Chapter 5

Qualitative Analysis

Introduction

In today's fast changing environment, technological changes are also taking place very fast. The moment a new computer is launched it becomes obsolete the very next moment. Every now and then a new product or technology is introduced in the market. The question is how to keep abreast of these breakthrough technologies and changes. In the Defence R&D organization (DRDO) various R&D laboratories do the yeoman service for armed forces as well as the society. Every lab is a specialist laboratory dealing with a specific field and unique product as a core competence to that lab only. In this chapter, many Directors of the labs have been interviewed with a view to evaluate their performance under the six formulated propositions and determinants. However, for the final organizational performance, the Balanced Score Card (BSC) study also has been carried out for

The main organizations interviewed are as under:

- ITM, Mussoorie
- IAT, Girinagar, Pune
- R&E (Engrs), Pune
- SASE, Chandigarh/Manali
- DRL, Pithoragarh
- DRDL, Hyderabad
Directors/Senior Scientists of these labs have been interviewed and their viewpoints have been presented in this chapter. Various other labs visited/interviewed personally are:

- IRDE, Dehradun
- DEAL, Dehradun
- SSPL, Delhi
- DIPAS, Delhi
- DESIDOC, Delhi
- DRDL, Hyderabad
- ADE, Bangalore
- GTRE, Bangalore
- ERDL, Bangalore; and
- ITR, Balasore.

5.2 Some Measurement Norms

In whole of DRDO, there are only two institutions which are academic and imparting training to the other establishments. These units are: ITM, Mussoorie and IAT, Girinagar, Pune. The researcher himself was director of ITM for a tenure of approximately three years. During this period, the feedback of students (on courses attended throughout the year) and the officers and staff were evaluated. A performance profile of the feedback of the courses and the personnel of ITM have been evaluated. Herein, for
general appreciation the feedback/performance measurement norms have been taken on the following broad criteria:

- Discipline and organizational form
- Education and training/learning
- Attitude of management
- Planning attitude (infrastructural development)
- Leadership and participation
- Mission/goal focus
- Interchangeability (Flexibility)
- Crisis management
- Overall performance (Acceptance to change also)
- Tolerance for ambiguity
- Socialization
- Product/Service development and productivity.

The various labs, as per section 5.1 have been interviewed and their appreciation noted and evaluation discussed in the succeeding paragraphs.

The interview schedule has been given at Appendix ‘A’.

Also, apart from DRDO labs, some outstanding individuals and institutions have been interviewed and their brief excerpts have been recorded. The various individuals/institutions and their full length interview appended as Appendix ‘B’ towards the end of this work.

The interviews have been done mostly personally and on e-mail (Internet) basis.
Feedback of courses and officers/staff was evaluated during the period 1996-2003. All round performance in the period of 2000-2003, and earlier as well as later has also been monitored. Lately, one HRD cell has been opened in the establishments for looking after the training and development part of the labs and its connected activities.

A study carried out as per six sigma norms, E=QXA, i.e. performance evaluation and acceptance of change has been found out. The details about the study have been given in chapter six. Herein, E=Performance, Q-Quality, A-Acceptance of change. Appraisal rating of personnel has been appreciated at 65 per cent. The feedback of course, for one academic year 2000-2001 has been evaluated as 68 per cent on a five-point scale.

The other traits and determinants on continuum scale have been rated and given as under:

(i) **Discipline and Organizational Form (65 per cent)**

![Discipline and Organizational Form Graph]

(ii) **Education and Training/Learning (80 per cent)**

![Education and Training Graph]

(iii) **Attitude of Management (75 per cent)**

![Attitude of Management Graph]

(iv) **Technical/Infrastructure Development (85 per cent)**

![Technical/Infrastructure Development Graph]
(v) Leadership and Vision Core Strategic Vision (CSV) (80 per cent)

Instructive → Delegative/Participative

(vii) Interchangeability (Flexibility) (70 per cent)

