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CHAPTER IV

A two stage sampling was adopted to identify the organizations and the individuals to be included in the sample to be used in this study for the purpose of collecting data and testing the hypotheses. The individuals were interviewed and requested to respond to a number of instruments. A biographical inventory was employed to structure the interview procedures. Data were collected on the biography of the Ss. The responses to the questions in the inventory were used to obtain the description of the sample in the study.

Firstly, the organizations were classified on the basis of the Systems of management. Secondly, a series of statistical analyses was done comparing the four systems of management on job reactions. In this process, analysis of variance HSD's, regression analysis, Friedman's rank sum test, sample slippage test and χ^2 analysis were used to determine the plausible relationship between job reactions and systems.

The procedures used in the study are described under the following headings :

1. Instrumentation
2. Selection of sample of organizations
3. Selection of sample of individuals in the organizations
4. Preliminary study
5. Pilot study
6. Interview procedure for the main sample
7. Statistical analysis

Instrumentation

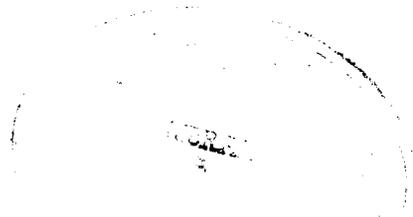
The instruments used in this investigation are described below :

1. The Profile of Organizational Characteristics (POC)
(Likert, 1967)
2. The Probabilistic Orientation Questionnaire (POQ)
(Narayanan, 1982)
3. The Work Commitment Questionnaire (WOQ)
(Narayanan and Indumathi, 1986)
4. The Alienation Questionnaire (AQ) (Vendal, 1981)
5. The Role Conflict Differential (RCD) (Narayanan, 1981)

The description of the questionnaires is presented in the following pages. Copies of the questionnaires are given in the appendix.

The Profile of Organizational Characteristics (POC)

The Profile of Organizational Characteristics (POC) developed by Likert (1967) measures the type of management pattern existing in the particular organization. The patterns of management assessed are defined in terms of the four systems of management viz., Exploitative Authoritative, Benevolent, Authoritative, Consultative and Participative systems. The POC consists of 51 items. The items attempt to assess the existing pattern of management in an organization through different operating characteristics. Each one of the items of the POC refers to an operating characteristic of the organization being assessed. Each item is presented as a statement relating to the operational characteristic concerned.



The respondent has to choose one of the four responses that follow the statement indicating the state of affairs existing in his/her organization with reference to the items responded to. Items bearing serial numbers 1 to 5 pertain to leadership process. The motivational process is assessed through the items 6 to 12. The communication process is assessed through the items 13 to 26. The interaction influence process is assessed through the items 26 to 32. The decision making process is assessed through the items 41 to 43. The control process is assessed through the items 44 to 48 and the performance goals and training are assessed through the items 44 to 51.

The information on the validity and the reliability of the earlier forms of the POC is well documented in Likert (1967). High inter-correlations are reported to have obtained among the items and between each item and the total score on POC. The correlation coefficients between an item and the total score are found to be greater than 0.73 except the items that belong to performance goals and training and the split-half reliability of the POC is reported to be as high as 0.98.

The POC has been reported to have adequate reliability and is attested in the findings of recent studies done on Indian organizations. In a study of Indian Telephone Industries, Bangalore, POC had been used in an altered form. The reliability coefficients of the different scales on the POC are reported to be high in this study. The reliability coefficients reported in the study are 0.78, 0.64, 0.82, 0.69, 0.76 and 0.74 for leadership process, motivational

process, communication process, decision making process, goal setting or ordering and control process respectively (Mohan Kumar, 1981).

In another study conducted in the Bharathiar University region i.e., the region where the present study has been conducted, POC has been used to assess the pattern of management of the colleges (Thirunavukkarasu, 1986). The study reports that POC has high reliability and the coefficients for the different scales viz., leadership process, motivational process, decision making process, goal setting or ordering, control process and performance goals and training remain to be 0.75, 0.75, 0.76, 0.66, 0.66, 0.60, 0.74 and 0.61 respectively.

