CHAPTER 8
FINDINGS AND CONCLUSIONS

The findings in this chapter are summarized in three parts:

Part – I summarizes the findings on the basis of the learning score of the companies under study and their four departments: Manufacturing, R&D, Marketing and Finance. The responses are classified in 25 tables and each table presents main findings.

Part – II presents the findings on the basis of the open ended questionnaire which covers 14 variables relevant to a learning companies.

Part – III presents the qualitative findings on each component of learning organization as per the conceptual framework in Chapter 3.

PART I : THE LEARNING ORGANIZATIONS’ AND THEIR DEPARTMENTS’ SCORES AND RANKING

The following 25 tables yield findings on the overall dimensions of the companies learning organizations and their Manufacturing, R&D, Marketing and Finance departments.
Table 1
Overall Ranking of the companies as learning organizations

<table>
<thead>
<tr>
<th>Findings</th>
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</thead>
<tbody>
<tr>
<td>1) Arvind Mills with an overall rank 1 has the highest score in all the three components of learning organization.</td>
</tr>
<tr>
<td>2) IPCL has the lowest scores in psychological safety, appreciation of differences and openness to new ideas.</td>
</tr>
<tr>
<td>3) The learning environments at Zydus Cadila and Torrent Pharma are second highest after Arvind Mills.</td>
</tr>
<tr>
<td>4) GHCL has low score on leadership that reinforces learning.</td>
</tr>
<tr>
<td>5) Torrent Pharma has lowest score on information collection.</td>
</tr>
</tbody>
</table>

Table 2
Ranking of the Manufacturing Departments of the companies as learning organizations

<table>
<thead>
<tr>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Arvind Mills provides highest and Welspun Gujarat provides lowest psychological security to their employees.</td>
</tr>
<tr>
<td>2) GACL, GHCL and IPCL have low scores on leadership that reinforces learning.</td>
</tr>
<tr>
<td>3) Welspun Gujarat has low scores on openness to new ideas.</td>
</tr>
<tr>
<td>4) GACL has low scores on appreciation of differences.</td>
</tr>
<tr>
<td>5) GACL has lowest score on information transfer and Essar Gujarat has next lowest score in information transfer.</td>
</tr>
</tbody>
</table>

Table 3
Ranking of the R and D departments of the companies as a learning organizations

<table>
<thead>
<tr>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) GHCL is highest and GACL and Zydus Cadila are the lowest in providing psychological safety to their employees.</td>
</tr>
<tr>
<td>2) Essar Gujarat has highest score in appreciation of difference.</td>
</tr>
<tr>
<td>3) Welspun Gujarat has lowest score in openness to new ideas.</td>
</tr>
<tr>
<td>4) IPCL has lowest score on leadership that reinforces learning.</td>
</tr>
<tr>
<td>5) Zydus Cadila has lowest score on education and training followed by Torrent Pharma and IPCL.</td>
</tr>
</tbody>
</table>
Table 4
Ranking of the Companies and their departments under each indicator of learning organizations

Findings
1) The above table clearly indicates the wide variations in ranks among different departments of the companies in terms of their learning practices and processes.
2) There is also a wide variation between the scores of manufacturing departments and R&D departments within the same companies which shows that high score in manufacturing does not necessarily mean a high score in R&D departments.
3) Zydus Cadila has an overall rank 2 as a learning organization but its manufacturing department and R&D department have ranks 7 and 8 as learning organizations.
4) Arvind Mills has an overall rank 1 but its R&D department has 3rd rank as a learning organization. Similarly Essar Gujarat has overall rank 2 but its manufacturing and R&D departments each have rank 2.
5) This implies that learning companies’ culture is not evenly spread among the different departments in the companies. Thus differences are seen within the departments of the companies and across the companies.

Table 5
Spearman rank correlation among companies and their departments as learning organization

Findings
1) There is no statistically significant correlation among overall company ranking and their departments.
2) The high ranking for the companies does not imply high ranking for their manufacturing and R&D departments.
3) Different departments of the companies show different learning cultures.
### Table 6

**A Learning Organization**

A Comparison between manufacturing departments of two pharmaceuticals companies

<table>
<thead>
<tr>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Torrent pharma tops as a learning organization and is quite ahead of Zydus Cadila in all areas.</td>
</tr>
<tr>
<td>2) Torrent pharmaceutical is ahead of Zydus Cadila in openness to new ideas from its employees.</td>
</tr>
<tr>
<td>3) Torrent pharma has better leadership that reinforces learning than Zydus Cadila</td>
</tr>
<tr>
<td>4) Torrent pharma is ahead of Zydus Cadila in experimentation, analysis, information collection and education and training.</td>
</tr>
</tbody>
</table>

### Table 7

**Index of learning organization (Manufacturing departments)**

A comparison between manufacturing departments of two textile companies

<table>
<thead>
<tr>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Arvind Mills has a higher score in the first two components of a learning organization but has an equal score in the third component — leadership that reinforces learning.</td>
</tr>
<tr>
<td>2) Arvind Mills is more open to new ideas than Reliance Textiles.</td>
</tr>
<tr>
<td>3) Arvind Mills is ahead of Reliance Textiles in Analysis.</td>
</tr>
<tr>
<td>4) Arvind Mills has much better information transfer system than Reliance Textiles.</td>
</tr>
</tbody>
</table>

### Table 8

**Index of learning organization (Manufacturing departments)**

A Comparison between manufacturing departments of two Engineering Companies

<table>
<thead>
<tr>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Essar Gujarat and Welspun Gujarat have equal score in appreciation of differences among their employees but Welspun Gujarat has higher score in information transfer.</td>
</tr>
<tr>
<td>2) Essar Gujarat is quite ahead of Welspun Gujarat in information collection.</td>
</tr>
<tr>
<td>3) Welspun is ahead of Essar Gujarat in experimentation.</td>
</tr>
</tbody>
</table>
### Table 9
**Index of learning organization (Manufacturing departments)**

**A Comparison between manufacturing departments of three Chemical Companies**

<table>
<thead>
<tr>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) GHCL has highest score among the three in providing job security to its employees.</td>
</tr>
<tr>
<td>2) All the above three companies have equal score in openness to new ideas.</td>
</tr>
<tr>
<td>3) GHCL is ahead of other two companies in experimentation and analysis.</td>
</tr>
<tr>
<td>4) GHCL is quite ahead of other two companies in information collection, education and training for its employees.</td>
</tr>
</tbody>
</table>

### Table 10
**The Learning Organization (R&D)**

**A Comparison between R&D departments of two pharma companies**

<table>
<thead>
<tr>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Torrent pharma provides more psychological security to its employees than Zydus Cadila.</td>
</tr>
<tr>
<td>2) Zydus Cadila has higher score on experimentation than Cadila pharma.</td>
</tr>
<tr>
<td>3) Zydus Cadila has better information transfer mechanism than torrent pharma.</td>
</tr>
</tbody>
</table>

### Table 11
**The Learning Organization (R&D)**

**A Comparison between R&D departments of two Textile companies**

<table>
<thead>
<tr>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Arvind Mills scores higher in first and the third components of learning organization but is lower than Reliance Textiles in concrete learning process and practices.</td>
</tr>
<tr>
<td>2) Arvind Mills provides better psychological security to its employees than Reliance Textiles.</td>
</tr>
<tr>
<td>3) Both have equal scores on information collection and experimentation though Arvind Mills has higher score on information transfer.</td>
</tr>
<tr>
<td>4) Arvind Mills has higher scores on leadership that reinforces learning.</td>
</tr>
</tbody>
</table>
Table 12
The Learning Organization (R&D)
A Comparison between R&D departments of two engineering companies

Findings
1) Essar Gujarat provides higher psychological safety to its employees than Welspun Gujarat but has equal score in second component of learning organization with Welspun Gujarat.
2) Essar Gujarat has a higher score on leadership that reinforces learning than Welspun Gujarat.
3) Welspun Gujarat has higher score on information transfer system though Essar Gujarat has higher score than Welspun Gujarat in information collection.

Table 13
Index of Learning Organization (R&D)
A Comparison between R&D departments of three chemical companies

Findings
1) GHCL has higher scores on providing job security followed by GACL and IPCL.
2) GACL has higher scores in appreciation of differences then GHCL and IPCL.
3) IPCL is very low on experimentation compared with other two companies.
4) IPCL is also very low on leadership that reinforces learning.
5) IPCL however has a higher score on analyses than GACL.
6) IPCL shows lowest score in leadership that reinforces learning.