Low → High

(viii) Tolerance for Ambiguity (40 per cent)

Low → High

(viii) Acceptance for Change Performance Appraisal (87 per cent)

Rigid → Acceptability/Adaptability

(ix) Socialization (65 per cent)

Low → High

(x) Crisis Management (80 per cent)

Raw → Maturity/Experiential

(x) Product/Service/Productivity (75 per cent)

Inactive (Low) → Interactive (High)

IAT (Institute of Armament Technology)

IAT is an academic institution like ITM and various training courses, short-term and long-term courses are run throughout the year. However, there have been some problems during the last 10 years about converting IAT into a deemed university and having a Dean’s post that is two more accountable/controlling higher executive posts. This problem to some extent was solved last year (i.e. 2004) and a vice chancellor and Dean has been appointed
from outside and within the DRDO. It can be observed that the following are some of the main problems being faced by this lab:

- Organizational instability has not been tackled adequately.
- Mission to be set more clearly.
- More focus on courses to be given—lesser number of courses were run during these years especially for DRDO scientists.
- More courses should be run for DRDO scientists apart from all arms courses.
- Leadership problems have been evident.
- More ambiguity is existing.
- More professional commitment and productivity needed (65% existing).
- More interchangeability/flexibility desired

All the above constraints, thus, hamper the consistent working of the organization and more flexibility and interchangeability is at a question mark.

Some of the broader traits are cited below:

(i) **Organizational Matrix** (45 per cent)

![Diagram](image)

(ii) **Education, Training and Learning** (60 per cent)

![Diagram](image)

(iii) Other traits like, attitude of management, tolerance for ambiguity, interchangeability, flexibility acceptance of change and crisis management, were found to be around 50 per cent.
Also mission goal focus was around 50 per cent and infrastructural development around 40 per cent.

Mission-Goal-focus is around 40% as shown below.

![Mission-Goal-focus diagram]

(v) Technical performance/productivity (60 per cent)

Herein, it is observed that though infrastructural facilities are quite adequate, leadership, dynamism, flexibility/adaptability and commitment based product/services are much more desirable.

**R&DE (Engrs) Pune**

Research and Development Establishment (Engrs), R&DE(E), is a professionally more focused establishment. It is more dependable, reliable and vibrant organization and more responsible jobs/tasks are entrusted to laboratory by the top management. Core competence of this lab is threat bridging, shelters and other missile support programmes. Herein, the latest technology breakthrough technique and its management innovation has been tried out on product/services development, especially concurrent engineering, integrated product development etc. This establishment is project-based and provides mainly support of all civil engineering based products to Armed Forces.
Also, the establishment has provided and designed equipments and products for cold regions of Indian Himalayas, Siachen Glaciers and Indian Antarctic expedition. A structured interview of the present Director and the continuum pattern of the determinants arrived at, are given as under. The main thrust core competencies of the establishment are:

- Customer focus and mission-goal-focus being very high (80 per cent);
- Creative ideas are generated;
- Freedom of choice;
- Independence to the extent of productivity;
- Scientists', professional approach-confidence and dependable;
- Discipline of execution XQ (80 per cent);

The main weak-link herein is post-product development follow-up. Once a product is handed over to users, it appears to be an end of that.

The main traits/determinants are discussed below:

(i) **Organizational Matrix and Hierarchy Level (80 per cent)**

- **Functional** → **Matrix**
  
  and
  
  **Many** → **Few**

(ii) **Interchangeability/Flexibility (80 per cent)**

- **Low** → **High**

(iii) **Technical/Infrastructure Development (75 per cent)**

- **Rigid** → **Adaptability**

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(iv) Training and Education (65 per cent)

(v) Planning/Management Attitude (90 per cent)

(vi) Infrastructural Development (80 per cent)

(vii) Leadership Style (75 per cent)

(viii) Tolerance and ambiguity (30 per cent)

(ix) Focus, commitment and crisis management (90 per cent)

(x) Professionalism and performance excellence (85 per cent)

(xi) Customer focus organizational excellence and productivity (throughput) (80 per cent)

(xii) Socialization (80 per cent)

(xiii) Acceptance of Change (75 per cent)
SASE (Snow and Avalanche Study Establishment)

This is a cold region engineering and science laboratory, which is presently located at Chandigarh (HQ SASE) and Manali (for field deployment). The researcher has also served in this establishment from 1977 beginning to end 1979 (for approximately three years), and has seen various transformational changes.

