CHAPTER 5
RESEARCH METHODOLOGY

5.1 PROBLEM IDENTIFICATION

With tougher competition, technology advances, and shifting customer preferences, it is more crucial than ever that companies become learning organizations. In learning organizations, employees continually create, acquire and transfer knowledge helping their companies to adapt to the environment faster than their competitors can. Indian companies have emphasized latest technology and quality of products to improve their sales and profitability. However, many of them have been ignorant of creating supportive learning environment where employees feel safe in disagreeing with others, owning upto their mistakes and presenting novel viewpoints. Also absent are systematically planned learning policies and practices including learning through team work. How to build a learning organization, therefore, is a serious problem for Indian companies. No organization in the world can claim to be a perfect learning organization but to identify some of the well accepted characteristics of a learning organization in Indian companies and helping them to build a learning organization is an important issue for research.

5.2 THE RATIONALE OF THE STUDY

The concept of learning organization has become relevant now in today’s knowledge economy. For organizations wishing to remain relevant and grow, learning better than competitors becomes critically important. However, organizational learning is neither possible nor sustainable without understanding what drives a learning organization. To stimulate creativity and generate new ideas, a learning organization takes a balanced approach to the importance of both planned and emergent learning. However it is to be noted that there is no perfect learning organization. There are some organizations which have attributes of a learning organization interwoven in their policies and practices. Those who have studied learning organizations in the manufacturing sector have identified some of these practices and policies as follows: Creating shared vision and spreading it within
organization, team building and sharing knowledge within organization, focusing on research and development tasks, learning through joint ventures and acquisitions, leadership that reinforces learning etc. The above dimensions of learning organization are not exhaustive. With the above brief narration about learning organization in mind, the objectives of the study are formulated as follows.

5.3 OBJECTIVES OF THE STUDY

1) To study and identify as to what extent the company or its departments are functioning as learning organizations.
2) To find out which of the selected companies under study follow the learning organization policies and practices.
3) To identify gaps in the practices and policies of the companies as learning organizations.
4) To make suggestions and recommendations so as to make Indian companies move towards learning organizations.

5.4 RESEARCH DESIGN

5.4.1 Primary and Secondary Data

Primary data was collected from the companies selected as sample. The CEOs of the companies and the subheads of the manufacturing, marketing, financial and R&D departments were contacted to respond to two types of questionnaires (1) open ended questionnaire (2) Multiple choice questionnaire based and adapted from David Garvin’s study (1993) on learning organizations in USA. Since heads of the manufacturing, marketing, finance and R&D departments may show positive bias in responses to the functioning of their departments, the subheads or their immediate subordinates were asked to respond to the multiple choice questionnaire.
The secondary data for this study was gathered from several specialized books, magazines and research articles dealing with learning organizations and related topics. All these sources are mentioned in the bibliography part of this thesis. An informal talk with business managers and academicians was also an important source of secondary information. Another important source of information was the annual reports and other reports of the nine companies as well as articles published on these companies in various business magazines and journals and their websites.

5.4.2 The sample selection

The sample selection was done not merely on the basis of convenience but criteria about sales, R&D expenses etc. were taken into account while selecting companies under each category. Only the top ones in terms of sale & R&D spending were selected. Since the above study was not meant to be statistical, the sample for the study was selected on the basis of the companies in Gujarat which were large and progressive in terms of sales and growth. A list of fifty companies from Gujarat in pharmaceuticals, textile, chemical and petrochemical as well as engineering sectors was prepared and the companies in the list were studied in terms of their growth in sales and R&D efforts, their collaborations with other companies within and outside India and their range and diversity of products. From this list, nine companies were selected for study so that they represented diversity in terms of the products and the industries. Four industrial sectors – Pharmaceuticals, Chemicals including Petrochemicals, Textiles and Engineering were selected since they account for the largest industrial share in Gujarat GDP.
Keeping in this view, nine companies in Gujarat were selected for the study. They are Cadila Pharmaceutical Ltd. (Zydus Cadila) and Torrent Pharmaceutical Ltd. – both in the pharmaceutical sector in Gujarat. The two other companies are also highly progressive and they are Reliance Textile Ltd. (now a part of RIL) and Arvind Mills Ltd. Both are in the field of textile manufacturing. The Gujarat Heavy Chemicals Ltd. (GHCL), Gujarat Alkalies and Chemicals Ltd. (GACL) and IPCL are in the field of chemicals while Welspun Gujarat (WGL) in the field of steel plate making and Essar Gujarat (Essar Steel) in the field of steel manufacturing are engineering companies. Out of the above nine companies selected for study, seven companies are in private sector while GACL is in public sector and IPCL prior to its takeover by Reliance Group in 2002, was a public sector company. Thus a balance among several fields of industry was maintained in the selection of nine companies under study. As mentioned above, the companies were identified on the basis of the extensive study of the secondary sources and in each of the four sectors, companies were selected in terms of their sales, growth, their spending on R&D and their foreign collaborations. Thus Cadila and Torrents were selected from Pharmaceutical sector in Gujarat because of their sales, growth rate & spending on R&D. Similar procedure was followed for other three sectors, Chemicals and Petrochemicals, Textiles and Engineering. Thus companies were selected on the basis of certain criteria relevant to a learning organization.