Table 14
Ranking of the Marketing Departments of the Companies as learning organizations

Findings
1) Arvind Mills and Torrent Pharma are at the top and bottom respectively as learning organizations in their marketing departments.
2) Torrent Pharma & Zydus Cadila show highest score on providing psychological security to their employees.
3) Arvind Mills and Zydus Cadila show highest score on appreciation of differences.
4) Torrent Pharma shows lowest score on leadership that reinforces learning.
5) Welspun Gujarat shows highest score on information transfer and Torrent Pharma shows lowest score on information collection.
Table 15
Ranking of the Finance Departments of the Companies as learning organizations

<table>
<thead>
<tr>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Essar Gujarat provides highest psychological security while GACL has highest scores on appreciation of differences.</td>
</tr>
<tr>
<td>2) Zydus Cadila has higher score in information transfer system.</td>
</tr>
<tr>
<td>3) Torrent Pharma, Welspun Gujarat and Essar Gujarat have equally higher scores on educational training.</td>
</tr>
<tr>
<td>4) GHCL has highest score on experimentation.</td>
</tr>
</tbody>
</table>

Table 16
Ranking of companies and their departments under each indicator of learning organizations

<table>
<thead>
<tr>
<th>Findings</th>
</tr>
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<tbody>
<tr>
<td>1) The above table clearly indicates the wide variations among different departments of the companies in terms of their learning practices and processes.</td>
</tr>
<tr>
<td>2) Torrent pharma has an overall rank of 9 but its Finance department has rank 1. Similarly, Zydus has an overall rank of 1 but its Marketing and Finance departments have 3rd and 4th ranks respectively.</td>
</tr>
<tr>
<td>3) This implies that learning companies’ culture is not evenly spread among the different departments of the companies. Thus differences are seen within the departments of the companies and across the companies.</td>
</tr>
</tbody>
</table>

Table 17
Spearman rank correlation among companies and their departments as learning organization

<table>
<thead>
<tr>
<th>Findings</th>
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</thead>
<tbody>
<tr>
<td>1) There is no statistically significant correlation among overall companies’ ranking and their departments.</td>
</tr>
<tr>
<td>2) The high rankings for the companies do not imply high rankings of their marketing and finance departments.</td>
</tr>
</tbody>
</table>
Table 18

A comparison between the Marketing Departments of two pharma companies

Findings
1) Zydus Cadila and Torrent have equal scores in providing psychological security to their employees.
2) Zydus Cadila has higher score on appreciation of difference than Cadila. It has also higher scores on experimentation.
3) Zydus Cadila provides much higher experimentation than Torrent Pharma.
4) Zydus Cadila has higher score on information transfer than Cadila.

Table 19

A comparison between the Marketing Departments of two textiles companies

Findings
1) The difference between overall scores of Arvind Mills (204) and Reliance Textiles (176) is very high.
2) Reliance Textiles provides higher experimentation opportunities than Arvind Mills.
3) Reliance Textiles has higher score than Arvind Mills on Analysis.

Table 20

A comparison between the Marketing Departments of two engineering companies

Findings
1) Essar Gujarat and Welspun Gujarat have equal scores on providing psychological safety to their employees.
2) They also have equal scores on appreciation of differences.
3) Welspun Gujarat is quite ahead of Essar Gujarat in information transfer.

Table 21

A comparison between the Marketing Departments of three chemical companies

Findings
1) GHCL is number one because it has overall score of 62.6% which is higher than the score of GACL (61.5%) and IPCL (60.4%).
2) GHCL and GACL have equal scores on providing psychological security to their employees.
3) All the three companies provide equally good leadership to their employees in their Marketing departments.
### Table 22
A comparison between the Finance Departments of two pharma companies

**Findings**
1) The Finance Department of Torrent Pharma is ahead of the Finance Department of Cadila as a learning organization.
2) Torrent Pharma has a higher score than Zydus Cadila on openness to new ideas.
3) Zydus Cadila has higher score than Torrent pharma on experimentation.

### Table 23
A comparison between the Finance Departments of two textiles companies

**Findings**
1) Arvind Mills and Reliance Textiles have equal scores on a openness to new ideas.
2) Reliance Textiles Ltd. is ahead of Arvind Mills in experimentation.
3) Reliance Textiles is also ahead of Arvind Mills in information collection.

### Table 24
A comparison between the Finance Departments of two engineering companies

**Findings**
1) Welspun Gujarat and Essar Gujarat have equal scores on appreciation of differences.
2) Welspun Gujarat is far ahead in experimentation than Essar Gujarat.
3) Welspun Gujarat has better information transfer than Essar Gujarat.

### Table 25
A comparison between the Finance Departments of three chemical companies

**Findings**
1) GACL is better as a learning organization than other two chemical companies under study.
2) IPCL is lower on experimentation than other two companies.
3) GACL and GHCL have equal scores on leadership that reinforces learning.
PART II: THE FINDINGS ON THE LEARNING VARIABLES FOR THE COMPANIES UNDER STUDY.

The findings of Part II are based on the responses to the open-ended questionnaire to the companies under study. They are summarized in tables from 26 to 31 and the observations have been made under each table in the previous chapter. Following are the broad findings based on contents of the tables mentioned above.

1) **Clarity of vision and its spread at the bottom.**

Each company has formulated vision statement to guide them. Some vision statements are long while some are short. Some are specific while some are vague but Cadila Pharmaceuticals is very specific when it says that “we want to be research driven global company”. IPCL’s vision “Growth is beyond business” seems vague. All companies have tried to spread vision at the bottom. Most of them use bulletin boards, training programmes and house journals to spread vision. The companies have not mentioned how far their employees were involved in formulating a company vision. Also not much effort has gone into the formulation of vision statements.

2) **Core Competences of the companies**

Every company has taken care to develop core competence. Cadila has developed innovative competence while Arvind Mills has focused on quality and IPCL has core competence in executing projects. Essar Gujarat Steel (Essar Steel) seems to be vague in defining its core competence. The idea of core competence has not been systematically developed.
3) **Making employees innovative**

All companies have developed some mechanism for making employees innovative. However only two companies – Zydus Cadila and GHCL are following Kaizen to make their employees innovative. Welspun Gujarat alone has mentioned brainstorming as a technique for innovation. The companies are not aware that supporting learning environment has to be created to be a learning organization and no systematic learning policies and practices are followed by any company.

4) **Training programmes**

All companies have training programmes to train their employees in new skills and functions. However there is no mentioned of a training programme for employees to make them a part of a learning organization. The training programmes of the companies are routine type and they show no innovation, in the direction of being a learning organization.

5) **Manpower Management**

All companies claim that they follow modern manpower management. Some of them follow succession planning exercises. Many companies claim that they follow modern HR practices. But these companies’ manpower management programmes are not specifically directed towards creating a learning organization. For an example, there are no policies for team building, learning from collaborations and suppliers and policies about spreading knowledge within organizations.
6) **Giving autonomy to employee**

All companies have reported that they give autonomy to their employees. Torrent Pharmaceutical gives 80% autonomy to its employees while Reliance Textiles believes in general empowerment. GHCL gives high degree of freedom to its employees and Essar Gujarat gives special incentives to its employees for becoming autonomous. All companies empower employees but it is not clear whether employees feel psychologically secure to take more responsibility and authority. Only IPCL has reported being a top down organization.

7) **Rewarding outstanding Performance**

There are many variations among companies in this area. Zydus Cadila gives compliments while Torrent gives one time award. GHCL gives nothing more than routine incentives and Welspun Gujarat (WGL) is not specific about rewarding outstanding performance. It seems that no company has formulated a systematic long term policy of rewards outstanding performance. Nor any company has mentioned a regular procedure for evaluating outstanding performance.

8) **Spreading knowledge within organization**

Some companies have emphasized multi-skilling and some others have mentioned house journals and bulletin boards as methods of spreading knowledge. No systematic thought seems to have been given by any company to identify methods for spreading explicit and implicit knowledge within organization from top to bottom and horizontally.
9) **Mechanism for learning from external environment**

Most companies depend upon market research for learning from external environments. Some of them ask their executives to attend seminars and workshops outside the company. Some follow benchmarking against the competitors. Some gather information through trade journals. However, there is no systematic thought given in the organization to gather information not only about markets but also about technological, economic, political, and cultural trends.

10) **Team building exercises**

All companies have encouraged team building in their organizations. They have built different types of teams both functional and cross-functional but there seems to be a limited understanding in the companies under study between groups and teams. Again, few companies give training to managers or supervisor for team building. Only Welspun Gujarat has team assessment group and only GHCL mentions team building as a part of routine training. Reliance Textiles Ltd. has only recently introduced the concept of team building in its organization.

11) **Changes made in organization**

Cadila has introduced computerized system and Torrent has introduced multi-skilling training. Arvind Mills has introduced benchmarking and IPCL has introduced the continuous evaluation system. Essar Gujarat has now open house sessions. GACL has created eco-friendly technology and Reliance Textiles Ltd has introduced six sigma training. All companies under study have introduced changes but all changes are not moving in the direction of learning organization.
12) **Efforts to make company more effective**

Cadila would like to have more open knowledge sharing and Torrent wants different leadership programmes. Welspun Gujarat is introducing attitude change training and Reliance Textiles Ltd would like company to be more employees friendly. GACL wants high retention rate of employees and Essar Gujarat is now introducing mentoring programme.

13) **Efforts to make their company a learning organization**

All companies under study are making limited efforts in the direction of making their companies as a learning organization. Cadila Zydus seeks to build innovative teams and wants to give 16 hours’ training to each of its employees. It also wants to create a paperless office. Torrent wants a direct approach to communication and Arvind Mills has created knowledge sharing forum. Welspun Gujarat has adopted various ways to carry out new strategies of learning. IPCL wants paperless and peon less office and GHCL has no specific plans but wants quicker spread of knowledge among employees. Essar Gujarat has introduced open-house system and has adopted the use of networking system.

14) **Proposed changes in the next ten years**

Zydus Cadila sincerely wants to make itself a learning organization and Torrent Pharmaceuticals wants to innovative new molecules and path breaking pharmaceutical formulations. Arvind Mills wants to be a genuine multinational company and Welspun Gujarat wants more product innovation with latest technology. Reliance Textiles wants to be number one company in its field through even more integration and IPCL wants to have best employee satisfaction record. GHCL also wants to be best in terms of employee satisfaction and GACL wants optimum satisfaction for its customers and wants to be even a better socially responsible company. Essar Gujarat wants to be a global leader in its sector.
III. EVALUATION OF THE COMPANIES UNDER THE VARIABLES OF THE CONCEPTUAL FRAMEWORK

Chapter 3 discussed eleven characteristics of a learning organization as a conceptual framework. Each company under study is evaluated below on the bases of this conceptual framework. Though vision and spreading of vision was discussed earlier, it is here discussed in greater details for each company. The data in this section are gathered from the informal talks with the employees of the companies and from extensive secondary sources including several reports and publications of the companies under study.