This establishment primarily started for avalanche forecasting and avalanche control structures and other dimensions of snow mechanics study. Earlier, from starting, it was located at Manali. Now its main Headquarters has been established at Chandigarh and forward HQ is at Manali. Its strength and working norms have been around ‘field teams’, which go to various forward sectors/avalanche prone-areas for the study and casting avalanche danger to local troops/populace in remote regions of dayas.

Young scientists were the main strength in research work. They were found to be more computer friendly. Main points brought out by SASE and other senior officers are:

- Manpower used was an under-investment.
- Young scientists were more creative and computer friendly.
- There was some organizational problem as service personnel and civilian scientists are in large number. A mixed work-culture should be found out.
- Problems in detailment of field team visits.
- Rear and forward HQs pose a problem for coordination.
- Freedom of working and choice is visible.

In continuum scale some important thrust points are depicted below:

(i) **Organizational Matrix and Discipline** (70 per cent)

- Functional → Matrix

(ii) **Education, training and learning** (80 per cent)

- Low → High

(iii) **Creative flexibility** (80 per cent)

- Low → High

(iv) **Technical/infrastructural development** (80 per cent)

- Low → High

(v) **Tolerance for ambiguity** (25 per cent)

- Low → High

(vi) **Performance and productivity** (80 per cent)

- Routine → Craft

(vii) **Management attitude** (70 per cent)

- Routine → Matured/Craft

(viii) **Focus, commitment** (75 per cent)

- Low → Matured
DARL (Defence Agricultural Research Laboratory) Pithoragarh

The lab’s HQ was earlier at Almora, now shifted to Pithoragarh. This lab does research work on agricultural productivity and has research cells at Leh and Sachen Glacier base. This has its main strength as under as per its Director (once interviewed):

- The programmes are more focused.
- More commitment is shown.
- More productivity.
- More professionalism.
- Different locations being managed well.
- Scientists are more creative/productive.

On continuum scale some major points are weighed as under:

(i) *Organizational Matrix* (75 per cent)

![Continuum for Organizational Matrix]

(ii) *Professional flexibility* (80 per cent)

![Continuum for Professional Flexibility]

(iii) *Productivity* (80 per cent)

![Continuum for Productivity]

(iv) *Management attitude, positive* (70 per cent)

![Continuum for Management Attitude]

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DRDL (Defence Research Development Laboratory), Hyderabad

The laboratory is one of the mega-labs which has once been commanded/even by the present President of India. This is the main establishment which has produced all types of missiles and their supporting segment. Later, it got disintegrated into few more establishments. Its main strengths are:

- Dynamic and more focused.
- Young scientists, work in professional fashion.
- Freedom of working.
- Education and training is given more stress/emphasis.
- Growth infrastructure is available.
- Technology management is of high order.

Some constraints are also there which require removal for better productivity. These are:

- Accountability and responsibility should be more.
- Working for full eight hours- total commitment should be there.
- The other weak links, must be solved.

A new HRM cell has been opened under a senior scientist 'G' who coordinates between cells, Knowledge Management Centre (KMC), HRD and design core group. This is a new idea generated for synergetic working.

