CHAPTER II

RESEARCH METHODOLOGY
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As Sellitz, Jahoda Deutsch and Cook\(^1\) state, "A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure".

The research design that is adopted has to correspond to the aims of the research. In this case the major objective of the research was an exploratory survey of the cultural climate prevalent in our industrial sector and to assess the impact that various degrees of 'openness' in culture have on the morale of the employees. This study being in an uncharted and unfamiliar area is exploratory in nature rather than experimental. As a result the research design is kept flexible to permit consideration of different aspects of the phenomena. However, in order to eliminate bias an objective and definite research plan is formulated on the lines of other descriptive and diagnostic studies. The area of the research are kept in mind, and a design best suited to realize these aims within the given set of limitations is adopted.

Out of the various statistical tools available, a correlational analysis of the data stressing the relationship between the culture of organizations and the level of their employee morale was chosen in preference to others, as it was thought to be more appropriate to establish a relationship between two variables keeping in mind the exploratory nature of the study. A simple correlational analysis by the Karl Pearson Method was chosen over a more complicated regression model because of the difficulty of the rigorous identification and definition of the two variables, as well as the segregation of the attributes that affect them.

In order to meaningfully compare the complex dynamics of culture in different organizations specific dimensions which go into the making of culture were identified.

The identification of these dimensions was based on a rigorous survey of literature, as well as, discussions and dialogues with various management practitioners, teachers and other experts.

The dimensions of culture which came up in these discussions were shortlisted after removing the vague and duplicate ones. The relevant literature was delved into in order to meaningfully conceptualize these dimensions and finally they were operationally defined for the purpose of our study.
The dimensions which go into the making of culture were chosen as:-

(1) **Interpersonal Trust:** Interpersonal trust is identified as being the degree of warmth and support provided in a culture.

(2) **Degree of Autonomy:** This is the degree to which one can follow one's own methods of functioning in order to achieve a goal.

(3) **Freedom in Decision Making:** This refers to the freedom with which an employee can choose his goals keeping in view the general policies of the organization.

(4) **Communication Patterns:** This refers to the direction, intensity and the encouragement provided to communication in an organization.

(5) **Importance to Merit:** This is the value that an organization places on individual talent and effectiveness.

(6) **Leadership Style:** This refers to the degree to which decisions are made singularly by the leader or collectively with the involvement of the work group as a whole.
(7) **Innovation and Receptiveness to New Ideas:** This dimension refers to perception of the employee regarding the orientation of the organization towards new ideas and change.

(8) **Importance to Excellence:** This refers to the degree to which an organization is geared to satisfying the multiple expectations of all its stakeholders.

(9) **Interdepartmental Relations:** This dimension refers to the functionality of interdepartmental relations. It excludes both unhealthy competition as well as co-operation.

(10) **Concern for People:** This refers to whether an organization admits that people are the most important of all factors that go into its making.

(11) **The use of Status Symbols:** This dimension eschews the excessive pre-occupation with status and the use of status symbols.

A similar exercise consisting of discussions with experts, a survey of literature, a final identification of elements, and their operationalization was also carried out for the dependent variable, the morale of employees. The following indexes of morale were yielded:

(1) **The Index of Job Satisfaction:** Job satisfaction refers to the feelings and the emotional aspects that the individual experiences towards his job as different from intellectual or rational aspects.
(2) The Index of Organizational Image: This measures whether an employee's opinion about his organization is one of pride or disgust, or whether his feelings are ambivalent.

(3) Index of Career Growth: This is a measure of the strength of an employee's expectancy of a rewarding future in the organization in the course of his performance being in line with the goals of the organization.

(4) Index of Satisfaction with Superiors: This index measures whether the leadership satisfies the common desires of the men over whom it is exercised.

(5) Index of Satisfaction of Emotional and Physical Needs: This index measures the degree to which the emotional and physical needs of the employees are satisfied.