(1) VISION AND SPREADING OF VISION

Having a common vision helps each employee—irrespective of his or her level in the organization to coordinate efforts with others in the organization. Indeed, a common vision is the cornerstone of the learning organization for it defines the broad nature and direction of organization’s work. An organization must understand what work it is to accomplish before it can consider ways to improve the performance in accomplishing that work. Thus by making a shared vision the central feature of the learning organization, one can really shape it into workable model for its improvement. The companies under study have formulated their mission and vision as described below.

Cadila Pharmaceuticals has defined its mission as well as its vision. It states its mission in the following words:

“We are dedicated to life in all its dimensions. Our world is shaped by a passion for innovation, commitment to partners and concern for people in an effort to create healthier communities globally”.

The company has stated its vision in the following words:

“We want to be one of India’s leading healthcare players. We aim to be a research –driven global company”.
In another statement of vision, Cadila has formulated its vision in terms of the targets to be reached. It states, Zydus Cadila (Cadila Healthcare Ltd.) shall be a leading healthcare provider with a robust product pipeline and sales of our 1 billion dollars by 2010. We shall achieve sales of over 3 billion dollars by 2015 and be a research based pharmaceutical company by 2020.

The company is spreading its vision and mission through its training programmes and such statements are brought to the notice of employees from time to time in its house journals. It spreads its vision and mission to the stakeholders through company’s annual reports which mention them boldly.

Torrent Pharmaceuticals Ltd. has stated its mission and vision in few words. It mission statement states, “We commit ourselves to total customer care by delivering world class products and services”. This mission emphasizes company’s customer orientation as well the world class quality of its products. The Company’s vision statement is very short and states that the company wants “to be the leader in pharmaceutical field”. The company in addition to its high quality emphasizes its world class manufacturing and research and development facilities though it does not incorporate them in its vision statement. The company has fully owned subsidiaries in Australia, Brazil, Germany, Russia and USA and has over 1000 product registration worldwide. Yet it does not incorporate in its vision statement its global character. The company spreads its vision through all forms of communication including bringing out a house journal named ‘The Torrentian”. The supervisors in the company are especially trained to carry the company’s vision and mission in everything that they do.

Arvind Mill’s vision is to achieve global dominance in selected businesses built around its core competences through continuous product and technical innovation, customer orientation and a focus on cost effectiveness. Arvind Mills has formulated also its HR vision and philosophy. Its HR vision is “to be a foundation that integrates culture, vision and values, creates an environment that facilities the maximization of human potential”.
Arvind Mills further states that “We believe in people and their unlimited potential. We also believe in teams for effective performance and in content and focus in problem solving. We endeavour to select, train, and coach people to obtain higher responsibilities, to nurture talent and to build leaders for tomorrow’s corporation, and to reward, celebrate and activate all intellectual business contributions”. Arvind Mill’s ultimate vision is “to make the world a better place to live in and making things happen”.

Arvind Mills spreads its vision and values through
(a) laying emphasis on customer orientation
(b) laying emphasis on organization development.
(c) spreading Arvind’s values and vision everywhere in the organization through managers and supervisors.
(d) Arvind’s behavior speaks about vision and values better than any words.

Welspun Gujarat (WGL) states its vision in following words:
“We aim to emerge as a global leader preferred by every home we serve. We seek to grow with passion and with ethics and delighting all our stakeholders”.

The mission of WGL is to satisfy its customers by providing such quality products and services which give highest value for money to them. Though not worded as its mission or vision statement, the company states that, “We believe that employees are most important assets through which we can create the broad category of our products and services. Therefore, we will emphasize their continuous importance through upgradation of their relevant knowledge and training. We commit ourselves to continuous growth, so that we fulfill the aspirations of our employees and shareholders while putting great values on employees, Essar Gujarat states “We understand that excellent people deserve excellent practices”.

The company considers manpower management practices as a part of its mission and vision so this is not explicitly stated in its vision and mission declaration. The company follows the traditional mechanisms of meetings, bulletin boards and training for employees.
Reliance Industries Ltd. (RIL) is the largest private sector company in India. Both Reliance Textiles and Indian Petrochemicals Ltd. are now divisions of Reliance Industries Ltd. (RIL) and therefore the mission, vision and value of RIL apply both to Reliance Textiles and IPCL. No separate annual reports and financial accounts are published for the above divisions as they are parts of RIL though administratively they are independent and autonomous. Reliance’s facilities in textiles and petrochemicals strengthen its position in textile and petro products value chain.

RIL has no formal vision or mission statements; however it states that growth is a way of life. It continually seeks to offer value added and innovative products as raw materials for its global and domestic customers. Its mission so far is to be high quality and low cost producer through backward integration which is the cornerstone of its growth. However this constitutes its strategy and not a vision or a mission. It believes that “growth is beyond business” because RIL invests in social infrastructure and its business strengths fuels its social contribution. It defines growth as follows. Growth is for care of environment, growth is for safety and growth is care for good health of its employees. Instead of making formal mission statement, Reliance believes that any business can be ethical only when it rests on 8 values of Honesty, Integrity, Respect, Fairness, Purposefulness, Trust, Responsible Citizenship and Caring. The RIL spreads these values throughout its divisions through house journals training programmes and actual conduct of business as a role model for its employees.

Gujarat Heavy Chemicals Ltd. (GHCL)’s mission is clear. It wants to remain a multiproduct company and seeks to serve domestic and international markets. In its own words, GACL’s mission is “to be a multiproduct company manufacturing chemicals, industrial raw materials and other products using modern technology and serving domestic and international markets”. The company has also human resource driven mission. It states its HRD vision in the following words:
“To keep our staff quality driven and highly motivated, we have adopted Total Quality Management as a corporate way of life because people-centered approach to doing business gets people to contribute to their fullest”.

This statement can hardly be called a mission statement though the company calls it a central value for its existence.

GHCL like all other companies under study has published its vision and mission statements in its various publications including its annual reports and at the bottom level through its supervisory staff.

The vision of Gujarat Alkalies and Chemicals Ltd. (GACL) is to continue to be identified and recognized as a dynamic, modern, and eco-friendly chemical company with enduring ethical values. This is the only company under study which has included the word friendly in its vision statement. The mission of GACL has been formulated by the company as follows:

**GACL’s mission:**

In company’s own words, the mission has been divided into three parts.

a) To manage our business responsibility and sensitivity, in order to address the needs of our customers and stakeholders.

b) To strive for continuous improvement in performance, measuring results precisely and ensuring GACL’s growth and profitability through innovations.

c) To demand from ourselves and others the highest ethical standards and to ensure products and processes to be of the highest quality.

GACL has spread its vision to the bottom through meetings with its employees and through the supervisions of each section / sub section and through its training programmes.
Essar Steel is a part of Essar group and the Essar owes it s origin to the great vision of Shashi Ruia and Ravi Ruia who founded it in 1969. In 1990, they established first steel sponge plant in India at Hazira, Surat. The vision is formulated for the entire Essar group which applied to Essar steel also. It states, “At Essar, we envision to constantly innovate in order to have superior execution for our clients thereby creating wealth for all our stakeholders”. This vision is further enhanced through acronym VIEW where V stands for vision of being an entrepreneur to create value, I for innovation, E for execution and W for wealth. Further Essar group states that it is both people-driven and people-centered in its approach with a dedicated team of professionals. Essar’s philosophy is low cost, high quality, strategic geographic expansion and innovative offering to customers. It wants to see its customers, employees and stakeholders happy. Though the above description is more of a mission statement, Essar considers it a vision and considers itself a technology driven company. One can therefore infer that Essar group’s (and therefore Essar Steel’s) vision is to be a technology-driven global comparing in steel and other products with production facility spread all over the globe. With the vision in mind, Essar has acquired coal assets in Africa and South America. Essar Steel is spreading this vision through usual mechanisms of training for its employees, meetings and a house journal.

(2) SUPPORTIVE LEARNING ENVIRONMENT

An environment that supports learning has four distinguishing characteristics. First is psychological safety where employees do not fear losing their jobs for disagreements or making honest mistakes. Second, the company appreciates differences and welcomes alternative viewpoints. Third is the openness to new ideas and fourth is time for reflection which allows employees to think and reflect without the urgency of deadlines. Supportive learning environment allows time for pause in the action and encourages thoughtful review.

At Zydus Cadila, there is no fear of losing the job excepting for habitual absences and indisciplinary behavior which breaches the code of conduct of the company. There is no punishment for being wrong and mutual trust between supervisors and employees plays an important role. However, time for reflection is not as much as employees will like to
have. At Torrent Pharmaceuticals, there is minimal fear for losing a job and it is easy to speak up about what is on employee's mind. If an employee makes a mistake, it is sometimes held against him. People in the company talk freely about their problems and disagreements not always but frequently. People in this company frequently settle their difference privately rather than in group meetings.

The company creates supportive learning environment through training workshops. A one day workshop on GOAL (Getting Over All Difficulties) was organized for its 40 executives which aimed to make them realize their potential and utilize their hidden talents. The workshop helped them overcome difficulties while accomplishing their personal as well as organizational goals. However the company sometimes values new ideas but not frequently or always welcomes new ideas. They are frequently open to alternative ways of getting work done but not as much as they would wish.

At Arvind Mills it is always easy to speak up about what is in employee’s mind and people in the company frequently talk about their problems and disagreements. People also frequently resist new approaches. The company devotes some time for reflection and review of work. Those people who keep information to themselves have little chance to be promoted in this company. People also value new ideas and are always interested in better ways of doing things. Arvind Mills clearly states, “We believe in people and their ultimate potentials and focus their abilities on problem solving in teams for their effective performance”.