5.4.3 Instruments and Methods for data collection.

For data collection, two questionnaires were used. One questionnaire (see Appendix-2) was open ended addressed to the top managers of the company. It contained 25 open ended questions and the questions addressed in it covered several areas of the practices, policies and functioning of the companies regarding their vision, spreading of vision, team building activities, spreading of knowledge within the organization, ways of
monitoring external environment, their motivating methods for employees for promoting innovation, their training programmes specifically aimed at learning by employees, their efforts to make their companies more effective, changes made in their organizations, their manpower management, the efforts made by them to make their companies a learning organization and changes envisaged by these companies in the next ten year.

A second questionnaire (see Appendix-1) was an adaptation of the questionnaire designed by David Garvin of Harvard University who studied learning organizations in USA and published an article in Harvard Business Review in March 2008. This questionnaire was modified with 36 multiple choice questions which asked the respondent companies to mark one of the following: Always, Frequently, Sometimes, Rarely and Never. They carried 8, 6, 4, 2, and zero scores respectively.

These 36 questions (with a maximum score of 288) were grouped into three basic indicators of a learning, organizations (Part A) Supportive Learning Environment within a Company (14 questions), (Part B) Concrete Learning Processes and Practices within a company (16 questions), and (Part C) Leadership That Reinforces Learning (6 questions). Each question carried a maximum score of 8 and a minimum score of zero. Let us see the components of the questionnaire.

Part A – Supportive Learning Environment (14 questions with a maximum of 112 score) focused questions on the following areas:

a) Psychological Safety (5 questions).
b) Appreciation of differences (3 questions).
c) Openness to new ideas (6 questions).
Part B – Concrete Learning Processes and Practices (16 questions with a maximum score of 128) focused questions in the following areas:

a) Experimentation (2 questions)
b) Analysis (2 questions)
c) Information Collection (4 questions)
d) Education and Training (3 questions) and
e) Information Transfer (5 questions)

Part C – Leadership That Reinforces Learning (6 questions with a maximum scores of 48) was not subdivided into parts because leadership is a holistic process and the questions in this part focused on managers inviting inputs from employees, listening to employees, reflecting on the past performance, encouraging multiple points of view etc.

Modified David Garvin questionnaire (Refer to Appendix – 1) (containing 36 questions and having a maximum score of 288) was administered to the next subordinates of the Heads of the concerned departments so that more objective viewpoint can be gathered as to the functioning of their departments from the viewpoint of the subordinates of the departments rather then through the heads of the departments.

Garvin Questionnaire was modified for our purpose for the following reasons:

Garvin questionnaire is too long and Indian managers may not have patience to respond to a long questionnaire. For an example, in the building block called Supportive Learning Environment, Garvin questionnaire has 20 questions shortened to 14 questions. In another building block called Concrete Learning Processes and Practices, Garvin questionnaire has 20 questions shortened to 16 in this study and in part three, 10 questions are reduced to 6.
Modified David Garvin questionnaire (HBR, March 2008) was administered in each company at three places:

1) Questionnaire was administered to the top management (but not to CEOs) of the company.
2) Questionnaire was administered to the next of the heads of the departments of manufacturing, marketing, finance and R&D.
3) Questionnaire administered to the next of the head of the department of Finance and R&D. Thus all nine companies (2 Pharmaceuticals, 2 Textiles, 3 Chemicals and 2 Engineering) were studied as learning organization at five levels.
   a. Company level
   b. Manufacturing department level
   c. R&D department-level
   d. Marketing department level
   e. Finance department level

This was done in order to identify the learning ability and practices of the organization at a company level, manufacturing, marketing, finance and at R&D department levels and to find a consistency if any at these levels.

Modified David Garvin questionnaire allowed each part of the questionnaire to be scored and compared with other companies. Also it permitted the inter company and the interdepartmental comparisons within each company and also permitted the identifications of deficiencies in each company and its departments to be identified. At the same time, this questionnaire excluded many other parts of a learning company from its ambit such as vision, training programmes of the company and learning through mergers and acquisitions. It was therefore thought necessary to cover several other aspects of companies under study which were found relevant for learning practices and policies. This is the main reason why an open ended questionnaire (Appendix-2) was administered to gather supplementary
information not covered by the modified David Garvin questionnaire. The second questionnaire was helpful in content analyzing several other variables relevant to companies under study for their learning policies and practices. It indicated a variety of policies and practices of learning organization or lack of them followed by the companies understudy.

The open-ended questionnaire (Refer to Appendix – 2) focused on the following variables concerning learning policies and practices followed or not followed by the companies.

1) Formulation of vision and method adopted for spreading vision.
2) Core competence.
3) Ways adopted by the company for making employees innovative.
4) Training programmes.
5) Manpower Management.
6) Methods of making employees autonomous.
7) Rewarding outstanding performance.
8) Spreading knowledge within an organization.
9) Mechanisms for learning from outside environment.
10) Team building methods.
11) Changes made in organizations.
12) Efforts made to make company more effective.
13) Efforts made to make company a learning organization.
14) Changes envisaged in a company in the next ten years.