The Probabilistic Orientation Questionnaire (POQ)

The probabilistic Orientation Questionnaire (POQ) developed by Narayanan (1982) attempts to measure the orientation of an individual to consider every event in a probabilistic perspective. The questionnaire consists of 30 items developed on the basis of rigorous item analysis. Each item in the questionnaire is in the form of a statement. When responding to the questionnaire, the S is required to endorse or reject the statement as the case may be to indicate his orientation. The questionnaire is reported to have adequate reliability in several investigations. The split-half reliability of the questionnaire is found to be 0.52 when administered on a sample of adults including both males and females (Jayaraj, 1984). The questionnaire is reported to have a reliability of 0.76 in a study on transport drivers at Coimbatore (Govindaraju, 1984).

The questionnaire is reported to have adequate reliability in a study on bank officers and clerks ; the reliability coefficients reported are 0.63 and 0.37 in the case of clerks and officers respectively (Devi, 1982). In another study the questionnaire is reported to have a very high reliability coefficient of 0.98 as found on white collar textile organization workers (Indumathi, 1986). A study on housewives, career women and women entrepreneurs reports that the questionnaire has a reliability coefficient of 0.85 (Sunandini, 1985). Another study on employed and unemployed adults including males and females reports the reliability of the questionnaire to be 0.86 (Michael, 1985). A few investigations have adopted Q-sort technique to administer the items of the questionnaire (Ganesan, 1986 ; Natarajan, 1986 ; Synthia, 1987). In an interesting study, the probabilistic orientation items were administered to a sample of college students and the Ss were required to answer the items by choosing their responses from different alternatives given ; the alternatives ranged from yes-no choice to 10-point agreements through 3-5 and 6-point rating agreements. Reliability coefficients worked for each instance: reveal that irrespective of the alternatives provided, the questionnaire was administered with only two choices for the response, the reliability coefficient is found to be 0.70 ; when 3-point rating was permitted the coefficient was 0.87 ; when 5-points were permitted the coefficient was 0.84 ; when 6-points were permitted the coefficient was 0.84 ; when 6-points were permitted the coefficients was 0.83 and when 10-points were permitted, the coefficient was found to be 0.78 (Kalyanaraman et al., 1987).

The Work Commitment Questionnaire (WCQ)

The Work Commitment Questionnaire (WCQ) used in the present study was conceived by Narayanan (1981) and developed by Indumathi (1986) attempts to measure the work commitment of an individual. In its original format, the questionnaire consisted of 37 items pertaining to work commitment. The 37 items were administered to a large sample of 200 white collar workers working in textile organizations in the Coimbatore Region. The responses of the Ss to the items were subjected to item-analysis and only those items which had a discriminability index of 0.30 were selected for inclusion in the final form of the inventory. Altogether 30 items were thus selected and included for use to measure work commitment (Indumathi, 1986).

The items included in the questionnaire are in the form of self descriptive statements. The respondent is required to endorse or reject each item by checking 'Yes-No' response alternatives. The questionnaire is reported by the investigator to have a high reliability coefficient of 0.90 as found in an earlier study (Indumathi, 1986).

The Alienation Questionnaire (AQ)

The Alienation Questionnaire (AQ) employed in the present investigation has been developed by Vendal (1981) by culling out items from MMPI (Hathaway and Mckinsley, 1957). It purports to measure alienation experienced by an individual in terms of the five dimensions identified by Seeman (1959) viz., powerlessness, meaninglessness, normlessness, isolation and self-estrangement as perceived by the S.

The questionnaire contains 20 items. The five dimensions of

alienation are equally represented by the items of AQ. Each item is in the form of a personal statement. The respondent is required to affirm or negate each one of the statement as the case may be and the number of responses indicative of alienation on the part of the respondent are summed up to obtain the score on alienation for the respondent concerned.