As Welspun Gujarat (WGL), it is not always but frequently easy for an employee to speak about what is on his mind and if an employee makes a mistake, it is rarely held against him. Differences are welcome in this company and people in this company settle their differences privately rather than group meetings. People are open to new ideas but employees in this company are some what stressed. Despite heavy workload, people in this company find time to review how work is going only sometimes – not as frequently as required. People in this company are sometimes interested in better ways of doing things.
At Reliance Textiles which is now a part of RIL, people rarely talk freely about their problems and disagreements and rarely share information about what works and what does not work. Differences of opinion are frequently welcome but people are not always open to alternative ways of getting work done. People frequently value new ideas but they are stressed in this organization. They are given enough time to review how the work is going in their section or department. Keeping information to oneself is discouraged in this company.

At IPCL which is now a part of RIL, people find it easy to talk on what is on their mind and if they commit mistake, it is not held against them. However people in this company do not share information about what will work and what will not work and rarely talk freely about their problems and disagreements about work. Differences of opinion are welcome but not always or not very frequently. People are frequently open to alternative ways of doing work and they value new ideas, not always but sometimes. There is not enough time for reflections in this company as to how work is going. Employees at IPCL feel psychologically insecure after its acquisition by RIL in March 2002. RIL closed down the unviable units at Baroda complex. Several employees were asked to take VRS.

At Gujarat Heavy Chemicals Ltd., people talk freely about what is on their mind but if they make mistake, it is held sometimes against them. People share information about what works and what does not work in their department but not very frequently resist new approaches. Frequently there is no time for reflection in this company about how work should be done in a better way. The company sometimes but not frequently encourages debates and discussions regarding matters of work and methods of works.

At Gujarat Alkalies and Chemicals Ltd. (GACL), it is easy to speak about what is on employee’s mind but it is held against him sometimes if he makes a mistake. Differences of opinion are welcome not always but frequently. People quietly settle their differences privately rather then in meetings and they are frequently open to alternative ways of doing things. However people do not always or frequently find time to review how the work is
going. Also there is not always time for reflecting as to how work could be improved or done differently in the future.

At Essar Gujarat (Essar Steel), it is always easy for an employer to speak about what is in his mind and if an employee makes a mistake, it is rarely held against him. Differences of opinions are welcome and people are open to alternative ways of getting work done. However, people in this company frequently but not always value new ideas. Despite heavy work load, people in this company find time to review how the work is going.

(3) CONCRETE LEARNING PROCESSES AND PRACTICES

A learning organization arises from a series of concrete steps and processes. Learning processes involve the generation, collection, interpretation, and dissemination of information. They include (a) experimentation to develop and test new products and services, (b) Information gathering to keep track of competitors, customers, and technological trends, (c) disciplined analysis and interpretation to identify and solve problems (d) education and training to develop new and established employees. For maximum impact, knowledge must be shared, in systematic and clearly defined ways. It may be shared internally or externally through meetings with customers, suppliers or outside experts to gain their perspectives on the company's activities. Knowledge should move laterally and vertically to the relevant individuals and groups.

Zydus Cadila experiments with new products and services. The company launched 25 new products and over line extensions in the formulation market during 2008-2009. The company commercialized new APIO during 2008-2009 and filed new drugs with US Federal Drug Administration during the same year. The company’s biologics now has 12 active programmes. The biologics portfolio includes research on vaccines, therapeutic proteins and therapeutic monoclonal antibodies. The company has entered into an agreement with WHO to develop next generation biological to fight rabies. Again, apart from experimenting with new products and services, the company encourages debates and discussion in its other departments also. The company also collects systematic information on competitors through a special team of people which also identifies current
technological trends. The experienced managers receive periodic training in this company and the company has always valued training. The company has 16 mandatory hours of training for each employee. The employees frequently but to always learn from other departments, outside experts and suppliers though information sharing with colleagues is done frequently but not always.

Torrent Pharmaceuticals encourages experimentation with new products and services. For an example, company’s Prima division innovated and launched pain reliever in-moderate to severe pain known as Revodol on March 2006. Tozaar AT – a new combination of Losartan and Atendol was launched in June 2006. Tozzar AT was launched after rigorous research efforts which confirmed that this new drug provides superior BP control and it is excellent therapy for hypertension with Angina. Other then in R&D, the company does not always experiment with new ways of working and does not always encourage debates and discussions. The company expects from its executives to keep an eye on the competitors’ moves and gather information from them. There is however no permanent mechanism to do so. The company collects systematic information on markets through its sales agents and sales force personnel and sometimes through market research. However, the company values training the most and at has intensive and frequent training programmes for all levels of employees at its training centre. Prominent outside experts are invited to give talks on topics of current interests from time to time. Newly hired employees in the company are not assigned any duties and responsibilities before undergoing relevant training tailor made for them. The department personnel excepting those in R&D do not frequently call outside experts to coach them. The company personnel learn much from their foreign collaborators who act as their trainers for a short duration. There is no special mechanism in this company to quickly and accurately new knowledge to decision makers. The knowledge moves across hierarchy.

Arvind Mills clearly states its commitment to training in the following words:

“We endeavour to select, train and coach people to obtain higher responsibilities and to build leaders for tomorrow’s corporation. We reward, celebrate and activate all intellectual contributions”.

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With this in mind, Arvind Mills allows its employees to experiment with new ways of working and the company experiments with new products and services. Its experiment with different ways of manufacturing with denim has brought Arvind to be one of the top three denim manufacturers in the world. Arvind being in fashion garment and knitwear business has to continuously innovate new design and composition and so it has allowed its employees to experiment freely in this matter. The company encourages debates and discussions but not in all its divisions and sections. The company does not seek out disagreement during discussions. The company collects systematic information on competitors, customers and suppliers and also on best-in-class companies within and outside India. The employees of this company learn from other departments and new knowledge is communicated to decision makers. The company does not always share information with network of colleagues within organization because there is no formal mechanism to do that excepting through regular staff meetings. The company has excellent training facilities to train its employees and special training is given to high level executives.

Welspun Gujarat (WGL), is the second large pipe manufacturer in the world. It clearly states that Welspun group including WGL is managed professionally by a team of experts drawn from multinational corporations and national corporations of repute and it is a system-based organization without losing the spirit of Indian entrepreneurship. It is a performance driven organization based on intensive training for its employees. The company experiments with new ways of working and experiments with new products and services. It does not always encourage debates and discussion and rarely seeks out disagreements during discussions. The company does not always collect systematic information on competitors but always collects systematic information on its customers as most of its sales are outside
the country. For the year 2006-2007, company's percentage of exports to sales was as high as 67% which increased to 83% in 2007-2008 and again increased to 93% in 2008-2009. The company also collects systematic information on technological trends in pipe manufacturing Industry but does not always collect enough information on best-in-class Company. The company gives adequate training to newly hired employees as it values training very much. In this company employees learn from other departments frequently but not always. There seems to be some kind of a barrier among the departments. Also employees only sometimes have an opportunity to learn from outside experts. In this company departments usually but not always communicate new knowledge to decision makers and sharing of knowledge among colleagues is not as much as desired. There is however adequate sharing of knowledge between the company employees and their foreign affiliates. The Welspun group which includes WGL offers learning opportunities, challenging tasks and ample opportunities to demonstrate performance to its employees.

In Reliance Textiles, a part of RIL, it is easy to speak up for an employee about what is on his mind but psychological safety for a job is not felt by an employee since the company has drastically reduced its workforce to 4000 from 30,500 in last seven or eight years. The company (now a Division) frequently but not always experiments with new products and services. It encourages debates and discussions but rarely seeks out differences of opinions or disagreements during discussions. The company collects systematic information about its external environment and about customers but rarely from its suppliers and other stakeholders. The company has training programmes for the development of supervisory skills and executive time management. The innovative suggestions from employees are solicited by their supervisors and the company also collects information on best-in-class competitors but the employees learn from outside experts only sometimes because they are rarely invited to teach employees. Company also does not learn from its suppliers. The company shares information from the network of its colleagues but not always. New knowledge acquired by the employees or their superiors is communicated to decision makers but how fast it is delivered is not known.
IPCL is now a part of RIL and the learning culture of RIL is also entrenched at IPCL which was previously a public sector corporation. It has remained an innovative company right from its start in 1969 and even after its acquisition by RIL in 2002. IPCL has won the Indian Chemical Manufacturing Award for technology development in 1985 and for indigenous technology development in 1991. However IPCL does not always experiment with new ways of working and only sometimes experiments with new products and services. It known to frequently encourage debates and discussions among employees through its intensive training programmes for its employees in its excellent training centers. The experienced managers received adequate training and its employees, especially professional employees learn sometimes from outside experts. The knowledge sharing is not always quick but the company collects systematic information on its competitors and customers and frequently gathers information about technology trends in its field of operations. The company experiments with new products and services but does not always experiment with new ways of working in other departments.