The main traits are given on continuum scale:

(i) Organizational Matrix (80 per cent)

Functional → \[\text{Organizational Matrix}\] → Matrix

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(i) **Education and training** (80 per cent)

Routine → Craft

(ii) **Leadership style** (75 per cent)

Instructive → Participative

Delegative

(iv) **Acceptance of change** (75 per cent)

Rigid → Adaptability

(v) **Attitude of management** (85 per cent) Positive

Routine → Progressive

(vi) **Technical infrastructure** (80 per cent)

Lesser → More productive

(vii) **Interchangeability/flexibility** (85 per cent)

Low → High

(viii) **Performance excellence** (80 per cent) More focused

Low → High

(ix) **Crisis management** (75 per cent)

Low/Raw → High/Matured

(x) **Productivity/throughput excellence** (80 per cent)

Routine → Craft
LASTEC (Laser Science and Technology Centre), Delhi

This is one of the oldest labs of DRDO. It had started in 1950 as Defence Science Laboratory (DSL), which was established as the nucleus lab. In 1980, DSL was shifted to Metcalfe House, from NPL (National Physical Lab). It was renamed in 1982 as DSC (Defence Science Centre) and shifted to new chemical building within Metcalfe House. The establishment is involved in diversified activities in the areas of electronics, information sciences, explosives, physics, chemistry and applied mathematics which has led to originating many other labs like, ARDE, HEMRL, DFRL, SSPL, RNSSS, INMAS, DESIDOC etc.

The main strengths are:

- Commitment higher.
- Flexibility/acceptance of change.
- Management attitude.
- More focused programme.
- Participative leadership.
- Compensation management.
- Training and education.
- Infrastructural development activities (70 per cent).

Some major traits/thrusts are shown below on continuum scale

(i) Organizational Matrix (20 per cent)

<table>
<thead>
<tr>
<th>Functional</th>
<th>Matrix</th>
</tr>
</thead>
</table>

(ii) Hierarchy levels (80 per cent)

| Many | Few |

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(iii) **Interchangeability/flexibility** (80 per cent)

Low → High

(iv) **Training and Education** (40 per cent, less)

Routine → Craft

(v) **Leadership style** (75 per cent, Participative)

Instructive → Delegative

(vi) **Management attitude** (80 per cent positive)

Routine → Progressive Dynamic

(vii) **Tolerance for ambiguity** (40 per cent)

Low → High

(viii) **Socialization** (70 per cent)

Weak → Strong

(ix) **Focus programme for customer-orientation** (80 per cent). It is a strategic focus on customer need

Short-term → Long-term Strategic

(x) **Productivity/throughput** (80 per cent)

Routine → Craft
Performance excellence (85 per cent). Many awards have been bagged by LASTEC scientists are focused and committed work passionately.

1. ARDE (Armament Research Development Establishment), Pune

Armed along with ERDL (Explosive Research and Development Laboratory), renamed HEMRL (High Energy Material Research Laboratory) were set up in the sixties in the same premise at Pashan, Pune. Development of guns and armaments are its major responsibilities. ARDE, Pune has to meet a high level of core competence in designing and developing any item to meet the specified requirements of the Armed Forces. Large items like rifles, mortars, small arms, Artillery guns/projectiles, Anti-tank weapons, mine technological systems etc. are its major armament and ammunition system developments.

Its main strengths are:

- Strategic execution work-culture.
- Training and education.
- Acceptance of change/flexibility.
- Technological management.
- Continuity management.
- Gap management.
- Execution commitment/discipline.
- Urgency of work.
Infrastructural development around 60 per cent.

Some of the important traits on continuum scale are given below:

(i) **Organizational Matrix** (80 per cent)

- Functional: Matrix
- Training and education (75 per cent)
- Low: High/Craft
- Acceptance of change (80 per cent)
- Rigid: Flexible/Adaptive
- Execution Discipline (80 per cent)
- Routine: High/Matured
- Management attitude (85 per cent)
- Routine: Progressive/Matured (positive)
- Professional competence (80 per cent)
- Low: High/Passionate
- Socialization (70 per cent)
- Routine: High
- Continuity management (75 per cent)
- Low: High
- Productivity management (80 per cent)
- Routine: Craft
111 HEMRL (High Energy Material Research Laboratory)

This establishment is also project-based and deals with the entire range of military explosives, viz. (i) High explosive for shells, bombs and warheads; (ii) Propellants for rockets, guided missiles, guns, mortars, small arms etc. (iii) Pyrotechniques composition for illuminating ancillaries, smoke, ignites, etc. and flares, and (iv) Explosive actuated devices.