The questionnaire is reported to have adequate validity and reliability. In a study on industrial workers the questionnaire is reported to have had a reliability coefficient of 0.79 (Subramanian, 1980). In another study on a large sample of students, the questionnaire is reported to have a reliability coefficient of 0.91 (Vendal, 1981). Yet another study on bank clerks and officers conducted at Coimbatore reports that the questionnaire had reliability coefficients of 0.63 in the case of clerks and 0.81 in the case of officers (Devi, 1982). Another study was made on employed and unemployed at Coimbatore. The reliability coefficient of the questionnaire is reported to be 0.73 (Michael, 1985). A study on housewives, career women and women entrepreneurs belonging to Coimbatore and Bangalore, the reliability coefficient is reported to be as high 0.97 (Sunandini, 1985). Similarly, very high reliability coefficient i.e., 0.96 is reported to have been obtained for the questionnaire when the questionnaire was administered to white collar workers in a textile organization at Coimbatore (Indumathi, 1986). In a recent study on sport coaches all over Tamil Nadu, the AQ is reported to have a reliability of 0.86 (Govindarasu, 1988).

The Role Conflict Differential (RCD)

The Role Conflict Differential adopted for the present investigation for measuring role conflict among supervisors consists of thirty six job demands that are expected of a supervisor-job in textile organizations. The adoption of the RCD technique to supervisors is described elsewhere. The respondent of the instrument is asked to express the extent of his readiness in accepting or discharging the assignment of the tasks listed using a ten point rating scale.

Selection of the Sample of the Organizations

The sampling frame for the present study consists of all the textile organizations situated in Coimbatore and its immediate neighbourhood. Data on textile organizations are available with the Southern India Mills' Association (SIMA), Coimbatore a voluntary association for the promotion of the interest of the member organizations and consumers registered with the Registrar of Societies, an Authority of the government competent to register voluntary associations. One of the functions of SIMA is to maintain records of data pertaining to the textile organizations existing in the region (Kalaiselvi, 1984). The data available with SIMA revealed that 149 organizations are situated in Coimbatore city and its immediate neighbourhood. The number of workers employed in the organizations in this region ranges from 12 to 1863. In order to have a fair representation of the larger organizations, it was decided to include only the organizations which employed atleast 500 workers, in the sampling frame. It was found that only 39 textile organizations qualified to be included in the sample with reference to the criterion last cited. The sample of

the 39 organizations was considered for collecting data in this investigation. Of the 39 organizations, 4 organizations were taken to constitute the sample for the pilot study.

Selection of Sample of Individuals in the Organizations

A consideration of the various personnel in the textile organizations revealed that it will be feasible to have supervisors as the Ss for the investigation. Because, the position of the supervisor is unique in some ways in the organizations. The supervisor is the link-pin between the line and the staff. The supervisor is directly involved in supervising the workers and reporting the production to the managers. The supervisor is expected to be a person who is sensitive to employee needs and who carefully integrates these needs with the goals of the organisation (Luthans and Mastimko, 1979). It is more likely that the supervisor's position is a vantage point for surveying the climate in an organization ; because the supervisor plays the pivotal role between the top management and the operational personnel. They constantly endeavour accomplishing the goals of the management of the organizations by utilizing the human and physical resources available for their disposal.

In the present study all the supervisors from the textile organizations included in the sample of the organizations were included in the sample of the individuals from whom data are to be collected for the study.

Preliminary Study

Adopting the Role Conflict Differential to textile organization supervisors.

A preliminary study was required to adopt the Role Conflict Differential to investigate the supervisors in textile organizations who were identified as Ss in the study. The other instruments selected for administration in the study were readily available. The reliability of the other instruments were tested in the pilot study described elsewhere. The present section confines in describing the procedures employed in adopting the Role Conflict Differential to supervisors in textile organizations.

The Role Conflict Differential developed by Narayanan (1982) was adopted to obtain a measure of role conflict in the study. The technique specifies a psychometric procedure for obtaining a direct measure of role conflict. Here, role conflict is defined as the oscillation or dilemma experienced by an individual to accept or reject a task assigned to him/her at any point of time in course of his/her job. The dilemma reflects the state of readiness or attitudinal set an individual has with regard to his role expectations and demands. When the individual is clear in his/her understanding of his/her role expectations and demands he/she would experience least dilemma in accepting or rejecting the assignment of a task. It is easier for any individual to express his readiness or otherwise to accept the task assignment on a rating scale.

The Role conflict Differential technique has been successfully adopted in a few investigations to measure role conflict viz., bank officers and clerks (Devi, 1982) textile organization clerks (Indumathi, 1986) and sport coaches (Govindarasu, 1988).