At Gujarat Alkalies and Chemicals Ltd. (GACL), much emphasis is placed on need based training programmes aimed towards technical and functional skill enhancement, attitude change and safety as well as ISO awareness. The company spreads knowledge to its employees through internet and through in-house magazine. It gets information about its markets and suppliers as well as customers through systematic market research. The company organizes intensive training programmes for its newly recruited employees. It believes infrequent need based training and the rigorous evaluation of its training programmes. It also gives training to its vendors about product handling. The company frequently experiments with new ways of working and experiments with new products and services. It encourages debates and discussions among its employees though it rarely seeks out disagreements during discussions. The company always collects systematic information on best-in-class company in its field of operations. In this company, employees learn frequently from other departments and divisions. This company however only sometimes learns from its suppliers. The new knowledge is quickly communicated to the decision-makers in this company.
**Gujarat Heavy Chemicals Ltd. (GHCL)**

GHCL puts much emphasis on employee satisfaction and it has created proper conditions for employees to get job satisfaction. It gives different types of training at several levels of organization. It gives training at apprentice level, junior management level, middle management level, senior management level and even at top management level. The areas of training are leadership, team building, finance for non-financial executives, quality of work life etc. GHCL experiments with new ways of working frequently and only sometimes experiments with new products and services. It does not always encourage debates and discussions among its employees. In this company, employees from one department learn from other departments though no formal mechanism has been designed for it except the interdepartmental meetings in which only the heads of the department interact. In the company, only sometimes the knowledge from bottom or middle is quickly communicated to decision makers and there is not much information sharing through the networking of colleagues across sections and departments. The company gathers information from suppliers, customers, outside experts but only infrequently. People in the department do not always share information about what works and what does not work. Sometimes, employees settle their difference privately rather than in the meetings to avoid the embarrassment among the members in the group. The company frequently though not always collects systematic information about best-in-class company in its field. GHCL has adopted Total Quality Management program to increase the staff quality and its motivation. TQM is a corporate way of life at GHCL. Thus TQM for GHCL is surprisingly a HR technique rather than a customer centered programme.

**Essar Gujarat (Essar Steel)**

Essar Steel clearly states that “At Essar, we understand that excellent people deserve excellent people practices. That is why we deploy resource initiatives such that they unlock the full potential of every employee. Essar Steel is innovation oriented company and it experiments with new ways of working and experiments with new products and services. It searches for new technology even outside its boundaries. For an example, the company acquired what is known as AKZO dry lining technology from Netherlands and the skill is running the plant under this new technology was quickly acquired by its own employees.
The company encourages debates and discussions among its employees and they are allowed to innovate new methods or approaches to work not only in manufacturing department but in all other departments of the company. The company seeks differences of opinions frequently and collects information about competitors, customers and outside experts frequently. Newly hired employees in this company receive adequate training and experienced managers also receive periodic training. There is a frequent transfer to valuable and useful information among and between the departments and information is communicated to decision makers quickly. However the company rarely learns or even attempts to learn from its suppliers.

(4) LEADERSHIP THAT REINFORCES LEARNING

At Zydus Cadila, managers in this company always invite inputs from others in discussion and not always but frequently listen attentively. Frequently they encourage multiple points of view and they always provide time and resources for identifying problems. Also they spend lot of time for reflecting and improving past performance. But sometimes managers in this company think they know the best and that they are always right.

At Torrent Pharmaceuticals, company leadership reinforces learning by inviting inputs from others but it is not done frequently but sometimes. Managers in this company frequently listen attentively to the viewpoints of others and also encourage multiple points of views. They frequently provide time and resources for identifying problems and managers in this company rarely believe that they know the best and they are usually right.

At Arvind Mills, managers always listen attentively to others and invite inputs from these in the discussion. They always encourage multiple points of views and do not think that they know the best. They also spend adequate time for reflection on past performance.
Welspun Gujarat managers frequently invite inputs from others in the discussion and listen to others attentively. Sometimes managers encourage multiple points of views and provide time for identifying problems and organizational challenges. However the time for reflection and performance improvement is not frequent and managers think frequently that they know the best.

Reliance Textile managers invite inputs from others and listen to others attentively all the time. They do not always encourage multiple point of views and do not always provide time and resources for identifying problems. However the managers of this company never think that they know the best and that they are always right.

IPCL managers frequently invite the opinions of others in the group but only sometimes encourage multiple viewpoints. Also time provided for identifying problems and organizational challenges is not adequate and they also do not think that they know the best and that they are always right.

The managers of Gujarat Alkalies and Chemicals Ltd not always but frequently get the viewpoints of others and frequently listen to what others want to say. They provide time and resources for identifying organizational challenges and also for improving organizational performance. They rarely think that they know the best.

GHCL managers frequently invite opinion of others but do not listen to the viewpoints of others frequently. They provide time and resources for identifying challenges before organization but sometimes think that they alone know the best and they are always right.

Essar Gujarat (Essar Steel) managers always invite inputs from others and frequently listen to others. They sometimes encourage multiple points of views and always provide time and resources for identifying problems and organizational challenges. They also provide time for reflection though this is not done always. They however do not think that they have all the wisdom and intelligence and they are always right.
Zydus Cadila Pharmaceutical company (Zydus Cadila) gives autonomy and freedom to its employees in decision making excepting in monetary decisions which are taken by the upper layers of management. Its company’s R&D has full freedom to decide upon and implement various research projects. The company recognizes that there are some managers who prefer autonomy and some who do seek only limited autonomy in their jobs. The company therefore delegates authority and freedom to different departments according to their ability and willingness to assume responsibilities and power in their own hands. Accordingly, different departments are given differential autonomy and power to carry out their tasks.

Torrent Pharmaceuticals believes in giving authority and autonomy to its employees according to their capacity to carry out the tasks allotted to them. It states that 80% autonomy is given to their employees. However it is difficult to give a definite meaning to this percentage. The company however declares that it believes in making their employees autonomous through intensive training.

Arvind Mills states that it gives autonomy to its employees in some part of decision making through their participation and employee communication. It empowers its employees through job environment programmes which enlarge their area of work. Thus it creates an environment in which employees seek increasingly more job responsibilities and authority. Employees thus are given autonomy in proportion to their willingness to assume more and more of it.

Welspun Gujarat has Global Management Committee which takes top decisions in the company. The committee comprises of CEO’s of its various businesses. However Welspun gives more autonomy to its employees through the mechanism of decentralization of authority and responsibility and through committees. Again autonomy given to an employee differs from person to person. His past history of success and failure in achieving target is one of the criteria which decide the degree of autonomy given to him.
The company states, “The Essar has a strong corporate governance structure. The decision making committees comprising professionals drawn from diverse businesses”.

Reliance Textiles gives limited autonomy and freedom to its employees. Each employee is made highly responsible for the performance according to his skills for which he is hired. He is authorized to get output of work for which he is made responsible. Though responsibility is fixed, the authority for the same differs from department to department. This is because there are bureaucratic practices followed in this organization. Only R&D department is given full freedom to create new designs for textile products because without it, innovation would not be possible.

IPCL being a part of RIL and being previously a public sector corporation shows some degree of bureaucratization. According to a response received from IPCL regarding the autonomy to employees, it was reported that it is still a top down organization and it is not democratic. However its R&D enjoys authority and freedom in terms of the research areas to pursue and research projects to undertake and they receive generous budgets from the top.

GHCL employees enjoy a high degree of autonomy and freedom. It allows employees to take lot of initiatives and provides appropriate budgets to its departments to pursue their objectives. Its top management does not interfere in the day to day functioning of the departments and gives them freedom to achieve the final results only. A mistake made in the exercise of autonomy is not looked down upon if it was genuine and not due to the carelessness on the part of an employee.

GHCL gives autonomy and freedom to its employees through what the company terms as “employee empowerment”, not only in day to day functioning but also in extracurricular activities, enough budget is provided for sports committees, canteen committee in the functioning of which employees are involved and no restriction is put in their discretionary power.
Essar Gujarat (Essar Steel) states that its structure is decentralized which gives flexibility to its employees to exercise autonomy. Also any employee can get information on its website because getting information empowers its employees. Also its decision making process (excepting the policy decision, capital budgeting, takeover and acquisition decision) is highly decentralized and its employees are allowed to participate in the decision making process.

(6) LEARNING FROM EXTERNAL ENVIRONMENT

Every organization depends upon acquisition of some part of knowledge from external sources. Learning from external environment involves information gathering, scanning as well as identification and evaluation of new trends in the external environment. The external environment includes not all but relevant information impinging on the company’s performance and growth. Knowledge acquired from external environment, needs to be converted into a form that is useful to all organization. It is to be made accessible to organization members for their decision making and policy formulation.

Cadila Pharmaceuticals (Zydus Cadila) takes professional help from market research agency to gather information about markets and changes in its market segments. It also subscribes to several publications of the Centre for Monitoring Indian Economy. For information on government policies and suppliers, it depends upon its executives who routinely gather such information for their departmental or individual functioning. There is an executive committee which coordinates information gathering from external environment and discussion of its impact on the company. Company’s legal department scans the environment for legal changes relevant to the company and also watches for the new patents in the field. The company gathers information about foreign environment through its foreign collaborations and associates and benchmarks with their standards.

Torrent Pharmaceuticals does not have formal mechanism to scan an external market through it relies heavily on an external market research agency to gather market trends and its market share of different brands. Their executives are expected to collect relevant information about changing government policies and changing global environment. Their
medical representatives are a valuable source of external information about company’s competitors and their strategies. The company does not gather regular information about their suppliers excepting the routine data gathered by them. The company has several foreign associates and collaborations from which it gathers external information outside India.

Arvind Mills has adopted a policy of benchmarking and gathers information from its competitors about their manufacturing, quality control and marketing practices. It also relies on its dealers and salesmen as well as an external market research agency to gather marketing data. It does not have separate mechanism for scanning external environment excepting through its executives and managers who are expected to bring to the notice of the top management any significant changes in the environment. It also asks its managers to prepare special surveys and reports on external events and factors relevant to the company.

