

PROFILING LEARNING ORGANIZATION: AN EMPIRICAL STUDY OF FEW SELECTED INFORMATION TECHNOLOGY (IT) FIRMS

Dr. EMANUAL NAHAR*

Dr. LUXMI MALODIA**

ABSTRACT

This paper was designed to study learning organization profile and its subscales and to compare these dimensions vis-à-vis different demographic factors of the employees in information technology firms in India. The sample comprised of 196 respondents drawn from five IT firms. Comparisons made on the basis of hierarchical levels and other psycho-demographic factors make the study comprehensive. The results revealed a very significant and positive correlation between the two subscales of learning organization. It also revealed very significant but weak positive correlation between three subscales of learning organization. Almost all other null hypotheses concerning level of learning organization vis-à-vis failed to be rejected unlike previous similar studies.

Keywords: Learning organization, Information Technology Firms in India

INTRODUCTION

Information Technology industry has been steadily growing and expanding in the international market and playing an important role in the Indian economy. But, in order to keep growing and expanding, IT firms have only one choice: to reinforce and expand their capabilities to learn, adapt, innovate and transform them, i.e. to build and maintain learning organizations. Learning is the key to success some would even say survival in today's organizations.

Knowledge should be continuously enriched through both internal and external learning. For this to happen, it is necessary to support and energize organization, people, knowledge, and technology for learning.

***Associate Professor, USOL ** Sr. Lecturer, Univ. Business School,
Panjab University, Chandigarh.**

LEARNING ORGANISATION (LO)

Senge (1990) defined the learning organisation as one where: “people continually expand their capacity to create results they truly desire; new and expansive patterns of thinking are nurtured; collective aspirations are set free; people are continually learning to learn together”. Garvin (1993) defined Learning Organization as an organization skilled at creating, acquiring and transferring knowledge and at modifying its behavior to reflect new knowledge and insights. According to him, learning organizations are skilled at five main activities: systematic problem solving, experimentation with new approaches, learning from their own experience and past history, learning from the experiences and best practices of others, and transferring knowledge quickly and efficiently throughout the organization. Watkins and Marsick (1992) state that “Learning organizations are characterized by total employee involvement in a process of collaboratively conducted, collectively accountable change directed toward shared values or principles.” Chang and Lee (2007) explained that learning organization covers individual, grouping and organizational learning with the simultaneous proceeding effort for organizational and individual learning. It is a type of collective activity to reach organization shared vision.

Farago and Skyrme (1995) defined learning organisation as “those that have in place systems, mechanisms and processes, that are used to continually enhance their capabilities and those who work with it or for it, to achieve sustainable objectives for themselves and communities in which they participate.” Malhotra (1996) defined the LO as an “organization with an ingrained philosophy for anticipating, reacting and responding to change, complexity and uncertainty”. The key ingredient of the LO, Malhotra commented, is in how organizations process their managerial experiences (Malhotra, 1996). The social view of the LO focuses on interaction and process (Smith and Tosey, 1999): One of the first and most popularized models dealing with building a learning organisation is Senge's model. Senge, (1990) identified five core disciplines needed to build a learning organisation. These disciplines are: systems thinking, personal mastery, mental models, building shared vision, and team learning. Senge saw 'systems thinking' at the heart of his model, the whole as primary, interdependence and interaction of the parts, parts not to be taken as primary, and stressed cyclical causation, long-term

perspective, and feedback of the features of open systems perspective. Personal mastery means that organizations must encourage their employees to continuously learn and develop their skills and capabilities. Each individual must have a clear vision and long range goals, recognize clearly the gap between the vision and current situation, and are willing and determined to change the present situation.

Dymock and McCarthy (2006) conducted a research to explore employee perception of the development of a learning culture in a medium-sized manufacturing industry that inspires to become a learning organization. Provision of leadership and continuous learning dimensions received the highest score of mean in this research. Steven and Pool (2000) investigated the relationships of total quality management, organizational culture and their impact upon a learning organization. The results indicate a corporation implementing TQM principles in a supportive organizational culture has a positive and significant relationship with organizational learning compared to those executives not exposed to these constructs.