After studying the concepts of culture and morale, and then identifying the elements that go into their making, it was necessary to conceive a research design that could identify how one organization's culture differed from another and whether this difference had a significant impact on the morale of the employees of the organizations. As mentioned earlier, a statistical design based on comparison of averages and a correlational analysis of the data obtained from the two variables of culture and morale was chosen.
While an experimental design with induced changes of culture under controlled conditions, and a study of the morale with respect to these changes could have achieved the same objective in a better manner. It proved unfeasible to go in for an experimental design, because of the following reasons:

An experimental design would require a very high degree of cooperation from organizations. Most organizations would balk at being the subject of such experiments where manipulations of their structure, process and technology have to be carried out. Besides this, there were limitations of time and money. It was beyond the capabilities of this researcher to single-handedly induce sustain and then theorize on such an experiment. Besides this, as mentioned earlier the present study is by necessity on exploratory one. It looks at an area where very little previous research has been done, therefore, the format of a correlational study best fits the objectives to be realized. The correlational approach also makes it possible to look at a number of dimensions related to the two major variables of culture and morale and this is a crucial factor as far as the purpose of this study is concerned. Yet another reason for selecting the descriptive method of research was the fact that it helps in generalization to a greater extent than the experimental design. Commenting upon
this Hyman states that though descriptive studies prove inadequate in establishing casual relationship between two variables, its heterogeneity allows greater generality, whereas in an experimental situation, accuracy is achieved at the cost of generality.

After deciding on the nature of the research design which was to be of a statistical nature, it was necessary to choose a sample group from which the data had to be collected.

**THE SAMPLING DESIGN:**

The aim of this research was to present an exploratory study of the different kinds of cultures prevalent in organizations and to correlate the corresponding employee morale in those organizations in order to establish a relationship. The sample, thus, had to include organizations which differed from one another on some basis which was known to affect culture with a degree of reliability. This was important in order to have an access to presumably divergent cultures. Unfortunately there were no studies in Indian conditions that classified organizations on the basis of their culture. It, therefore, became necessary to re-examine our concept of culture, identify the factors that could cause one organization's culture to differ from another, and finally form a sample group where these factors differed from each other.

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Culture for the purposes of this study has been defined as a prevailing pattern of activities, norms, sentiments, beliefs, attitudes, values, and products. This definition includes such formal nations as the span of management, organization structure, the formal communication system, the degree of autonomy provided, the kind of supervision, etc., as well as informal notions such as group norms, feelings, beliefs of the members, their level of motivation, and their sentiments. The use of products in this definition includes the notion of technology and its effects on culture.

Keeping in view our concept of culture, the following were some of the factors that emerged as the major causes of variation in culture. The level of technology it applies, the sector it is in, the origins of the organization, whether it emerged as a part of a multinational concern, or it originated in a specified area, with its employees consisting of a homogenous ethnic group of that area. Out of these and other minor factors affecting culture, the broadest base of theory and research was found in the cases of the effects of technology and the sector in which the organization is based.

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A review of the literature regarding the effect of these factors on culture is given below:

TECHNOLOGY AND CULTURE:

Many behavioural scientists have emphasized the fact that different levels of technology have different propensities for creating harmony or conflict within the industrial enterprise. A number of studies have been conducted in a wide variety of work settings and these have emphasized the implications of introducing new technologies on industrial workers in terms of job performance, alienation, mental health, innovation and other relevant criteria. (Blauner 1964, Kornhauser 1965, Haider and Rohnert 1980, Heller et al 1985). Besides affecting workers morale motivation and mental health technology also has a more direct impact on the culture of an organization by affecting such dimensions as levels of, hierarchy, span of control, ratio of managers and supervisors to workers and the kind of control procedures applied.

This has been brought out in a most lucid manner by Joan Woodwards' South Essex Studies.

These findings were further confirmed by the work of many other sociologists such as Trist, Banks, Rice Scott, Sayler and Dubin.

In India the Ahmedabad experiments carried out by Rice were a landmark in our understanding of the effect of 'Socio technical Systems' on culture. In Indian conditions other researchers who have found a connection between technology and its effect on cultural aspects are Kamla Choudhury & A.K. Pal, D.M. Pestonjee and S. Subramanian.

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CULTURAL DIFFERENCES IN DIFFERENT SECTORS:

Indian Industry even prior to independence has been the development of two distinct sectors. The Public or Government owned by the private. The Public Sector was traditionally involved in infrastructural areas such as Railways, Transport, Communication, Irrigation and Electric Power System. Since then, however, it has expanded into a number of other areas such as manufacturing, mining, trading, banking and insurance enterprises. A large number of these public sector undertakings function as limited liabilities under the company's act.

According to S.S.Khera, by the year 1978 as the national economic effect proceeded from the end of 5th 5 year plan period towards the beginning of the 6th plan period, the investments already made in the public sector by the Central Government has reached about 10,000 crores with an annual turnover of Rs. 14,000 crores and a gross profit of Rs. 800 crores as year. The investments have been increasing at an exponential rate over the last 25 years, and are more likely to continue to increase in the same way, whatever the texture of the Government office and whatever the economic policies that may be pursued.