Welspun Gujarat knows about its own market and about competitors’ markets through a consulting market research which provides market research reports to the company for time to time. It expects its executives to be alert to what is happening in an external environment which is relevant to the company and bring this information to the executive committee meetings. There is no specialized section to gather external information. The sales force of the company also provides information about markets and competitor’s moves. Besides, Welspun Gujarat has partnership with All India Management Association as a source of information.

Reliance Textiles and IPCL being parts of RIL are alert about charges in the external environment and they have vast resources of RIL at their command for gathering policies and global trends. The executives of Reliance Textiles and IPCL have been expected to scan market intelligence and their R&D departments also gather information about the latest technological trends in their respective fields. Reliance Textiles does not have to worry about its suppliers as it is a highly integrated unit and its major supplies come from its sister concern at Patalganga plant. Some vital information to these companies is supplied by their headquarter staff which remains in close touch with several state and
central governments and their relevant ministries. However both companies gather their market data from a market research agency. These companies gather information from the top companies in their fields for benchmarking through published and unpublished sources about their competitors and their previous employees.

Gujarat Heavy Chemicals Ltd. (GHCL) states that it gathers information about external environment from its own departments and each department is supposed to gather information and submit it to the top management. For an example, its marketing department is supposed to gather information about competitors and their marketing strategies while production department is expected to gather information about the technology used by Company’s competitors and their quality control methods and procedures. The company has global character and so it has a separate cell to gather information about its export markets as wide as potential expert markets in several countries. The company also gathers information about potential and economic changes in the world through scanning of several foreign journals, magazines and reports. It also gets sensitive information from its European collaborations.

GACL does not have a separate section to gather information from external environment though each departmental head is expected to gather relevant information. The company gathers information through internet and relevant trade magazines. Whenever necessary, it relies on external market research agency to gather data on its actual and potential market.

Essar Steel has not instituted a separate information gathering department. It gathers relevant information from its departmental heads as and when needed. It also gets information about its markets through a specialized market research agency. It gets valuable foreign market information from its foreign collaborations.
A learning organization requires a communication system that is almost as elaborately developed as the nervous system of a living organism which spreads knowledge from one part of the body to other part almost instantly. Even the best-run companies cannot match upto this standard – though some of them try hard.

Cadila Pharmaceuticals spreads knowledge within organization through short term and long term training programmes. If a particular training programme is successful, it is given to employees in several departments according to the needs of employees. The company follows coaching and mentoring practices on a one to one basis for some important jobs. The company also spreads knowledge among employees through their house journals and newsletters. Company’s recruitment policy is to recruit people who show above average learning abilities and desires. Also company has designed several committees and teams and employees learn from each other through their interactions. The company has several bulletin boards which are known as idea boards and an employee can put new ideas on idea boards so that other employees can reflect on them.

Torrent pharmaceuticals has instituted 6 months’ induction programme so that an employee knows about the company and his colleagues know about him. There is also emphasis on multi-skilling so that employees learn different skills from their colleagues. There are monthly review meetings where employees present whatever they have learnt on the job and how others can help him in acquiring new skills and how work can be improved. There are intradepartmental and interdepartmental group meetings where members interact on several issues of common interest and information is exchanged among members. Also knowledge spreads through company’s job rotation scheme.

Arvind Mills has created ‘Communication Forums’ for its employees where employees are free to discuss their ideas and opinions freely. The information spreads speedily through there forums. The company uses liberally bulletin boards in each department which displays, besides routine matters, new ideas and suggestions from the employees. Also
knowledge is spread through specially created intranet in which company displays information relevant to the company. Latest information is flashed on this internet. Again company designs and displays new posters from time to time at places which are easily accessible to its employees. For some important jobs, coaching or mentoring is provided by a senior manager.

Welspun Gujarat has responded by stating that it encourages long discussions among employees on important issues and employees learn from each other through these discussions. Again company arranges many seminars and workshops for its employees. Sometimes experts in a relevant field are invited to give lectures to a small selected group and role playing sessions are arranged for employees to learn from each other. Again interdepartmental group discussions are very common in this company. Most of the lower level employees learn through apprentice programmes. However the knowledge and information from top to bottom does not spread speedily and regularly in this company.

**Reliance Textiles and IPCL (RIL)**
The spread of information is very fast in the production and maintenance department at IPCL. Knowledge also spreads speedily within R&D departments within these companies, but does not spread easily within some manufacturing departments and their sections. Some of their departments and sections remain exclusive. However both these organizations encourage frequent interactions among employees so that knowledge is spread informally. The knowledge about employees is spread through news letters and excellent house journals sponsored by these companies. Knowledge also spreads through departmental meetings and frequent conferencing in these companies which are adopting RIL culture in their organizations.

GHCL spread information within its organization through seminars and conferences. Seminars are given by person with relevant knowledge and experience and they share their knowledge with seminar participants. Also company has vigorous training programmes which impart new skills to employees. Employees share their information also through group discussions and participation in decision making.
GACL spreads information in the company through need based training programmes. It also spreads information from one department to other departments through internet and house journals.

The company also encourages e-learning for its employees and this is done in a group whose members help each other in e-learning.

**Essar Steel**

Essar Steel spreads information among employees through online blog on internet. They also have as system of what is known as group mailing. They encourage free group discussion among employees so new ideas and information are spread among them. They also sponsor house journal which contains news and views about company and information is spread through newsletters also. Company has group training programmes to spread information and impart the relevant skills to its employees. The company’s future plan is to build a strong bond among employees and community through mutual sharing of information.

(8) **TEAM BUILDING WITHIN ORGANIZATION**

Teams are different from routine work groups. Teams require constructive and trusting relationships among members. Only in the trusting relationships, team members find psychological safety. Project teams usually are cross functional whose members have diverse background. They have complementary competencies and knowledge sets required for a constructive learning process. Yet diverse individuals require a focus on a shared goal. Only a shared goal integrates diverse activities of a team and involves team members in achieving their goal through participation.

**At Cadila Pharmaceuticals (Zydus Cadila)**

There are several teams in this company which are cross functional in nature and which decide upon acquisitions, foreign collaborations, new product introduction, strategic changes, pricing policies and especially teams for implementing the transfer of foreign technology. In these teams, members recognize their interdependence and understand
both personal and team goals which can be achieved through team support. There are several autonomous teams in R&D which work on several projects for new drug discovery. The company states that it organizes various picnics and outings for its team members to bring cohesiveness at work. Torrent Pharmaceuticals states that they have various teams. The nature of work is such that the company needs teamwork, especially in its R&D department. There are teams of technicians, labourers and mistries. This implies that the company does not differentiate between groups and teams. The company has formed several cross functional project teams for export markets, foreign collaborations, acquisitions and technology transfers. However day to day discussions are taken by company hierarchy. Thus teamwork is supplementary to its administrative organization in the company. However the company gives a rigorous training to its employees in team building.

At Arvind Mills, the organization is hierarchical but there are new product development, technology transfer and export market teams which are cross functional. In these teams, members feel a sense of ownership for their jobs and their team because they are committed to goals which they have established. For an example, Arvind Mills has a dedicated team committed to Effluent Treatment Facilities and the team members have to see that all the production and processing units, water treatment facilities are provided to meet the requirements of regulating authorities as well as company’s reputed customers such as Levis and Nike. Also this team looks after the main site at Naroda and sees that there are adequate chemical and biological treatment facilities for effluents to meet the pollution control board norms. Members of several teams at Arvind Mills which also include brand management, overseas expansion and technology transfer teams practice open and honest communication. They make an effort to understand each other’s point of view. Another example of successful functioning in the company is material sourcing team consisting of persons with engineering as well as commercial skills so as to ensure that both quality and quantity are optimized. This team in cooperation with manufacturing team continuously looks after product and vendor development. Arvind Mills follows the Purchase Standard Procedures laid down by one of the large international firms in the materials management function which is managed by the above team.
**Welspun Gujarat**

It is basically a hierarchical organization consisting of special teams which are given autonomy in their areas of work. The team members work in a climate of trust and are encouraged to openly express ideas, opinions and disagreements. The company states that it is able to build good teamwork because some effort which is innovative reflected in good teamwork. To make employees innovation the company has created (a) positive work environment (b) employee involvement in work (c) rewards for innovative suggestions (d) brainstorming sessions for team members, and (e) friendly and caring environment for its employees. The company being export oriented has several overseas development schemes which undertake several projects to acquire and develop foreign markets and manufacturing facilities. The company states that Welspun Gujarat offers tremendous learning opportunities and challenging tasks for its employees and their teams which are expected to demonstrate their performance. The company has set up a team to set up a manufacturing facility on a 740 acre site near Little Rock at Arkansas, USA and the project was successfully completed in February 2009.

**Reliance Textiles and IPCL (RIL)**

Both these companies which are now division of RIL have hierarchical organization structure with powerful R&D facilities. Both have new product development teams which have been working successfully for last several years. Reliance Textile’s efforts in research and development have resulted in several new products and processors such as fluorescent shades in polyester fabrics, water and oil repellent finishes on polywood and Lycra stretch fabrics. IPCL R&D has been highly innovative and it has won several awards for its innovations. Here also the research and development efforts are team-driven. However, in other departments of both there companies, members are told what to do rather then being asked what the best approach would be. Both these companies have a history of retrenching several hundred people at a time as their managements have followed a policy of downsizing. This is one of the reasons why members in the team are cautious about what they say and real understanding is not possible.
GACL reports having several committees such as business committee, canteen committee, industrial relations committee and executive extended committee. But committees are not teams. GACL is a public sector company and like all public sector companies, it is hierarchical. However, the company has made its presence felt across the globe against stiff competition by building an export team which has succeeded in exporting products to USA, Europe, Australia, Africa, China and Middle Eastern countries. The company has also strong and powerful New Technology and Technology Transfer as well as safety and Environmental teams which function like teams rather than administrative groups or routine committees. The company has also built a powerful quality management team and a customer satisfaction team. The production process however is handled routinely.