THE PRESENT STUDY

The above mentioned and other similar studies made the plot for the present study. The authors attempt to study Learning Organisation in five major IT firms in India. The IT industry was selected because it has been playing a steadily increasing role in the Indian economy, witnessing rapid disturbing changes and continual product development.

Description of the organizations is as follows:

Exhibit 1: Targeted Organizations

Information Technology Firms	IBM
	Infosys
	Wipro
	HCL
	TCS

OBJECTIVES

To identify the current levels of the dimensions of Learning Organization in the IT firms in India.

To see the association of Learning Organization with psychodemographic factors i.e. Age and Qualification

To compare the Learning Organization among different hierarchical levels.

To look for any association among the subscales of Learning Organization.

HYPOTHESES

H1. There is a significant difference in the level of Learning Organization at different hierarchical levels.

H2. There is a significant difference in the level of Learning Organization at different educational levels.

H3. There is a correlation between the dimensions of Learning Organization and the Age of the employees.

H4. There is a significant relationship among sub-scales of Learning Organizations.

RESEARCH DESIGN

The study is empirical in nature. This research was administered with a purposive sample of (100) participants, representing 14% of total employees working at (5) IT firms, and (87) questionnaires were analyzed. Out of a total of 87 respondents:

Majority of the respondents had a qualification of bachelor of engineering (77%) and 20 respondents had a post graduate qualification (23%).

The maximum number of respondents belonged to the age group of 21-25 years (60.9%) followed by 24 respondents in the age group of 24-30 years (27.6%) and finally 11.5% respondents who had an age of more than 30 years. On the basis of three levels in the organization, the maximum respondents in the sample belonged to Top management (54%), followed by 41-4% respondents from Middle management and 4.6% respondents from lower management.

INSTRUMENT

Primary data was collected through preliminary interviews and questionnaires ultimately. Learning Organization questionnaire Uday Pareek (1990), is used to undertake the study. The scale is multidimensional included (48) statements, suggesting eight core dimensions of Learning Organisation, as follows: Holistic Frame, Strategic Thinking, Shared Vision, Empowerment, Information Flow, Internality, Learning, Synergy. The Cronbach Alpha Coefficient of the scale was found to be 0.653.

ANALYSIS AND DISCUSSIONS

Normality of data was tested by Kolmogorov-Smirnov test (K-S) and data was found to be normal at 95% Confidence level.

Table 1
Descriptive Statistics for Dimensions of Learning Organisation

Dimensions	N	Mean	Std. Deviation
Holistic Frame	87	3.9272	0.19802
Strategic Thinking	87	3.9904	0.25206
Shared Vision	87	4.0556	0.24202
Empowerment	87	4.0441	0.19433
Information Flow	87	4.1092	0.20622
Internality	87	3.8372	0.24508
Learning	87	4.0613	0.26671
Synergy	87	4.0077	0.22578
Valid N	87		

Table 1 represents the means and the standard deviations of the responses of the research sample to the dimensions of Learning Organization. It clearly appears that respondents felt that their firms have been moving well towards building Learning Organization, with an overall mean = 4.004. Most of the dimensions have a mean above the means of different dimensions established in the norms of the scale (4); only few dimensions have a mean below (4). Information Flow had the highest mean (4.11). Thus, people saw their firms as

a system where information was not confined to few people rather there is free flow of information in the organization.

Both Shared vision and Learning dimension ranked second, with a mean 4.06. This meant that people felt strongly that a common vision and continuous learning amongst the employees support and facilitate building and maintaining a Learning Organization. Empowerment dimension came third, with a mean 4.04, which meant that the respondents had a strong feeling. The employee empowerment is an important factor in building a Learning Organization. Five of the variables had a mean above (4) and three had a mean above (3).

Synergy came fourth, after empowerment, with a mean = 4.00, which is still higher than the mean of the scale (3). This meant that respondents had a relatively strong belief that synergy contributes to building Learning Organization. Strategic thinking scored a mean of 3.99 and Holistic frame a mean of 3.93. Last, Internality had the lowest mean (3.84), which is also above the mean of the scale.