At the same time, the states of the Union of India have also been going into business in the industrial field by establishing and running public enterprises of many different kinds; until the investments made in the public sector by the states is rapidly catching up with the total investment of the central Government.

Thus, the Public Sector constitutes a major part of the Indian Economy. However, it is possible that due to a difference in their objectives (profitability not being the primary motive in a public sector organization) a culture different from that in the private sector has evolved.

Because of their very nature, Public Sector Enterprises are being set up in areas with high investment, high gestation periods and low returns. Profitability may not be a major consideration in their operations. A public business operating at a loss may well be making a contribution to welfare of the community through cheap gas, cheap electricity, cheap transport, or cheap postage far in excess of its operating profit.

Secondly in these undertakings personnel policies are also subject to Government Rules and Regulations. Seniority rather than merit is the main consideration for promotion. Firing people is a long drawn procedure
and rewarding them out of their turn just as difficult.

The general impression of these public sector monoliths, is, therefore, one of inefficiency, red tape and a lack of drive, which private organizations operating in a competitive environment would essentially have for their survival. S.S.Khera, a former cabinet Secretary and a Specialist in Economic and Industrial Management comments thus, in an article, 'Public Sector Management': "Small wonder, then that the so called public utility establishments have been counted in the past amongst the most inefficiently managed enterprises".

A criticism of the theory of bureaucracy is also the dangers of 'empire building', where efficiency and the concentration on organizational objectives are sacrificed by individuals who wish to increase their own importance in an organization by increasing the number of departments they head. While a certain extent of bureaucratic structuring and procedure are common to both the sectors, what distinguishes them is the degree of rational elements as opposed to the legal elements in their making. Weber in his theory of bureaucracy talks of the rational-legal components of bureaucracy. While both the sectors ought to have a formal bureaucratized organizational structure, the private sector might have a preponderance

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13 S.S.Khera: loc-cit
towards the 'rational component' of bureaucratic authority, as opposed to the public sectors preponderance towards legal elements.

15"The rational components of bureaucratic authority refer to the use of technical knowledge in the allocation of means to the efficient attainment of ends. The feature that makes it specifically rational is the exercise of control on the basis of knowledge and competence. The legal component of authority, on the other hand, relates to the normative order which regulates relations amongst incumbents of a graded system of offices. Authority is vested in the office and not in the office holder". Thus in a private organization a plant in the sugar industry will commonly be headed by a man well-versed in the technology used in the sugar industry, whereas in the Government Sector it is possible that Managing Director could be an I.A.S. Officer or a 'Lay' Administrator. Thus there is a distinction in the objectives of the two sectors and in their modus operandi for the achievement of these objectives.

Therefore, keeping in mind the two major factors of technology and sector which according to the relevant theory affected the cultures of organizations, significantly,

it was decided to form a sampling design in such a manner where variations of these factors would presumably cause a broad spectrum of culture to emerge.

Keeping this in view a matrix of six industries with three different levels of technology and based on two main sectors were studies. The three levels of technology which would presumably cause the evolution of different types of culture were:

(a) Organizations with a low level of technological input, exemplified by the primary manufacturing industries.

(b) Organizations employing a medium level of technology of which the sugar industry has been chosen as a representative.

(c) Organizations employing a high level of technology. The electronics industry was chosen as an example for the purposes of the study.

The level of technology refers to technological inputs in a concern consisting of machines processes and the extent to which the final product is shaped by the machine. For the purposes of our study sectors' were divided into two types. The private sector in which the ownership was wholly in private hands and the public sector, which included the joint sector.
Out of the three major industries one organization each was chosen from the private sector and the public sector, thus in effect a sample of six organizations was formed.

### The Sector as a factor influencing culture:

<table>
<thead>
<tr>
<th>Sector Level</th>
<th>Private Industry</th>
<th>Public Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>The Electronics Industry</td>
<td>United Watches Ltd.</td>
</tr>
<tr>
<td>Medium</td>
<td>The Sugar Industry</td>
<td>Daurala Sugar Works</td>
</tr>
<tr>
<td>Low</td>
<td>The Primary Manufacturing Industry</td>
<td>Atma Steel &amp; Tubes</td>
</tr>
</tbody>
</table>

The choosing of specific organization within the broader categories of industries was done after a large informal survey was made in order to assess the degree of co-operation that was extended. The culture of organizations being a concept that required an intensive amount of study at close quarters and a high degree of co-operation...
from the employees of the organization, it was felt that this study on culture could be most fruitful only when specific organizations which promised to extend a high degree of co-operation were arbitrarily chosen.