Adopting Role Conflict Differential to a particular job essentially begins with a systematic job-analysis. Classical literature on job-analysis has been adequately reviewed (Zerga, 1943; Lawshey and Salter, 1944 ; McCormick, Morsh, Blum, 1968). Job-Inventory approach seems to be more suitable in arriving at the list of role demands and expectations suitable in this study. Job Inventory Technology has been developed vastly by the efforts of studies done in American Airforce (Patterson, W. 1962). A job-inventory usually lists all the tasks that might be performed by incumbents in the occupational fields investigated. The job-inventory is essentially the product of the work of the job analyst and the technical advisors.

As a first step ,job list began the analysis by locating source material that may be descriptive of the occupation, training materials used in training the textile workers, instruction manuals, organizational directives, correspondences and other documents which provided a glimpse of the variety of job activities involved in the job. Consequently 36 tasks constituting the job of supervisors in textile organizations were found to be included in the job list.

The list of the job demands and expectations developed using the procedure above cited was reviewed by an Advisory Committee constituted for this purpose. The members of the Advisory Committee included the present investigator, the supervisor of this thesis, all the managers and spinning masters belonging to the organizations investigated.

The members of the committee were contacted individually and required to review the list of job demands and expectations. The members were given freedom to include in the list, the tasks which are not only routine in nature but also of rare occurrences on contingencies. The members were also given freedom to include tasks which might occur in the jobs in the immediate future due to the changes taking place in the organization like modernization. All the 34 tasks included in the job list were approved to be included in the job inventory by the committee. In the course of reviewing the list, two tasks namely, "equip oneself with knowledge" and "co-ordinating with colleagues" were suggested for inclusion in the list by the supervisor of this thesis.

The two were also approved for inclusion in the list by the other members of the committee. Hence, they were included in the list to be used in the investigation.

The tasks, finally included in the inventory were rewritten by the present investigator in the form of statements. The 36 statements constitute the RCD for supervisors investigated in this study. The Ss were asked with reference to each one of the 36 statements to indicate their readiness to accept and discharge assignment of the tasks contained in the statements using a ten-point rating scale. The final format of the RCD for supervisors is given in the appendix.

Pilot Study

A pilot study was undertaken before proceeding with the main study. The pilot study ensured control of non-sampling error and

enhancement of 'Local control' in experimental design (Fisher, 1947).

The objectives of the pilot study included the following :

Ascertaining the reliability of the Profile of organizational characteristics (Likert, 1967) and the other instruments employed in the study i.e., Probabilistic Orientation Questionnaire, Work Commitment Questionnaire, Alienation Questionnaire and the Role Conflict Differential.

Reinforcing the confidence in the present investigation for establishing rapport with the Ss and communicating the instructions and directions effectively to the Ss and obtaining true responses to the Ss evolving a time and cost schedule to complete the final study by estimating on the basis of the time and cost spent in collecting data in the pilot study.

Pilot Study Sample

4 textile organizations included in the sampling frame were selected at random to constitute the sample of the organization for pilot study. 30 supervisors from the organizations were selected at random to constitute the sample of supervisors for the pilot study.

Administration of the Instruments

The individual Ss included in the sample selected for the pilot study were individually administered with the instruments already cited. The administration of the instruments was done in the premises of the respective organizations to which the Ss belonged to. The instructions were printed on the instruments themselves. The instructions and the items were printed both in English and Tamil, the regional language in Coimbatore. The investigator restricted herself

to reading the instructions aloud while the Ss followed the instructions silently. After reading the instructions the doubt if any, expressed by the S with regard to the instructions for responding were cleared by the investigator.

Before requiring the Ss to respond to the instructions the investigator attempted to establish rapport by indulging in an informal conversation on topics of interest to the S. The Ss were sufficiently assured that their responses to the instrument will not be revealed to their managements or others and will be strictly confined to treatment for research purposes. The time taken by the Ss to respond for responding to each instrument was duly noted in the course of the administration. The verbal comments, facial expression, comments made by the Ss while responding to the items, level of cooperation extended by the S, and their general feelings in participating in the study were noted down in the Observation Record by the investigator. The Ss were questioned wherever necessary about how far they were able to comprehend the instructions and directions given to them by the investigator.