HYPOTHESES TESTING

There is a significant difference in the level of Learning Organisation at different hierarchical levels.

Results of ANOVA (Hierarchy-wise comparison)

The result of one way –ANOVA(table-2) suggested no difference in the level of Holistic Framework, Strategic Thinking, Empowerment, internality, learning and synergy among different hierarchical levels, getting p- value more than .05 (p equals .585, .309, .553, .331, .060, and .365). Therefore the null hypotheses that there is no significant difference in the level of Holistic Framework, Strategic Thinking, Empowerment, internality, learning and synergy among different hierarchical levels are not rejected or may be accepted but in case of Shared Valued and inflow p-value (.040 and .033) is less than .05. Hence the null hypothesis that there is no difference in the level of Shared Values and Inflow among different hierarchical levels is rejected.

Table 2:
Hierarchy-wise comparison

Dimensions		Sum of Squares	df	Mean Square	F	Sig.
Holistic Framework	Between Groups	2.305	2	1.152	.539	.585
	Within Groups	179.626	84	2.138		
	Total	181.931	86			
Strategic Thinking	Between Groups	5.417	2	2.708	1.189	.309
	Within Groups	191.296	84	2.277		
	Total	196.713	86			
Shared Values	Between Groups	13.371	2	6.686	3.344	.040
	Within Groups	167.962	84	2.000		
	Total	181.333	86			
Empowerment	Between Groups	1.637	2	.819	.597	.553
	Within Groups	115.282	84	1.372		
	Total	116.920	86			
InFlow	Between Groups	10.230	2	5.115	3.539	.033
	Within Groups	121.425	84	1.446		
	Total	131.655	86			
Internality	Between Groups	4.835	2	2.417	1.121	.331
	Within Groups	181.119	84	2.156		
	Total	185.954	86			
Learning	Between Groups	14.305	2	7.152	2.918	.060
	Within Groups	205.925	84	2.451		
	Total	220.230	86			
Synergy	Between Groups	3.746	2	1.873	1.021	.365
	Within Groups	154.070	84	1.834		
	Total	157.816	86			

Results of ANOVA (Education-wise comparison)

The result of one way –ANOVA(table-3) suggested no difference in the level of Holistic Framework, Strategic Thinking, Shared Values, Empowerment, internality, learning and synergy among different educational levels, getting p-value more than .05 (p equals .976, .173, .129, .352, .937, .137 and .464). Therefore the null hypotheses that there is no significant difference in the level of Holistic Framework, Strategic Thinking, Shared Values, Empowerment, internality, learning and synergy among different educational levels are not rejected or may be accepted but in case of Information flow p-value (.021) is less than .05. Hence the null hypothesis that there is no difference in the level of Information flow among different educational levels is rejected.

Table 3
Education-wise comparison

Dimensions		Sum of Squares	df	Mean Square	F	Sig.
Holistic Framework	Between Groups	.002	1	.002	.001	.976
	Within Groups	181.929	85	2.140		
	Total	181.931	86			
Strategic Thinking	Between Groups	5.086	1	5.086	2.256	.137
	Within Groups	191.627	85	2.254		
	Total	196.713	86			
Shared Values	Between Groups	4.877	1	4.877	2.349	.129
	Within Groups	176.457	85	2.076		
	Total	181.333	86			
Empowerment	Between Groups	1.193	1	1.193	.877	.352
	Within Groups	115.726	85	1.361		
	Total	116.920	86			
InFlow	Between Groups	8.004	1	8.004	5.502	.021
	Within Groups	123.651	85	1.455		
	Total	131.655	86			
Internality	Between Groups	.014	1	.014	.006	.937
	Within Groups	185.940	85	2.188		
	Total	185.954	86			
Learning	Between Groups	5.684	1	5.684	2.252	.137
	Within Groups	214.546	85	2.524		
	Total	220.230	86			
Synergy	Between Groups	.997	1	.997	.541	.464
	Within Groups	156.819	85	1.845		
	Total	157.816	86			