Thus, the following six organizations came to represent the sample of this study:

(1) United Watches Ltd., henceforth referred to as UWL
(2) Electronics Systems Punjab Ltd., henceforth referred to as ESPL.
(3) Daurala Sugar Works Ltd., henceforth referred to as DSW.
(4) U.P.State Sugar Cooperation Sakhoti Ltd., henceforth referred to as UPS.
(5) Atma Steel and Tubes Ltd., henceforth referred to as ATP.
(6) Haryana Small Scale Industries and Export Corporation Mutan Stove Unit, Panchkula, henceforth referred to as HSS.

The Background of the Units:

A brief background of each unit is essential to our understanding of its culture. It is presented below:

U.W.L.: United Watches Ltd. United Watches belongs to the United Group Concern of which Mr. K. Gupta is the Chairman. Their
registered office is in Chandigarh while the works of one of its watch components unit is in Village Haibatpur, Dera Bassi. Recently, however, this company was merged with United Diamonds another company of the same group. At the time of the survey, however, it was an independent unit and studied as such.

The organization structure of this unit is as follows:

**CHAIRMAN**

- At Head Office
- Vice Chairman (Technical)
- Vice Chairman (Purchase and Finance)

**CHIEF EXECUTIVE(WORKS)**

- Deputy Chief (Technical)
- G.M. (Finance)

- Mgr Excise
- Mgr Labour
- Mgr Salaries
- Mgr Local
- Mgr Welfare
- Mgr Purchases
- Taxation & Personnel

- Mgr Asstt. Mgr
- Mgr Planning
- Mgr Q.C.
- Asstt. Mgr
- Mgr Purchase, Customs, Imports/Exports.

- Engineers
- Maintenance
- Production
- Preparation
- Drilling etc.
The workers are mostly females. They are matriculates with a special training given to them by the company in some aspect of jewels production. This organization came into being in 1983 with technical collaboration of Chevals Frazer a French Company. It started with a production of 10 lakh jewels per month and now has increased this to about 15-17 lakh jewels per month. The increase being basically a function of increased efficiency of the worker.

The raw material used to make these jewels is a synthetic ruby which is imported from France. Most of the machines are also French. The customers of this concern are a number of watch making companies, the main amongst whom are H.M.T. and Jayco. The production processes include slicing, cutting, drilling, carousing, polishing and packing of the finished jewels.

In the preparatory section there are two machines, the First cut machine which is an 50.40 Buccardo Machine and a second cut machine which is an FG 8 Buccardo. There are also two centreless grinding machines of Goddare Make for surfacing. The drilling Section has two Raytheon laser machines for drilling minute holes in the jewels. The Grande Sage Section has 8 threading machines and 12 pre-enlarging machines some of which are of indigenous make.
bought from the modern machine tools company. In the Hole Finish Sections there are 5 machines for smoothening the hole made by the laser. The roundage section contains two machines for smoothening the outer diameter. The crousonage section is next and contains 12 crousomatts with 36 heads which smoothen the sides. The polisage section has two Burney and two polishing machines that polish the jewels and finally an olivage section where procedures for the oliving or rounding off of the holes edges is carried out. In each section strict quality control is carried out, mostly the process is automated.

The organization has about 200 employees with about 150 permanent workers. The workers have a Union affiliated to the CITU. While there has been no strike/lock out or any other serious industrial unrest problem there have been cases of 'Go Slow' after the Union was formed about three years ago. The communication process between the managers and workers seems to be fairly effective. As negotiations from both sides have always resulted in some kind of agreement without ill feelings from any of the sides. The workers are paid according to the standards laid down in the minimum wages Act. About three years back this was around 600/-rupees per month but has lately been increased to ₹825/- per month. The workers also have an incentive scheme which is
based on the maximum output and the rejection rate of the jewels. Rewards are also given for excellence in particular jobs or good ideas and suggestions. Festival advances and 20% bonus is provided. Free canteen facilities and benefits under the E.S.I. Scheme are provided to the workers.

The labour turnover in this organization is negligible and the most common reasons for a female worker to leave is when she gets married and has to move to another town or city. The absenteeism rate is also less than 5%.

Interviews with workers found them more or less satisfied with the management. Their only grouse which had a potential of becoming a rallying point for industrial agitation in the future was the difference in pay and perquisites provided to the workers in comparison with the managers. The exact pay or perquisites provided to the managers was not disclosed to the researcher. The company had a turnover of about 5.00 crores in 1988 and 6.00 crores in 1989. However, on the whole it showed a loss of 43 lakhs in 1989.