GHCL is a multi-product, transnational, 7000 employer company has a heavy thrust on foreign collaborations and capturing export markets. It has therefore several autonomous teams for technology transfers, export markets and foreign collaborations and acquisitions. GHCL’s New Technology and Technology Transfer teams successfully implemented AKZO dry lime technology for the first time in India and this technology enabled the company to be a leading producer of high-grade dense and light soda ash. Because of the successful working of the Cost and Waste Reduction Team, GHCL is one of the lowest cost producers of soda ash in the world. Again, the company’s “Kaizen Team” has introduced several improvements in the working of the company. However, the company’s main administrative and management structure is basically hierarchical.

**Essar Steel (Essar Gujarat)**

Essar Steel has high emphasis on team work and team performance. The company identifies annually employees with a proven track record of high performance and involves them in team work relevant to their skills and experience. The company insists on recruiting people with entrepreneurial mind so that later on they can be a part of innovative teams. The company believes that excellent individuals build excellent companies which in turn are built by excellent teams whose members are entrepreneur. That makes Essar Steel a company which is seriously committed to continuous training and development. The company has built several high level autonomous teams in the areas of Technology.
Development, Forward and Backward Integration, Quality Control and Export Marketing. Team members in this company participate in decisions affecting the teams but understand that the team leaders must take final decisions whenever the team cannot decide or when an emergency exists. Members recognize conflict as a normal aspect of human interactions but they view such situations as an opportunity for new ideas and creativity. The Company’s several R&D teams follow the above rule more frequently rather than manufacturing or maintenance teams.

(9) REWARDING INNOVATION

Innovation whether by individual or a team gets reinforcement through rewards. Even an above average or extraordinary performance, if rewarded, gets reinforced. The reward can be monetary or non monetary. There are several ways of appreciating the extraordinary performance of an individual or team.

Zydus Cadila has introduced a Kaizen system of continuous improvement in its working and rewards innovative ideas on the basis of what kind of innovation was made by an employee. The innovative employee or a team is given a certificate of appreciation. No financial reward is given for innovation though an employee is given financial rewards for outstanding performance and gets promotion in the job sooner than an employee with average performance. The R&D Department seeks out outstanding researcher and is sent abroad to participate in seminars.

At Torrent Pharmaceuticals, innovative employee or a team gets one time reward and this reward is non-financial. The outstanding researchers of Torrents are sent to participate in seminars held abroad at company’s expenses. Three scientists at Torrent Research Centre coauthored a book titled “Nanotechnology for Pharma and Biotech: Probing the Route to Growth”. The authors of this book were congratulated in a special ceremony held by the company and this story was published with their photographs in Torrentian which is a house journal of the company.
Arvind Mills rewards innovative employees or their team none financially. The company gives awards and certificates. The company arranges in-house competitions among its employees or teams to come out with new ideas and the prizes are given to the best employee or a team. The company has also what is known as R & R (Research and Reward) programme for bringing out creative individuals. Sometimes extra promotions are given to an innovative employee though this is unusual and not done very often.

Welspun Gujarat gives incentives to innovative employees both financial and non financial. However the amount of incentives depends upon the quality of innovation as well as its applicability in a company environment. Again there is no systematic mechanism in the company to assess the quality of innovation. This is decided sometimes by the departmental head and sometimes by an immediate supervisor of an employee. The company states that its employee recognition is made through (1) Introducing of variable pay structure and (2) Employee stock option plan.

At Reliance textiles, there is no incentive scheme for performance based or innovation based incentives. Not innovation but completion time is considered important. In the company as well as in the Reliance Industries as a group, one of the much talked about and practiced principles is the value of time. There are current stories of how people took quick decision in a crises situation and how people are valued for doing things in the shortest possible time. Not innovation but completion time of the project is of central importance at RIL which is a legacy of Dhirubhai Ambani’s way of completing a project. No wonder that Patalganga project (which supplies raw material to Reliance Textile as a part of backward integration) was finished in a record time of 15 months which the project collaborator DUPONT Company found unbelievable.

IPCL, now a part of RIL, is a top down company and it rewards its innovative scientists and technologist working in R&D department but there is no mechanism to reward innovative employees in other departments. However, some employees are given awards on every year on 15th August and 26th January more for their outstanding performance rather than for their innovations. The employees and teams who show either outstanding performance
or innovative behaviour are mentioned with their photographs in company's newsletters and house journals.

GACL attempts to develop the innovative spirit among its employees through suggestion scheme and through organizing various competitions for its employees for demonstrating innovation spirit. The innovation employees are given fast track promotions and innovative teams are given awards and certificates for innovation. The company has got several awards for excellent Cost Management and for Energy Conservation and for Safety and Environmental Protection but it has not given awards for its innovative individuals or teams. There is no regular mechanism to identify innovative individuals or teams in the company.

GHCL (Gujarat Heavy Chemicals Ltd.) has suggestion scheme to encourage its employees to give constructive suggestions for job improvement or for innovative ideas. However there is no mechanism evolved for either assessing the innovative ideas of individuals or teams or for rewarding them. GHCL aims to be one of the leading inorganic chemical manufacturing companies in the world but may find it difficult to achieve its aim without encouraging innovative individuals and teams in the company.

**Essar Steel (Essar Steel)**

Essar's mission is to be a respected global entrepreneur through the power of positive action and the company states that it is committed to innovative growth. The company recognizes innovative individuals and teams through awards and appreciation letters. They are given extra increments and given good job protection.

The company states that we do not copy others in technology or products but we design new technology and new products on the basis of our own research and so we reward innovators in our company not sporadically but regularly and frequently.
LEARNING THROUGH JOINT VENTURES

The company learns through networking with its collaborator in a joint venture or some firm of cooperative arrangement with a partner company. The alliances can enhance learning by configuring them into a network through which diverse information and capabilities are accessed by both the partners. Alliances which include foreign collaborations, joint ventures and agreements make interactions more frequent and informed and allows for the transfer of complex knowledge. The variety and depth of knowledge both technical and non technical is possible through alliances. Of course, this depends upon the absorptive capacity of partners in the alliance as well as their willingness to learn from one another.

Zydus Cadila gained an entry into European Pharma market by acquiring Alpharna France in 2003 in order to acquire German generic drug market. The generic drug market in Europe is second largest in the world. The company also made its acquisition with a 100% buy-out of Etna Biotech of Italy in 2008. Etna Biotech was a research-based company in Italy. In 2008, Zydus Cadila also entered into Spain with acquisition of Laboratories Combix and also acquired majority stake of 70 percent in Simayla Pharmaceuticals of South Africa. In 2008-2009, the company made a new drug discovery and development agreement with Eli Lilly of USA for a collaborative research programme. The company has recently acquired Mumbai based Liva Healthcare, a mid-sized pharma company with a derma focused product portfolio. The acquisitions and collaborations provide new technology and knowledge to Cadila Pharmaceuticals. For each new acquisitions or collaboration, the company has created new teams drawn from its R&D, Engineering and Marketing departments to gather new information and knowledge within the company. This is one of the valuables which make Zydus Cadila a learning company – learning through interdisciplinary teams cutting across national boundaries.

Torrent Pharmaceuticals also seeks to be a learning company through its wholly owned subsidiary Heumann Pharma GmbH operating in Germany, Torrent Pharma Philippines and through its subsidiary in Uzbekistan and one in Vietnam. The German subsidiary was making loses but through intensive learning about German market by the company’s
cross-cultural team, it was turned around by lowering cost of goods sold, field force restructuring and successful shift of product manufacturing from Germany to India. Again company has acquired knowledge about foreign marketing environment through its several subsidiaries and through its exports to Russia, CIS markets and to USA. Exports to Europe have also registered a growth of 59% during 2008-2009. Brazilian operations achieved significant growth of more than 325 percent during the year 2008-2009. The company has learnt the new uses of information technology for efficient customer services and improved sales productivity. The expiry of patients on a large number of pharma products in developed countries coupled with government support for generics has opened a large market opportunities suitable to company's competencies. The company has now learnt how to explore these opportunities through several autonomous teams and their interactions with its own subsidiaries and collaborators abroad.

**Arvind Mills**

Arvind Brands, the apparel and retail division of Arvind Mills has entered into an agreement with US-based Philips Van Heusen to retail IZOD, its sports life style brand in India. Arvind Brands has been marketing Philips-Van Heusen’s formal brand Arrow since 15 years. Arvind also made an agreement with US Polo Association to design and distribute its US Pole brand. The company has expanded into Arrow market in Bahrain, Kuwait, Oman and South Africa. Arvind Mills has set up a state-of-the art design centre in New York, targeting the premium US customers. Named Arvind Design Lab, the new centre will provide new learning opportunities for Arvind Mills’s employees in Ahmedabad about US customers’ preferences for design and Fabric quality. Besides design innovation, speed-to-market and responsiveness technologies will also be transferred to Arvind Mill in India through the direction of their Design Lab; Mr. Toray Carnot who is a leading textile designer in USA. There are joint teams in all joint ventures of Arvind Mills for transfer of technical and commercial knowledge.
**Welspun Gujarat**

The CEO of the company asserts that the company acts more like a multinational rather than a national company because it caters to the global requirements of welded tubes and pipes. Its experts are drawn from all over the world. Its products are approved by more than Oil and Gas majors across the globe. It has learnt a great deal from its manufacturing unit at Arkansas, USA because its workers, supervisors and managers are from USA. The Welspun Gujarat has not yet acquired a foreign company or has entered into foreign joint venture arrangement so it is learning from its employees who are present in 50 countries.

