CHAPTER 4

RESEARCH METHODOLOGY

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- SAMPLE
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- INSTRUMENTS
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RESEARCH DESIGN AND METHODOLOGY

The objectives of research and hypothesis to be tested were presented elsewhere in this work. Following is the overall plan of how the research was carried out and explains the research model, variables, samples, instruments, procedure and statistical tools that were used.

RESEARCH MODEL

The statement of systematic, consistent, sequential, and logical structure to achieve the objectives outlined in the previous chapter is termed as the research model. Typically, a model displays different characteristics of the research work in terms of level of analysis, boundaries, specificity, nature of construct relationship, and the assumptions (Nadler, 1980). Apart from providing a guiding tool for conducting the research, a model helps in defining clearly the variables and their relationship and the frame of reference, refining testable hypothesis and choosing the right techniques of analysis (Srinivas, 1993)

Based on the review of concepts for research in the related areas, an attempt has been made to design a research model. It should be stated here that in analyzing the various behavioural processes in an organization one has to face two very important constraints. One constraint is that the behaviour in an organization cannot be properly
judged in terms of only one or two construct or in one or two components of the organization. A holistic view is necessary in terms of the whole range of variables involving all the systems and the subsystems in the organization. Looking at parts may provide only limited, or even distorted picture. The second constraint is that the organizational environment, both the internal and external, influences the behavioural process. In a study like this, which involves measurement of motivational climate in the organization, and its influence on certain behavioural processes, the perception of the individuals may be coloured by the external environmental variables, which this study has not controlled. The proposed model is exposed to both the limitations.

The figure below, gives a schematic diagram of the model. It is seen that three sets of variables are involved: Organizational Climate (MAO-C), Organizational Role Stress, and Size. The arrows connecting the boxes indicate the relationships. It is seen that the relationship of all the variables taking two at a time is to be explored.
Differential Effects of Organizational Climate and Size on Job Satisfaction and Role Stress

The arrow emanating from the organization climate and ending at the connecting link between Organizational Role Stress and Size indicates that the differential effects of Organizational Climate on Job Satisfaction is sought to be explained.

The characteristics of the model in terms of various dimensions mentioned earlier are briefly described below:

1. **Level of analysis:** The study is primarily organized on the individual level of analysis: various variables being measured in terms of individual's perception. However, the study seeks to throw light on prevailing climate in the engineering industry and the level of role stress and job satisfaction in middle level managers in that industry. In this context, some organizational level of analysis is also done.

2. **Boundaries:** There are two sets of boundaries involved. The respondents are limited to middle managers, as defined by the researcher and the top management of the organization studied. The boundary of organizations is limited to only private sector units in Gujarat and to medium to large in size.

3. **Nature of the construct relationship:** The nature of relationship among the variables are very complex and often reciprocal. This means, any change in one variable, may lead to changes in several other variables, in the same set or in different
sets. As the plan was to collect a set of cross sectional data at one point of time, the study is restricted to the static model.

4. Specificity: As mentioned earlier, three clusters of variables were specified for model building. Constructs under each broad group were reviewed from the literature. The operational definitions of variables are given under section titled Research Methodology in this chapter.

RESEARCH METHODOLOGY

The present study comprised analysis and interpretation of data collected through administering the following instruments:

a) Motivational Analysis of Organizations (Climate) (Pareek U, 1975) for measuring Organization Climate:

b) Satisfaction-Dissatisfaction Inventory developed (by Pestonjee DM, 1973) for measuring levels of employee satisfaction and

c) Organizational Role Stress Scale (Pareek U, 1983) was used to measure Organizational Role Stress. The reliability and validity of these scales are within acceptable norms.

VARIABLES

The Organizational Climate (six types) has been treated as independent variables. They are:

1. Achievement
2. Extension
3. Expert Influence
4. Control

5. Dependency

6. Affiliation

Under Job Satisfaction four areas are treated as dependent variables. They are:

1. JOB

2. MANAGEMENT

3. SOCIAL RELATIONS

4. PERSONAL ADJUSTMENT

Under Organizational Role Stress ten areas and overall have been treated as dependent variables. They are:

1. SELF-ROLE DISTANCE

2. ROLE EXPECTATION CONFLICT

3. ROLE STAGNATION

4. INTER ROLE DISTANCE

5. ROLE BOUNDEDNESS

6. ROLE AMBIGUITY

Organizational Climate variables and Size have been treated as moderators in relation to Job Satisfaction and Organizational Role Stress.

SAMPLE

The size of the sample plays a significant role in statistical analysis of data and also the reliability of results. There are no clear-
cut rules regarding the appropriate size of sample of a particular analysis. It has been proposed that the sample for stable results is directly proportional to the number of variables involved.

**RESPONDENTS**

The instruments were administrated to a cross-section of large and medium-sized engineering and select non-engineering units in Western Region. The survey generated 154 respondents of which 125 comprised executives from large units while 29 were from medium-sized units.