Results of Karl Pearson's Correlation

(Correlation among Sub-scales of Learning Organisation):

The results of Karl Pearson's Correlation (Table 4) suggested a very significant correlation ($p < 0.01$) of Holistic Framework with Shared Values, Internality, Learning and Synergy (p equals .000). But no significant correlation of Holistic Framework with Strategic Thinking, Empowerment and Inflow (p equals .063, .165 and .395 respectively) was found. Therefore the null hypotheses that there is no significant correlation of Holistic Framework with Shared Values, Internality, Learning and Synergy are not rejected or may be accepted. But the null hypothesis that there is significant correlation of Holistic Framework with Strategic Thinking, Empowerment and Inflow are rejected.

Table-4
Correlations

		Age	Holistic Framework	Strategic Thinking	Shared Values	Empowerment	Inflow	Internality	Learning	Synergy
Age	Correlation Coefficient	1.000	.014	-.180	-.216(*)	-.142	-.232(*)	-.041	-.109	-.198
	Sig. (2-tailed)	.	.898	.095	.044	.188	.031	.705	.316	.066
	N	87	87	87	87	87	87	87	87	87
Holistic Framework	Correlation Coefficient	.014	1.000	-.200	.585(**)	.150	.092	.383(**)	.600(**)	.617(**)
	Sig. (2-tailed)	.898	.	.063	.000	.165	.395	.000	.000	.000
	N	87	87	87	87	87	87	87	87	87
Strategic Thinking	Correlation Coefficient	-.180	-.200	1.000	-.107	.054	.084	.062	.055	-.005
	Sig. (2-tailed)	.095	.063	.	.325	.617	.437	.567	.612	.964
	N	87	87	87	87	87	87	87	87	87
Shared Values	Correlation Coefficient	-.216(*)	.585(**)	-.107	1.000	.360(**)	.303(**)	.228(*)	.469(**)	.512(**)
	Sig. (2-tailed)	.044	.000	.325	.	.001	.004	.034	.000	.000
	N	87	87	87	87	87	87	87	87	87
Empowerment	Correlation Coefficient	-.142	.150	.054	.360(**)	1.000	.277(**)	.363(**)	.181	.112
	Sig. (2-tailed)	.188	.165	.617	.001	.	.009	.001	.094	.300
	N	87	87	87	87	87	87	87	87	87
Inflow	Correlation Coefficient	-.232(*)	.092	.084	.303(**)	.277(**)	1.000	-.114	.528(**)	.256(*)
	Sig. (2-tailed)	.031	.395	.437	.004	.009	.	.292	.000	.017
	N	87	87	87	87	87	87	87	87	87
Internality	Correlation Coefficient	-.041	.383(**)	.062	.228(*)	.363(**)	-.114	1.000	.287(**)	.138
	Sig. (2-tailed)	.705	.000	.567	.034	.001	.292	.	.007	.204
	N	87	87	87	87	87	87	87	87	87
Learning	Correlation Coefficient	-.109	.600(**)	.055	.469(**)	.181	.528(**)	.287(**)	1.000	.577(**)
	Sig. (2-tailed)	.316	.000	.612	.000	.094	.000	.007	.	.000
	N	87	87	87	87	87	87	87	87	87
Synergy	Correlation Coefficient	-.198	.617(**)	-.005	.512(**)	.112	.256(*)	.138	.577(**)	1.000
	Sig. (2-tailed)	.066	.000	.964	.000	.300	.017	.204	.000	.
	N	87	87	87	87	87	87	87	87	87

* Correlation is significant at the 0.05 level (2-tailed).

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

The results of Karl Pearson's Correlation (Table 4) suggested a very significant correlation ($p < 0.01$) of Strategic Thinking with all other dimensions of Learning Organisation (Holistic Framework, Strategic Thinking, Shared Values, Empowerment, Inflow, Internality, Learning and Synergy (p equals .063, .325, .617, .437, .567, .612 and .964)). Therefore the null hypotheses that there is no significant correlation of Strategic Thinking with Holistic Framework, Shared Values, Strategic Thinking, Empowerment and Inflow, Internality, Learning and Synergy are not rejected or may be accepted.