The observations made and the data collected were considered with regard to the objectives of the pilot study. Firstly, the responses of the Ss to the instruments were scored. The scoring schemes used in scoring the various responses of the instruments are given in the appendix. The results of the pilot study are presented below.

Sample Characteristics

The mean and SD for the age distribution of the sample are 37.63 and 7.63 respectively. The age of the Ss ranges from 22 years

to 50 years. 72.5% of the Ss have a diploma in engineering, 20% have a degree in engineering and 7.5% have a post graduate degree in engineering. The mean and SD for the distribution of the monthly salary of the Ss included in the sample are 1696.20 and 281.85 respectively. The monthly income ranges from Rs. 1,000 to 3,500/-. The experience of the supervisors ranges from 2 to 26 years. The mean and SD obtained in the case of experience of the sample are 15.43 and 7.02. All the Ss are natives of Coimbatore district, the site for the study, either by birth or domiciliary. 22.5% of the Ss are married. There is no divorcee or widower included in the sample. The sample characteristics suggest that it is unlikely that deviants and atypical individuals have not been included in the sample.

Reliability of the Profile of Organizational Characteristics

The odd-even split-half reliability coefficients are given in Table 1.

Table 1

Split-half reliability coefficients of the eight scales of POC

S.No.	Name of the Scale	r	Reliability coefficient
1.	Leadership Process	0.57	0.72
2.	Character of Motivational Process	0.62	0.76
3.	Character of Communication Process	0.70	0.82
4.	Character of Interaction Influence Process	0.51	0.67
5.	Character of Decision-making Process	0.53	0.69
6.	Character of goal setting or ordering	0.49	0.65
7.	Character of Control Process	0.53	0.69
8.	Performance Goals and Training	0.45	0.62

The data presented in Table 1 show that all the scales of the POC are adequately reliable. The reliability coefficient range from 0.62 to 0.82.

The odd-even split-half reliability coefficients of the POQ, WCQ, AQ and RCD are presented in Table 2.

Table 2
The Reliability Coefficients of the POQ, WCQ, AQ and RCD

S.No.	Name of the Instrument	r	Reliability Coefficient (r_{tt})
1.	The Probabilistic Orientation Questionnaire (POQ)	0.55	0.70
2.	The Work Commitment Questionnaire (WCQ)	0.51	0.67
3.	The Alienation Questionnaire (AQ)	0.59	0.74
4.	The Role Conflict Differential (RCD)	0.45	0.62

As seen in the Table 2 all the reliability coefficients are high. The alienation questionnaire has the highest reliability coefficient of 0.74 which is the highest in the group. The Probabilistic Orientation Questionnaire has a reliability coefficient of 0.70, the work commitment questionnaire has a coefficient of 0.67. The reliability coefficient of the Role Conflict Differential is found to be 0.62.

Confidence for Communication and Evolving Time Schedule

The qualitative data collected during the pilot study included verbal and non-verbal cues of communication and expressions by

the Ss. The comments, the involvement and cooperation of the Ss convinced the investigator that the Ss were adequately involved with the investigator to freely and frankly respond to the questionnaires administered to them. The experience gained in the field work stood in assurance to the investigator and reinforced the confidence in furthering the investigation.

Data on the time taken by the Ss to respond the instruments in the pilot study are set out in Table 3. It takes around an hour for the S to respond to the Profile of organisational characteristics (POC). The Role Conflict Differential and the Probabilistic Orientation Questionnaire require approximately 14 mts and 11 mts respectively for the S to respond to. The work commitment and alienation questionnaire take 7 and 6 mts. respectively. Based on the mean and SD of the time taken by the Ss it may be estimated that around 45% of the Ss might take 1 hr and 26 mts. to 1 hr and 55 mts. to respond to all the instruments. 27.3% of the Ss might take a maximum time of 2 hrs and 43 mts. and 27.3% of the remaining Ss might take 55 mts. and 28 secs to complete all the instruments.

It was estimated that 110 man-days (a man day is regarded to be 8 hrs of work in the organizations). The number of days of work for the textile organizations in this region during 1987 was 304 days. In consultation with the managers in the organizations it was planned that the instruments may be administered to the individuals either individually or in groups ranging from 5 to 10 at a time. It was estimated that, it may take an year to collect data from all the Ss targetted in this investigation. It was further resolved

that the Profile of Organizational characteristics may be administered to start with and after the S/Ss completed POC, an interval of 20 to 30 mts. will be given. After the interval, the other instruments were administered to the S/Ss.