The break-up of respondents is as follows:

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Category</th>
<th>Large Units</th>
<th>Medium Units</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Engineering</td>
<td>80</td>
<td>31</td>
<td>111</td>
</tr>
<tr>
<td>2</td>
<td>Non-Engineering</td>
<td>32</td>
<td>11</td>
<td>43</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>112</td>
<td>42</td>
<td>154</td>
</tr>
</tbody>
</table>

The representative data relate to perception of individuals from 51 companies region-wide. All respondents belong to Gujarat and Maharashtra region.

The profile of the respondents: (a) middle level executives; (b) in the age range 30-45; (c) with experience rating from 7-8 years; and (d) a minimum service of 5 years in the organization. All of them are at least graduates with a minimum monthly salary of Rs. 6,500.

The sample selected for the study is on the basis of geographical location (Western India), type of ownership (Private Sector), period in
existence (minimum of 5 years), size (large and medium) and nature of management (organized through professional managers). Senior management involved was sought in ascertaining the authenticity of the information wherever feasible. The objectives of the study and the conceptual framework were discussed with the target groups. Respondents were ensured of confidentiality of the information generated and the same was maintained throughout the study.

**PROCEDURE**

The engineering units were selected on the basis of state, type of ownership (private sector), length of existence (more than 5 years), size (medium to large) and the type of management (organized through professional managers) as mentioned earlier. In each case, the top management of the units was contacted and their approval and support were taken. The respondent middle managers were selected with the help of top management. Many units could not be brought into the study because of reluctance of top management to permit the executives to participate in the study. Also, without the help of top management, it is difficult to identify the middle managers, as job titles differ very widely across organizations and hence do not necessarily indicate the actual levels.

In each unit, meetings were held with respondents to explain the purpose of the research and its methodology, and to guide them to fill the questionnaires. They were assured of confidentiality of their
response. One of them in each unit was requested to take charge of co-ordination, and the filled in questionnaires were collected from the co-coordinator, without sharing the content with top management, and thereby, maintaining confidentiality in the interest of the respondents.

**INSTRUMENTS**

The present study comprised analysis and interpretation of data collected through administering the following instruments:

- Motivational Analysis of Organizations (Climate) (Pareek U, 1975) developed and standardized for measuring Organization Climate:
- Satisfaction-Dissatisfaction Inventory developed (Pestonjee DM, 1973) for measuring levels of employee satisfaction; and
- Organizational Role Stress Scale used (by Pareek U, 1983) to measure Organizational Role Stress. The reliability and validity of these scales are within acceptable norms.

A brief description of the scales is given below.

**A) MOTIVATIONAL ANALYSIS OF ORGANIZATION (MAO-C)**

This scale is patterned after Litwin and Stringers (1968) climate questionnaire, with two major differences: (1) as many as 12 dimensions are taken to measure climate, and (2) it employs ranking in place of rating. Ranking is considered to be a better method as it compels the respondent to make a definite choice and, thereby, the possibility of getting same rating for different climates is eliminated.
In this scale, the motivational climate is categorized and each category is identified in terms of six motives, namely, Achievement, Expert Influence, Extension, Control and Dependency. Twelve dimensions of measurements are used to measure each category and they are: Orientation, Interpersonal relationship, Supervision, Managing conflicts, Communication, Decision making, Trust, Managing rewards, Risk taking and Innovation. There are 72 statements in total, 6 statements pertaining to each of 12 dimensions, to measure each of the six categories. The subjects are instructed to rank six statements in each category from 1 to 6: the most likely situation is to be ranked 1 and the least likely situation is to be ranked 6. Thus, the category of climate that has the lowest score is the most dominant climate in the organization.

The reliability and validity of the scale have been established (Sen, 1981). The test-retest reliability for each climate dimension ranges from .17 to .44, which is within the statistical norms.

**B) ORGANIZATIONAL ROLE STRESS (ORS)**

The level of Role Stress of a role occupant in an organization is measured by this scale (Pareek, 1983). It measures stress on 10 different dimensions, namely, Inter-Role Distance, Role Stagnation, Role Expectation Conflict, Role Erosion, Role Overload, Role Isolation, Personal Inadequacy, Self-Role Distance, Role Ambiguity, and
Resource Inadequacy. There are fifty statements, five for each dimension. The respondent is asked to rate each statement from 0 to 4, as it applies to him, giving zero if he rarely feels that way and giving 4 if he very frequently feels that way. This means, there will be a maximum score of 20 for each dimension, and total of 200 for all the dimensions. The higher the score, higher is the stress.

**STATISTICAL METHODS ADOPTED FOR DATA ANALYSIS**

The data were analyzed with SPSS software on a personal computer. The mean, median, standard deviation and the range were calculated for entire data taken together and are presented in tables. The analysis of the data comprised basic statistics like Mean, Median, Mode, Standard Deviation, etc. In order to test significant effects of independent variable on Dependent variables, Inter-correlations and Regression procedures were adopted. The results are presented on the various tables of statistical data. The tables are arranged systematically in respect of various hypotheses.

**C) S-D EMPLOYEE'S INVENTORY**

This inventory is meant for a psychological investigation. The inventory contains some statements, which are related with your work environment through which your problems can be understood. All the questions in the inventory are common problems the middle managers face usually. The answers are enumerated either as right or wrong. Thereafter tabulation is generated to assess the various parameters.