Since a decade, HEMRL has moved out of ARDE campus from Pashan to Sothanwadi in a separate mega-sized infrastructure. The establishment has done a commendable job in keeping the Armed Forces in combat readiness.

The main core competence and traits are:

- Total commitment.
- Acceptance to change.
- Positive managerial attitude.
- Exécution discipline, as per Larry Bossidy et. al (2005).
- Technological management.
- Training & HRD and leadership style.
- Continuity management.
- User’s/customer’s satisfaction (80 per cent).

(a) Organizational Matrix (75 per cent)
(i) *Training and HR development* (90 per cent). They are very meticulous and whole year training is planned much in advance as a short-term and long-term measure.

(ii) *Acceptance of change* (80 per cent)

(iii) *Execution Discipline* (80 per cent)

(iv) *Management attitude positive* (80 per cent)

(v) *Leadership style* (80 per cent) Dynamic (Right pe0ple for right job)

(vi) *Performance excellence* (80 per cent) Passionate working

(vii) *Productivity* (85 per cent)

(viii) *Focus-commitment* (75 per cent).
12 Other DRDO Labs-Summary of Interviews

Apart from earlier DRDO labs, nine other DRDO labs were also interviewed. There were large and medium sized labs. Out of this DESIDOC, at Delhi has with documentation, library science etc. for whole of the DRDO.

Other labs are specialized and are in the category of system and support establishments. Most of them exhibit professionalism, discipline of vision, dynamic leadership and passionate work-culture. They deliver high quality products to the satisfaction of customers (users).

13 Brief Excerpts of Interviews-Mail-information from Some Outstanding Individuals

Brief excerpts from the interviews held or e-mail received from outstanding individuals/management institutional heads are briefly summarized in the succeeding paragraphs.

1.1 Jack Welch, Ex-CEO of GEC, (USA)

The researcher met Jack Welch in Barnes and Noble Book Shop at Boston on April, 2005. During this interview, he said that he liked India very much as doing well. When asked about work-culture and also `one-word’ management dictum as message, he follows:

"Over Deliver"

He said few significant points, as follows:

- Work with passion and enthusiasm.
- Work while work and play while play.
- Win people-they will give you sweat.
Robert S. Kaplan

Kaplan, the author of the famous book Balanced Score Card (BSC), and on this occasion as one of the proposition (P-6) has been examined in this study. He had send a message by e-mail on 18 April, 2005 as:

"...should be applied keeping in view merit to merit of the cases”.

Philip Bowers

Professor Philip Bowers

is Director of Full-time MBA Programme, at the Management School, Edinburgh University, Edinburgh (UK). The researcher met him on 24th May. His opinions are:

• BSC is helpful for a good and standard organizations only. If complexities are there, it is not of much use.
• Work culture depends on and varies from place to place, ethics, value and so on.
• HR measures that really drive value creation in the organization are really praiseworthy.

Pyush Gupta, Director, Information Services, Forrester Research Inc., Boston (USA)

The researcher had detailed discussions at various rounds of talks on human management issues, apart from work-culture and its improvement. His opinions were:

Forrester’s leadership team has been trained on the concept of “Power of Full Engagement”—the book written by Jim Loehr and Tony Schwartz.

Managing energy and not time (it is inherent) is the key to high performance and personnel renewal.
Richard Benedetto, Director, Merrimack College, (USA)

We had three sittings with him. He could opine only as:

→ Work towards perfection—derive satisfaction out of it.

Prof. P.C. Shejwalkar, Professor Emeritus, Director IME, Pune

He is one of the most respected management GURU in Pune. During the meetings, he opined with all his humility (his age is around 77 years).