Table 3

The time taken (in mts) by the Ss to respond to the instruments in the pilot study

S.No.	Name of the Instrument	Mean (in mts)	SD (in mts)
1.	The Profile of Organizational characteristics	60.56	3.32
2.	The Probabilistic Orientation Questionnaire	10.67	2.74
3.	The Work Commitment Questionnaire	7.35	2.16
4.	The Alienation Questionnaire	6.24	2.16
5.	The Role Conflict Differential	13.94	2.45

Interview Procedure followed in the Main Sample

As already been stated in the previous section in this chapter 35 organizations were identified and included in the sample of organizations employed in the main investigations. The 35 organizations were formally approached for obtaining the necessary permissions to conduct the investigation in their organizations to collect data from their individual employees. Two of the organizations were under Lockout* and one organization did not give permission to conduct the investigation in their organizations. Of the thirty two remaining

* The term Lockout connote the closure of an Organization by the management

organizations which agreed to permit the investigator to collect the required data, two were found to be employing Supervisory Trainees* in the vacancies of supervisors. Hence, the two organizations were omitted from inclusion in the main sample. Ultimately, 30 textile organizations were chosen to be included in the main sample. Of the organizations included in the main sample, nine are managed by the National Textile Corporation (NTC) and the rest are managed by individual board of directors. NTC is a Public sector undertaking coming under the jurisdiction of the ministry of textiles, government of India. The objective of the corporation is to take over the closed and sick textile organizations and revive them through modernization of the management of the organizations (Indumathi, 1983).

The main sample of 30 organizations was having 240 supervisors on their roll at the time of the investigation. In the course of data collection two of the supervisors from an organization were not able to participate in the investigation, since they were sent for the supervisory training programmes organized by the South India Textile Research Association (SITRA). 10 of the supervisors belonging to another couple of the organizations had to work only during night shifts ie., their working hours were between 12 p.m. to 7 a.m. The investigator found it difficult to contact them in person to administer the instruments due to personal and social constraint ; they were omitted from the main sample. Three of the remaining

* Supervisory Trainees are individuals who are recruited by the organizations specifically for the purposes of imparting training in supervision for a prescribed period. Such individuals hold a diploma in textile technology and are to follow the rules and regulations of the organization. But, they are not regarded as regular supervisors who have full appointment in the organization. Such trainees need not necessarily be absorbed in the services of the organizations after completion of their training period. It is not likely that the trainees provide data on climate which could be valid since they do not have adequate exposure to the practices in the organization.

228 supervisors went on a long leave and could not complete the instruments, two supervisors refused to answer to the items in POC and five supervisors did not complete the instruments in time. Usable data were therefore collected from 220 of the Ss on the primary list of the individuals included in the sample. The composition of the sample of the organizations and individuals who participated in the investigation is shown in Table 4 and 5.

Table 4

The composition of the sample of individuals for the main study

Ss from Primary List		240
Ss who had left for training	=	2
Ss not possible to contact due to the shift	=	8
Ss who were on long leave	=	3
Ss who refused to respond	=	2
Ss with incomplete responses	=	5
		20
Ss who had all the data required in the study		220

All the Ss belonging to all the organizations included in the sample were administered with the instruments by the investigator. The administration of the instruments was conducted at the concerned organisations. The procedures followed in administering the instruments were the same as those followed in the Pilot Study. It took 276 days to collect the data on all the instruments from all the Ss.

Table 5

**The composition of the sample of the individuals who participated
in the investigation**

Organizations from the Primary List		39
Organizations under Lockout	=	2
Organizations employing Supervisory Trainees	=	2
Organizations who refuses to participate	=	1
Organizations used for Pilot Study	=	4
Organizations participating in the main investigation	=	30
		39

Statistical Analysis

The data obtained from the Ss included in the main study using the instruments were scored and tabulated into a master table. The analyses of the data undertaken in the study include computation of descriptive statistics, analysis of variance, and test of significance, step wise regression and non parametric statistics. The details of these analyses and their results are presented in the next chapter.