Welspun has also technology transfer agreement with Italy and Germany through which it has transferred technology from Capello Tubi, Italy and EUPEC, Germany.

Reliance Industries & IPCL have not yet made arrangements for foreign or Indian joint ventures or for acquisition of a foreign company. They therefore learn from sourcing information through other sources. The entire learning and information resources of RIL are at their command for learning. There learning is done through the best information network at RIL.

GACL, one of the top performing public units of Gujarat has signed a contract with the second largest company of USA Dow Chemicals for knowledge transfers. It also signed a joint venture agreement in 2008 with Dow Europe GmbH for exploring long-term and strategic business in the area of chlorinated organics. Under the agreement, the two will set up 50:50 joint venture companies to be known as Dow-GACL Soludenture. This new venture will be commissioned in 2011. This is GACL’s first venture with a multinational company. The Rs.600 crore plant is being set up in six hectares of land at Dahej where GACL has three existing plants. The two partner companies have started learning from one another through several cross functional and cross-country teams.
GHCL set up its factory in 1988 at Sutrapada, Gujarat for manufacturing high grade and dense soda for domestic and international markets. Soon after, it acquired international technology from AKZO of Netherlands, a world leader in soda ash technology. This technical know-how was transferred under a license rather than through joint-venture agreement. The company increasingly relies on foreign acquisitions for learning and using up-to-date technology and management practices. GHCL acquired in 2005 a controlling stake of 65 percent in the Romanian soda ash maker named S.C Bega Upson SA and started production immediately after its acquisition. The company CEO states that GHCL is India’s lowest cost producer of synthetic soda and the company’s endeavor is to leverage and replicate its Indian experience to make Romanian foreign plant the lowest cost producer of soda ash in Europe. In this case, the technology transfer is taking place in a reverse direction and its vehicle is acquisition of a weak foreign company.

**Essar Steel**

In 2007, Essar Steel Holdings Ltd. the holding company that drives Essar Steel’s expansion plans acquired Algoma Steel Inc. in Canada and Minnesota Steel in USA. Today Essar Steel is a fully integrated steel producer with value addition at every stage of manufacturing. With a firm foothold in India, Essar Steel has been focusing on global expansion with projects in several countries of Africa and Europe. It wants to learn from its international operations through a two way process of learning and technology transfer. It has set several cross cultural teams to learn from its operations abroad.

**11) RESEARCH AND DEVELOPMENT FOCUS**

The Research and Development process has two roles in the companies. It generates not only new knowledge, but also enhances learning. Innovation and learning are two faces of R&D. Companies of course learn from outside environment but also learn from their in-house research through a focus on the problems of research that they consider relevant. R&D efforts increase their absorptive capacity to learn from upstream and downstream basic and applied research. R&D focus of the companies helps them to achieve continuous improvement and develop their capacity to cope with discontinuous change.
Besides superior financial long-term performance, the company is associated with its capacity for innovation. Now-a-days the customers are also demanding innovation.

Zydus Cadila has become research focused. It spent on R&D Rs.134 crores on a total sale of Rs.2364 crore in FY 2008 and Rs.156 crore on R&D in a total sale of Rs.2917 crore in FY 2009 which is more than 5% of its total sales. The company has three well-equipped Research Centres.

1) Zydus Research Centre at Ahmedabad. Its research is focused on NME research and NDDS.
2) Pharmaceutical Technology Centre (PTC) which operates two research centres – one at Ahmedabad and another at Mumbai. PTC is focused on Finished Dosage From Development and NDDS.
3) API Process Research Centre is located at two places : One in Ahmedabad and another at Ankleshwar. API Process Research Centre is focused on Process Development.

The above research centres have a scientific pool of 800 persons out of which 325 work on NME and drug discovery, other 325 work on Generic/Development and 150 scientists work on API. There are several drugs in its R&D stream for Dyslipidemia, inflammation, diabetes and obesity which are at preclinical stage now. Zydus Cadila has filed a patent for its novel lipid lowering molecule, subsequently filed with US Food and Drug Administration. The company has filed 54 dossiers for new products in the European Market.

During the year 2008-2009, Zydus Cadila Research Centre (ZRC) which spearheads the company’s NME and biologist research activities with a dedicated research team of 350 research professionals working on cutting edge technology made a remarkable progress. A molecule known as ZYH1 for treating dyslipidemia successfully completed phase II clinical trials. Phase I clinical trials for ZYH7, a novel drug candidate for treating dyslipidemia and metabolic disorders have started. The company has continued with its efforts in the development of new molecules, newer deliver systems,
processes and technology. The three Research centres of the company, mentioned above have filed over 100 patents in the US, Europe and other countries in 2008-2009, taking the cumulative number of findings to 450.

The Torrent Pharmaceuticals Ltd is currently working on several New Chemical Initiatives (NCE) projects in the areas of diabetes and its related complications, obesity and cardiovascular disorders, ischemic diseases and neuropathic pain. The company has cumulatively filed 336 patents for NCE from there and earlier projects in all major markets of which 144 patents have been granted or accepted so far. The Advanced Glycosylation End-Products (AGE) programme has successfully completed Phase-I clinical trials in UK and India. The company has healthy product pipeline for development for offering in European, US and Brazil markets on their patent expiry. The company continues to invest significant resources on R&D, the R&D expenditure in FY 2008 was Rs.97 crore, on the sale of Rs.975 crore (about 10% of sales). It increased to Rs.112 crore in a sale of Rs.1148 crore (about 10% of sales) in FY 2009. The company’s break-up of the total R&D cost indicates that about 64% of its R&D cost was for product development while discovery research cost accounted for 36%. The company employs more than 560 scientists dedicated to drug discovery and development in its R&D department. This is about 10% of its total employees whose number was 5519 and 5636 in FY 2008 and FY 2009 respectively.

Reliance Textiles and IPCL are now a part of RIL and do not release divisional break-up figure for R&D. The do not allow an access to several research facilities of RIL in Mumbai and elsewhere. Reliance Textile Ltd. at Naroda, Ahmedabad has one of India’s largest and modern textile complexes. The Reliance Textiles efforts in R&D in this sector have resulted in significant new products & processes as follows:

Fluorescent shades on polyester fabrics, Extended Laundering Colourfast Fabrics in drop-dyed fibres, Water and Oil repellant finishes on polywool and Wash-Fast and Flame retardant fabrics. The company spends between 5 to 6% of its sales on R&D. IPCL was merged into Reliance Industries Ltd in 2007. IPCL’s R&D Centre at Vadodara, Gujarat was established even before the commencement of commercial
operations and is a forerunner in petrochemical research. Its Research Centre achieved a major breakthrough by developing a novel paraffin dehydrogenation catalyst. IPCL has already commercialized this catalyst in India and abroad. Other major products it innovated include a catalyst for dehydrogenation of n-paraffin’s and catalyst process for xylene isomerisation and a bimetallic reform catalyst. In 2005, IPCL got the US patent for its slectedivated metallosilicate catalyst composite for hydrocarbon conversion. The company has over six dozen patents to its credit. IPCL spends between 6% to 8% of its sales for R&D and it has access to several R&D centres of Reliance industries Ltd. including the one at Mumbai known as Product Application and Research Centre (PARC) which is fully equipped with state-of-the-art technology. In 2007, IPCL’s R&D division received an award from India Institute of Chemical Engineers for Process/Product development in Acetonitrile Recovery.

At GACL, the R&D efforts are linked with its current operations. R&D is focused on the application side with emphasis on the development of new processes, import substitutes, value added products based on existing product line and the control of waste generated from the different plants as well as cost reduction and water management. The plant trials with the new antifoaming formulation developed for phosphoric acid plant have been successful and the product is now being used regularly resulting in cost savings. The Pilot Plant of the extraction section of the Phosphoric acid has been commissioned successfully. The company gives full autonomy to various research teams in its R&D department. Even then, GACL is manufacturing oriented rather than a R&D oriented company. Its R&D is not focused on innovation. It prides itself on its state-of-the-art German technology. The company states, “At GACL, we bring the premium quality products manufacture by the state-of-the-art technologies. Our caustic soda lye is manufacture by UHDE, Germany’s membranes cell technology”. The company also focuses on the quality of its products rather than on innovating new products. It states in its 2009 Annual Report. “GACL aims to be a market leader by providing best quality products, and always delivering on time and a continuous review and upgrading of systems and a strong commitment to preserve our environment”.

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GHCL, Arvind Mills, Essar Steel and Welspun Gujarat are grouped together as they spend less than 4% of their sales on R&D. All these companies are using their R&D for increasing efficiency in manufacturing area or improving technology or improving the design of their products. Arvind Mills spends a major part of its R&D for improving its denim quality and unique brand development. Essar Gujarat has made many innovations in constructing the first gas-based sponge iron plant in India and the first one to be located on a port. It has become the world’s largest gas based iron plant at a single location through its own in-house R&D innovations. At GHCL R&D efforts are directed at perfecting soda ash technology that AKZO company of Netherlands has transferred to it. Its R&D through several small innovations has adapted AKZO’s dry lining technology. It has now become the world’s largest set-up and the second in the world using AKZO technology. Welspun Gujarat manufactures submerged arc welded saw and electric resistance welded pipes. It is the largest producer of LSAW pipes in India. Its R&D efforts are focused on manufacturing innovations for perfecting its new technology. Welspun Gujarat’s plants are at Dahej and Anjar in Gujarat and innovates new types of manufacturing and engineering systems which have enabled company to produce plates upto 4.5 meter width and steel grade of X70.