and learning disciplines but it also has some limitations too. First, it was carried out by using limited sample of only one sector that is of software houses in IT industry so it's might be possible that it has limited application in other sectors. Secondly, only five facilitators and five learning disciplines were used in this study so it is suggested that this research should be conducted by taking a large sample and in other sectors too and it should be checked that either same results are achieved or not.

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Appendixes

Table (1) Cronbach Alpha Coefficient

Learning Disciplines	
Variables	Cronbach's Alpha
Personal Mastery	0.77
Mental Models	0.74
Shared Vision	0.74
Team Learning	0.80
System Thinking	0.78
Total	0.89
Learning Facilitators	
Variables	Cronbach's Alpha
Culture	0.72
Structure	0.74
HRM Strategies	0.76
MIS	0.78
Leadership	0.82
Total	0.88

Table (2) Sample Characteristics

Variable	Frequency	Percentage %
Gender		
Male	77	69.4
Female	34	30.6
Age		
Less than 25	88	79.3
25-35 years	22	19.8
36-45 years	1	0.9
46-55 years	0	0
More than 55 years	0	0
Education		
Matriculations	7	6.3
Intermediate	8	7.2
Bachelors	84	75.7
Masters	12	10.8
Total	111	100%

Table (3) Arithmetic Mean & Standard Deviations of the Sample Responses

No.		Mean	S.D
Learning Organization Disciplines			
Personal Mastery			
1	My Company is working always for creating and acquiring new knowledge	3.93	0.817
2	Employees learning considered one of the important priorities to my company	3.68	1.104
3	Self directing learning is expected, encouraged and rewarded	3.86	0.707
4	Employees at all levels identify their needed skills for future work tasks	3.68	0.945
	General/Average Mean	3.78	0.89
Mental Models			
5	There is a willingness to break old patterns and to experiment different ways in managing daily work	3.91	0.900
6	Applicable creative, innovative and risk taking ideas are encouraged and rewarded	3.39	1.028
7	Employees are allowed to questions current practices, rules and strategies	3.23	1.167
	General/Average Mean	3.51	1.03
Shared Vision			
8	Company's vision, and purposes are clear, flexible communicable and attainable	4.03	0.919
9	Employees have common future trends and vision	3.74	0.970
10	Employees are enabled to participate in strategic management process	3.03	1.239
	General/Average Mean	3.60	1.04
Team Learning			
11	Cross functional learning teams are always organized on a regular basis	3.50	0.962
12	Teams/groups have the freedom to adapt their goals and break old patterns of work as needed	3.43	1.050
13	All team members shared responsibility and are treated equally	4.18	0.635
14	Teams revise their thinking as a result of group discussions	3.67	0.966
15	Teams are recognized and rewarded for their achievements as a team/group	4.21	0.875
16	Teams are confident that the company will act on their recommendations	4.01	0.780
17	In my company people cooperate and help each other to learn	4.28	0.620
	General/Average Mean	3.89	0.84
System Thinking			
18	My company considered to be one whole system, consists of several integrated subsystems	3.97	0.780
19	Employees recognize the importance of the complementary performance of their departments.	3.90	0.786
20	The company is perceived as one part of a larger economical and social system	3.65	0.816
	General/Average Mean	3.84	0.79
Learning Facilitators			
Culture			
21	Learning and knowledge are considered the most important resources in my company	3.80	1.007
22	Employees have the opportunity to learn from experience, and from each other	4.08	0.715
23	Mistakes are tolerated, and discussed to be avoided in the future	3.83	0.862
24	Problems in work are viewed as positive growth opportunities	3.86	0.681
25	Policies and procedures support learning and are meaningful and understood by everybody	3.88	0.861
26	Employees are encouraged and provided with the needed resources to become self-directed learners	3.87	0.896
	General/Average Mean	3.88	0.837
Structure			
27	In my company the structure has few managerial levels	3.68	0.936
28	Decisions are delegated to employees in the lower levels than the top management	3.19	1.023

29	Functional areas in my company are tightly integrated	3.97	0.879
30	Employees have a great deal of freedom in making decisions about their work	3.24	1.252
31	My company's structure emphasizes rapid and open communications	4.27	0.617
	General/Average Mean	3.67	0.941
HRM Strategies			
32	There is a clear written staffing strategies in my company	3.92	1.113
33	Development and learning programs depend on the employees actual training needs	3.80	0.872
34	Performance, personal developments are the main factors considered in the evaluation process	4.52	0.570
35	Compensation strategies depend on employees' competencies and skills	4.23	0.762
	General/Average Mean	4.01	0.829
MIS			
36	Hardware, and Software are available and accessible to all employees in all levels	4.56	0.516
37	Learning is facilitated by effective communication systems, both internally and externally	3.37	1.341
38	Collecting, analyzing and saving information considered to be important daily duties of all the employees	4.54	0.629
39	People are enabled to get needed information at any time quickly and easily	4.32	0.674
	General/Average Mean	4.19	0.79
Leadership			
40	Leaders are seen as having the primary role in keeping the learning process running smoothly throughout the organization	4.14	0.761
41	Leaders share up to date information with employees about competitors, industry trends, and future direction	3.87	1.001
42	Leaders always enable their staff to become self-developers and learn how to improve their performance	4.04	0.738
43	Leaders continually look for opportunities to learn	3.92	0.854
44	leaders ensure that the company's actions are consistent with its values	3.86	0.807
45	There is formal ongoing education programs to prepare managers for their new roles as teachers, coaches and stewards	3.08	1.080
	General/Average Mean	3.81	0.873

Table (4) Pearson Correlation

Facilitators	Learning(Accumulated)
Culture	.718** .000
Structure	.721** .000
HRM Strategies	.440** .000
MIS	.441** .000
Leadership	.597** .000

** . Correlation is significant at the 0.01 level (2-tailed).