5.5 METHOD OF DATA ANALYSIS

A large part of this study consists of the classification, cross tabulation and ranking of scores on variables that characterize a learning organization. A cross-tabulation of variables along the companies ranking indicated the partial or total presence of the key variables necessary for a learning organization. The main method of comparison of companies under study was cross-tabulation of several variables of learning organization and then ranking organization and departments according to the percentages scored. This
has facilitated the comparison of companies on several variables enabling us to draw some valid conclusions. Four departments of each company namely manufacturing, finance, marketing & R&D are studied to measure their learning abilities and practices.

The purpose of the study is not statistical in nature. The study is mainly focused on the identification of the policies and practices of learning organization used by the leading companies of Gujarat and their four most important departments and four most important industrial sectors.

For modified David Garvin questionnaire, all positive questions, were given a weightage as follows:
Always (8)
Frequently (6)
Sometimes (4)
Rarely (2)
Never (0)

These were some negative questions for which the score was assigned in reverse. There were three components in this questionnaire.

1) Supportive Learning Environment
2) Concrete Learning Processes and Practices and
3) Leadership that Reinforces Learning.

Each component was given a weightage of one third (33.33 percent) and the raw score was reduced to one hundred percent. All tables prepared from modified David Garvin questionnaire are in the form of percentages. This has facilitated comparison among companies and between the departments of the companies under study. Since the scores were reduced to percentages, it was possible to rank the companies and their departments from 1 (highest) to lowest (9). To equalize all three dimensions of the learning company, each question in 1st component was given a weightage of 2.38. Each question in 2nd component was given a weightage of 2.08 and each question in the third component was
given a weightage of 5.6. This ensured that components 1, 2 and 3 mentioned above were given a weightage of 33.3% each in the total score.

To find the degree of correlation among departments and companies along learning organization dimension, Spearman ranking correlation co-efficient was used and interpreted accordingly.

The responses to the above questionnaire were classified as follows:

1) Overall learning scores of nine companies under study and their ranking.
2) Learning scores of each of the four departments of the nine companies: Manufacturing, R&D, Marketing and Finance and their ranking.
3) Classification and comparison of the learning scores of nine companies and each of their departments – Manufacturing, R&D, Marketing and Finance according to their industry classification: a) 2 Pharmaceuticals Companies b) 2 Textiles Companies, c) 3 Chemical Companies and d) 2 Engineering Companies.

As mentioned above, the four industrial sectors were chosen for study because Gujarat is at the top or near top in these sectors in India. Data interpretation was done mainly on the basis of the presence or absence or the contents of the key variables essential for the learning organizations. If the key variable was absent or only partially present, it was interpreted as a deficiency in the learning ability of the company. For the companies and departments whose responses were scored into percentage forms, it was possible to rank them and the higher rank indicated a more favourable interpretation of the company as a learning organization or as a learning department. Some companies had higher overall ranks but their departments had lower ranks. This was interpreted as inconsistency in the implementation of company’s learning policies and practices across their departments.

The responses of open ended questionnaire from 9 companies were classified, content-analyzed and compared on 14 variables mentioned in the previous section.
Recommendations and suggestions are made in the light of the findings for each company.

This study is both quantitative and qualitative because the concept of learning is itself both quantitative and qualitative and somewhat abstract. Only certain dimensions of learning organization can be measured quantitatively. An effort has been made to quantity them wherever possible but the quantitative interpretation has to be taken merely as a broad finding rather in strict numbers. The quantification of variables is done for comparison among companies and their departments.

5.6 REPORT PREPARATION AND PRESENTATION

The report was prepared after collecting, classifying and interpreting data from the field study. The chapterisation was done according to the logic of the topic for research. The presentation of the report was done in an objective manner and the report contains several tables which were made according to their contents and were interpreted accordingly.

5.7 LIMITATIONS OF THE STUDY

The limitations of the study are as follows:

1) The sample size for the study was limited to nine companies in Gujarat. Therefore the findings of this study may not be applicable to all companies in Gujarat.

2) The companies under study were only from Gujarat State, so the findings of this study cannot be generalized for companies outside Gujarat.

3) The companies selected for this study represented Pharmaceutical, Chemical, Textiles and Engineering (Steel) Industries. There are several other manufacturing sectors which cannot be included in this study. Therefore the findings of this study may not be applicable to companies in other industrial sectors.
4) Learning itself is an abstract concept therefore the variables relevant to learning organization are mainly qualitative in nature. They cannot be quantified with precision. It was therefore difficult to apply statistical techniques in this study. Therefore no statistical conclusion can be drawn in this study excepting for ranking of companies according to certain variables relevant to learning.

5) A non conventional case study method is used. Each company’s development is studied intensively but their learning policies and practices are spread over several chapters. These have to be jointed together to arrive at an individual case study of each company. This study makes an analysis of each company on several variables relevant to learning organization and also makes recommendations for each company to make it more learning oriented. Thus there is a complete case study, its analysis and suggestions for each company viewed horizontally.