**ELECTRONICS SYSTEMS PUNJAB LIMITED**

Electronics Systems Punjab Limited, is a state Government Enterprise and a wholly owned subsidiary of Punjab State Industrial Development Corporation. It was set up in October, 1980 with the objective of developing, manufacturing and
supplying mini/micro computer systems for different applications. Beginning production in April, 1983 the company made rapid advances towards generating computer awareness in the country.

According to its company profile "ESPL's main endeavour has been to introduce the latest technology. Contemporary to that available in the international market and to indigenize the same through inhouse R&D. In pursuant of its high tech. philosophy, the company created highly sophisticated manufacturing quality control and test facilities to match international standards. Realizing that no matter now rugged and versatile may be its products, these have to be backed by an efficient after sales service, the company established on all India network of customer support services. Customer training, forming an internal and important component to reap full potential of the computer systems, received foremost priority in ESPL. The company, thus, played a cardinal role in creating for the country a reservoir of trained manpower in the field".

ESPL has a foreign collaboration with:-

- Westing house electric corporation, USA, for Data acquisition and control systems.

- Recal Milgo Inter Continental for manufacture of microprocessor based modems required for networking of computers for data communication.
- Trebors Inc. USA for production of Agro-Dairy Instruments and Techniques employing near Infrared absorption technology for quantitative measurement of food agriculture and chemical products.

In addition ESPL has the technical back up from the following:

- Cromemco Inc. USA for mini/micro computer systems
- Ironics Inc. USA for super micro 32V computer systems.

The company has a product range that includes:

- Super Micro 32-16/32 bit micro computer using MC 68010/68020 processors based on IEEE 696 Bus, with Unix Operating System.
- Super Micro 32V-32 bit Micro computers
- Super chip PCXT/AT
- Data acquisition and control systems
- High speed moderns
- Microprocessor based Agro Dairy Instruments.

Among the companies for which ESPL has executed the application software development and implementation support are:

- nationalized banks
- defence
- all India Radio
- Sugar factories
- Hotels and Hospitals;
and Government departments such as PWD, Health, PWD B&R, Irrigation, State Electricity Boards, State Transport Undertakings etc.

Some of its software packages successfully developed in generalized, customised form are:

- project planning and review
- production planning and control
- Inventory control
- Electricity Billing
- Cane accounting for Sugar factories
- Fuel management for Thermal Power Plants
- Pay roll, personnel and GP fund accounts
- Financial management, and budgetary control
- Share account.

The turnovers of the company during the year 1985-1986 was Rs.10.00 crores as compared to 4.11 crores during the preceding year. The turnover for the year 1986-87 was about Rs.25.00 crores, while in the year 1988-89 the turnover was around 35 crores.

ESPL has eight regional offices besides its main base at Mohali. It has a staff of about 1200 employees. In the Mohali Unit, however, there were about 500 permanent employees in 1986 when this survey was carried out. Out of these there were about 60 officers, about 300 technical and non-technical staff and the rest supervisory staff.
There are no 'workers' as such in ESPL. They have a technical staff, all of whom are science graduates. There are some number of 'helpers' who are matriculates, some of whom are permanent and some employed on a daily basis. The non-technical staff constitute the supervisory and clerical staff. The organization structure of ESPL is attached alongside. It is headed by a managing director. The other departments are Process Control, Corporate Planning, Material Management, R&D, Personal, production, Finance, Quality Control, Customer Support Software, System Engineering, Documentation and training while some of these departments are headed by General Managers, others are headed by Senior Managers.

The hierarchy in the case of officers is Managing Director, General Managers, Senior Managers, Managers, Deputy Managers, Asstt. Managers, Senior Engineers, Assistant Officers/Assistant Engineers. In ESPL there is no workers union. It has remained trouble free from any kind of workers unrest. Its absenteeism and turn over rate have been marginal and are not a cause for concern. No serious accident in the course of production have occurred and they have no case pending for trial at the labour courts or for adjudication.