The results of Karl Pearson's Correlation (Table 4) suggested a very significant correlation ($p < 0.01$) of Shared Values with Holistic Framework, Empowerment, Inflow, Learning and Synergy (p equals .004). But no significant correlation of Shared Values with Strategic Thinking and Internality (p equals .325 and .034 and .395) was found. Therefore the null hypotheses that there is no significant correlation Shared Values with Holistic Framework, Empowerment, Inflow, Learning and Synergy are not rejected or may be accepted. But the null hypothesis that there is significant correlation of Shared Values with Strategic Thinking and Internality are rejected.

The results of Karl Pearson's Correlation (Table 4) suggested a very significant correlation ($p < 0.01$) of Empowerment with Shared Values, Inflow and Internality (p equals .009). But no significant correlation of Empowerment with Holistic Framework, Strategic Thinking, Learning and synergy (p equals .165, .617, .094 and .300) was found. Therefore the null hypotheses that there is no significant correlation of Empowerment with Shared Values, Inflow and Internality are not rejected or may be accepted. But the null hypothesis that there is significant correlation of Empowerment with Holistic Framework, Strategic Thinking, Learning and synergy are rejected.

The results of Karl Pearson's Correlation (Table 4) suggested a very significant correlation ($p < 0.01$) of Inflow with Shared Values, Empowerment and Learning (p equals .009). But no significant correlation of Inflow with Holistic Framework, Strategic Thinking, Internality and synergy (p equals .395, .437, .292 and .017) was found. Therefore the null hypotheses that there is no significant correlation of Inflow with Shared Values, Empowerment and Learning are not rejected or may be accepted. But the null hypothesis that

there is significant correlation of Inflow with Holistic Framework, Strategic Thinking, Internality and synergy are rejected.

The results of Karl Pearson's Correlation (Table 4) suggested a very significant correlation ($p < 0.01$) of Internality with Holistic Framework, Empowerment, and Learning (p equals .007). But no significant correlation of Internality with Strategic Thinking, Shared Values, Inflow and synergy (p equals .567, .034, .292 and .204) was found. Therefore the null hypotheses that there is no significant correlation of Internality with Holistic Framework, Empowerment, and Learning are not rejected or may be accepted. But the null hypothesis that there is significant correlation of Internality with Strategic Thinking, Shared Values, Inflow and synergy are rejected.

The results of Karl Pearson's Correlation (Table 4) suggested a very significant correlation ($p < 0.01$) of Learning with Holistic Framework, Shared Values, Inflow, Internality and Synergy (p equals .007). But no significant correlation of Learning with Strategic Thinking and Empowerment (p equals .612 and .094) was found. Therefore the null hypotheses that there is no significant correlation of Learning with Holistic Framework, Shared Values, Inflow, Internality and Synergy are not rejected or may be accepted. But the null hypothesis that there is significant correlation of Learning with Strategic Thinking and Empowerment are rejected.

The results of Karl Pearson's Correlation (Table 4) suggested a very significant correlation ($p < 0.01$) of Synergy with Holistic Framework, Shared Values and Learning (p equals .000). But no significant correlation of Synergy with Strategic Thinking, Empowerment, Inflow and Internality (p equals .964, .300, .017 and .204) was found. Therefore the null hypotheses that there is no significant correlation of Synergy with Holistic Framework, Shared Values and Learning are not rejected or may be accepted. But the null hypothesis that there is significant correlation of Synergy with Strategic Thinking, Empowerment, Inflow and Internality are rejected.

Results of Karl Pearson's Correlation (Correlation of Learning Organisation with Age).

The results of Karl Pearson's Correlation (Table 4) suggested that there is correlation between the Age and all other dimensions of Learning Organisation

i.e. Holistic Framework, Strategic Thinking, Shared Values, Empowerment, Inflow, Internality, Learning and Synergy getting p values more than .01 (p equals .898, .095, .044, .188, .031, .705, .316 and .066). Therefore the null hypotheses that there is no significant correlation between Age and all other dimensions of Learning organisation are rejected.