→ It is not ‘work-culture’; it should be your way of life-culture for working-whatever you do.

→ Work to your satisfaction.

Prof. S.B. Muzumdar, Chancellor Founder Director, SYMBIOSIS DU, Pune

Some of his interview are:

→ Work with full commitment and zeal.
→ Give more than what organization gives you.
→ Also, think of ‘Rural Management’.

Prof. Pramod Kumar, Founder President, ISB&M, Pune

We had sittings were held with him. He gave following main points:

Leadership articulation of what do you want.
Incremental value Vs standard value (defined)
Specifications of your culture-defined standard.
Are basics in place?
Is your talent pooled?
Prashant Navkal

He is a senior engineer working at Boston in BIG-DIG. This is a huge network of roads, bridges, flyovers, tunnels etc. to ease out the congestion near downtown Boston. Few meetings were held with the staff and finally he e-mailed the information on 03 May, 2005.

There is an openness environment between Boss and subordinate here.

For office timings, work on trust-relationship.

Honest commitment where even gross mistakes will be supported.

Synthesis of Qualitative Analysis

In the synthesis of the qualitative analysis, i.e. interviews done are listed under all the six propositions. The various points have been put out briefly in the succeeding paragraphs.

Pareto law (P-1)

Points under this proposition are as given below:

More focused courses were organized for training as well as learning.

Customer-focus today is more (80 per cent)

Focused commitment to project work and crisis management is around (30 per cent)

Top management attitude is quite positive—craftsmanship is more visible (90 per cent).

Six Sigma (P-2)

Points under this proposition are:
Acceptance of change is quite visible.
Customer satisfaction in the project and products/services have been achieved.
More creative and qualitative ideas have been suggested.
Six sigma leadership style is visible.

**Theory of Constraints (P-3)**

Constraints are:

a) Product-development is a bottle-neck in the post-development stage and is a weak-link as a follow-up actions.
b) Mission statement should be clearer.
c) More focus on courses and also more courses for DRDO scientists to be run-better T&D.
d) Rotation of scientists, some times poses a problem.
e) Decision-making is a long-drawn process
f) Succession-planning is lacking in DRDO labs

**Power of Full Engagement (P-4)**

Points under this proposition are:

a) Freedom of choice is exercised
b) Focus and passionate working-culture is visible
c) Professionalism has been noticed
d) Ignited dynamic leadership style exhibited
e) Young scientific task force work energetically.

**Continuity (Flexibility) (P-5)**

Points under this proposition are:

a) Interchangeability and multiskilling has been found adequate
(b) Acceptance of change is visible adequately
(c) Organizational matrix structure provides more flexibility
(d) Training and education also show flexibility/adaptability
(e) Infrastructural development provide space flexibility
(f) Crisis management is handled efficiently.

6.6 HR Balanced Score Card (BSC) (P-6)

6.6.1 main points under this proposition are:
(a) HR performance drivers have done substantial value-creation in
    the organizations.
(b) High performance and professionalism strategically aligned to
    the organization imparts value-creation to the labs.
(c) Strategically focus Productivity
(d) Employees are a source of value-creation to the organizations
(e) Customer focus and co-creation of values with labs and
    customers are the main strength in some of the labs’ finding.
(f) Design excellence and product-development, their various
    design-reviews are the main strengths of some labs.
(g) Jack Welch gave main work-culture MANTRAS during personal
    interview with the author on USA are:
    (i) Over-deliver
    (ii) Win people-they will give you sweat

A summary of the ingredients that emerged out of the qualitative
analysis of nine representative laboratories of DRDO have been listed at
5.1 and 5.2.
<table>
<thead>
<tr>
<th>Item: Description</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Attitude of Management</td>
<td>50% (IAT)</td>
<td>70% (SASE, DARL)</td>
<td>90% (R&amp;DE(E))</td>
</tr>
<tr>
<td>2 Planning Attitude</td>
<td>-</td>
<td>-</td>
<td>90% (R&amp;DE(E))</td>
</tr>
<tr>
<td>3 Infrastructural Developments</td>
<td>40% (IAT)</td>
<td>60% (ARDE)</td>
<td>85% (ITM)</td>
</tr>
<tr>
<td>4 Organizational Structure (Matrix type)</td>
<td>45% (IAT)</td>
<td>65% (ITM)</td>
<td>80% (R&amp;DE(E) DRDL, ARDE)</td>
</tr>
<tr>
<td>5 Education, Training and Development</td>
<td>40% (LASTEC)</td>
<td>60% (IAT)</td>
<td>90% (HEMRL)</td>
</tr>
<tr>
<td>6 Mission-goal-focus</td>
<td>50% (IAT)</td>
<td>-</td>
<td>80% (R&amp;DE(E))</td>
</tr>
<tr>
<td>7 Leadership style</td>
<td>60% (IAT)</td>
<td>75% (LASTEC)</td>
<td>80% (HEMRL)</td>
</tr>
<tr>
<td>8 Interchangeability/ Flexibility</td>
<td>50% (IAT)</td>
<td>70% (ITM)</td>
<td>85% (DRDL)</td>
</tr>
<tr>
<td>9 Crisis-Management</td>
<td>50% (IAT)</td>
<td>75% (ARDE, DRDL)</td>
<td>80% (RDE/ ITM)</td>
</tr>
<tr>
<td>10 Acceptance to Change</td>
<td>50% (IAT)</td>
<td>75% (R&amp;DE)</td>
<td>87% (ITM)</td>
</tr>
<tr>
<td>11 Tolerance for Ambiguity</td>
<td>50% (IAT)</td>
<td>40% (ITM)</td>
<td>25% (SASE)</td>
</tr>
<tr>
<td>12 Productivity</td>
<td>60% (IAT)</td>
<td>75% (ITM)</td>
<td>85% (HEMRL)</td>
</tr>
<tr>
<td>13 Performance Excellence/Professional Acumen</td>
<td>65%</td>
<td>80% (many)</td>
<td>85% R&amp;DE(E) and LASTEC</td>
</tr>
<tr>
<td>14 Socialization</td>
<td>65% (ITM)</td>
<td>75% (ARDE/ LASTEC)</td>
<td>80% R&amp;DE(E)</td>
</tr>
<tr>
<td>15 Focused Commitment</td>
<td>70% (DARL)</td>
<td>80% DRDL</td>
<td>90% R&amp;DE(E)</td>
</tr>
</tbody>
</table>

Discussion

Again, all the nine DRDO labs have been studied and their 16 evolved HR parameters have been listed at Table 5.1 alongwith percentage ratings as arrived at from the respondents. At Table 5.2, a summary of ratings of the determinants have been shown as low, medium and high ratings. The ratings of low, medium and high have been arrived at according to the percentage. This table clearly shows the higher and lower HR performance
Concluding Remarks

In this chapter, some representative types of labs have been chosen and Directors, senior level officers and also personnel at junior or working have been interviewed. Of late due to breakthrough technological station and knowledgeable workers being available in good numbers, the ing environment has improved, enhancing thereby the productivity of organizations.

The following are some major thrust, points brought out from the

- Customer focus
- Young scientists intake energetic
- Breakthrough technology
- Decision-making and good communication
- Creative ideas and discipline of execution
- Freedom of choice
- More flexibility application
- Acceptance of change.

Some weak-links or constraints also have been observed a few of are as under:

- Better utilization of skilled manpower should be made
- Better training and development planning
Product, development/improvement is at low key

Leadership problem in some labs also exist

General Technology of management/project and technology management etc. at young stage of scientists should be taken care of

Rotation of scientists in like discipline labs should be done

Non-matrix and hierarchical organizational structure imparts lesser flexibility to DRDO labs.