FINDINGS AND CONCLUSIONS

Following are the main conclusions and results of the study:

IT firms in India have developed an overall moderate-high level of Learning Organisation with varying degrees from one core dimension to another. The highest level corresponded to information flow dimension, while internality got the lowest level ($\bar{X} = 3.84$).

IT firms have developed high levels of most variables of the eight dimensions of the Learning Organisation. Only few variables were below the mean (4) established in the norms of the scale, which included the following: Holistic frame, strategic thinking and internality.

No difference in the level of Holistic Framework, Strategic Thinking, Empowerment, Internality, learning and Synergy among different hierarchical levels was found. But difference in the level of Shared Values and Inflow among different hierarchical levels was found.

No difference in the level of Holistic Framework, Strategic Thinking, Shared Values, Empowerment, internality, learning and synergy among different educational levels was found. But there is difference in case of Information flow among different educational levels.

A very significant correlation of Holistic Framework with Shared Values, Internality, Learning and Synergy was found. But no significant correlation of Holistic Framework with Strategic Thinking, Empowerment and Inflow was found.

A very significant correlation of Strategic Thinking with all other dimensions of Learning Organisation (Holistic Framework, Strategic Thinking, Shared Values, Empowerment, Inflow, Internality, Learning and Synergy) was found.

A very significant correlation of Shared Values with Holistic Framework, Empowerment, Inflow, Learning and Synergy was found. But no significant correlation of Shared Values with Strategic Thinking and Internality was found.

A very significant correlation of Empowerment with Shared Values, Inflow and

Internality was found. But no significant correlation of Empowerment with Holistic Framework, Strategic Thinking, Learning and synergy was found.

A very significant correlation of Inflow with Shared Values, Empowerment and Learning was found. But no significant correlation of Inflow with Holistic Framework, Strategic Thinking, Internality and synergy was found.

A very significant correlation of Internality with Holistic Framework, Empowerment, and Learning was found. But no significant correlation of Internality with Strategic Thinking, Shared Values, Inflow and synergy was found.

A very significant correlation of Learning with Holistic Framework, Shared Values, Inflow, Internality and Synergy was found. But no significant correlation of Learning with Strategic Thinking and Empowerment was found.

A very significant correlation of Synergy with Holistic Framework, Shared Values and Learning was found. But no significant correlation of Synergy with Strategic Thinking, Empowerment, Inflow and Internality was found.

A significant correlation between the Age and all other dimensions of Learning Organisation i.e. Holistic Framework, Strategic Thinking, Shared Values, Empowerment, Information flow, Internality, Learning and Synergy was found.

RECOMMENDATIONS

Managers and employees need to strongly recognize that knowledge has become a vital source for sustainable competitive advantage. Management should exert continuous efforts to maintain and nourish continuous LO in order to attain steadily higher performance levels. Special emphasis must be placed on: tolerating mistakes and constructive discussion thereof, encouraging trial and experimentation and innovation, expanding use of team-based structures (cross-functional and cross hierarchical), management must accept criticism, encouraging and nurturing mutual trust, openness, establish constant contacts with various stakeholders, and extend learning and knowledge sharing throughout the whole organisation. All these would help in enhancing organizational effectiveness and thereby, building a Learning Organization.

LIMITATIONS AND FUTURE RESEARCH

Following are some of the limitations of the study:

First, the research was carried out in only one sector in India i.e. IT sector, and therefore, the findings are likely to have limited application to other countries

and sectors. Secondly, only one method for data collection (questionnaire) was used. Finally, the study relied on respondents' perceptions and individual perspectives. This research should be seen as a starting point for research in the LO in the IT industry. It is hoped that it will stimulate more interest and research in IT and other areas. Future research should use multiple research methods for data collection in order to obtain deeper and more reliable data. Research should also involve stakeholders, other than employees, in assessing organizational effectiveness, such as customers, owners, etc. and also other level of employees in the organization.

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