The promotion system is based on performance and seniority. The selection system consists of advertisement in the newspapers followed by interview. Some of the other benefits provided for workers are Diwali and Festival Loans, Canteen Subsidized food, an annual incentive of Rs.500.00 started recently.
Daurala Sugar Works, Daurala, is located at the Meerut-Roorkee road about 15 km from Meerut and 1 km away from Daurala Village. This factory is a unit of the Delhi Cloth and General Mills Co. Ltd., Delhi. The Daurala factory was set up in 1932 with a cane crushing capacity of 500 tonnes per day. The crushing capacity now is 3000 tonnes per day. Efforts are now underway to increase this crushing capacity to 4500 metric tonnes per day.

In 1979 the milling plant of the unit was made the most modernized milling plant of the country. The factory is a pioneer in the successful operation of rotary filter after carbonization of cane juice. Some of the major improvements carried out in the plant are:

1. Automatic and recording type weighing bridges for cane weighment.
2. Mechanical unloading and feeding of cane with the help of cranes, chain slings and truck tippler.
3. Installation of modern multi-fuel boilers with complete instrumentation and centralized control for operation.
4. Mechanized system for recycling the surplus bygasse by means of a return carrier.
(5) Installation of transient heaters for reducing the loss of sugar in the final molasses.

(6) Continuous system of filtration by Dors-Oliver' Rotary Filter.

Daurala Sugar Works is a modern and well equipped plant in comparison with the other sugar factories in the country.

There are about 50 officers and 30 supervisors. There are about 500 workers. However, the number of workers is swelled by seasonal workers employed during the sugar season. The organizational structure of the concern is as follows:
The Sugar manufacturing process contains the following main stages:

**Cane Weighment and Milling:** Cane is brought to the factories by trucks and bullock carts. These are weighed and then unloaded by means of an overhead travelling crane. The cutters chop the cane into small fibrous pieces. This passes next through the Milling section for the extraction of juice.

**Juice Clarification:** The juice is dark and dirty and needs purification. Juice is heated upon 55°C and then two carbonation processes take place. The precipitate of calcium carbonate is filtered out together with the impurities. The juice then becomes yellowish green. In order to improve its colour, it is treated with sulphur-dioxide gas. It is then sent to the evaporator set for concentration. The juice is concentrated from 15% to 60% and then again treated with SO₂.

**Crystallisation:** The sulphured syrup is sent to the vacuum pans for further evaporation and crystallization. Sugar crystals are separated from the mother liquor by means of centrifugal machines. These are then dried by hot air and then passed through sieves to separate different sizes of sugar. The sugar of different sizes is packed in Gunny bags weighing up to 100 kgs. Stitched and then stored in the Godowns. Mother liquors known as molasses is a by-product that is used for making ethanol.
Other by products made in this plant are refined sugar, Industrial Alcohol, and Sugar Cubes.

A problem of procuring raw material occurs when the rate of 'Gur and Khandsari' are high, and the farmers divert most of the cane there.

The relations between the labour and management are cordial in Daurola although there are two rival unions present.

The recruitment systems for officers, workers and supervisors consist of interview and written tests. In the case of workers ITI passed workers are preferred. The wages and salaries are linked to the wages and salaries prevailing in that industry, relevant educational qualifications, the nature of job and the nature of responsibility. On an average the workers earn about Rs. 1000/- per month during the time of the season together with overtime. There is a bonus of 20% for the workers and a subsidy for the officers depending on the amount of profit. The employees are provided with a number of other facilities like free accommodation subsidized water and electricity facilities. The organization maintains clubs for officers and workers. There is a school run for the children of the workers. It sponsors a number of cultural activities also. Financial facilities include interest free loans for
marriages, festivals, purchasing utility items etc.

Besides this Maurant Sugar works has an extensive cane development programme, it co-operates with Government agencies to ensure the prevention and eradication of various pests and diseases attacking sugar cane. Financial and Technical Assistance is given to the farmers. Scientific agricultural processes are taught and encouraged. The company has also subsidized 2500 diesel pumping sets and 3800 borings along with necessary irrigation channels. The Maurant Sugar works also helps with such aspects of village life as drainage, sanitation, road repairs, smokeless chulas and biogas plants.

The absenteeism rate has remained around 8% in most of the previous 5 years. There have been no serious accidents and no case or court of inquiry is pending before the Labour Courts. The Labour turnovers is also negligible. In fact in that area workers often vye with one another to become permanent employees of the concern. The management turnover is slightly on the higher side especially for the past few years. This is because of the stagnation in the middle ranks because of over staffing and also because trainees are often at a premium in other sugar concerns.

According to their annual report, "In keeping with its corporate philosophy, industrial relations at Maurant transcend superficial employer-employee relationships. Maurant considers
its employees as its most important asset. Free and frank dialogues are held regularly with workers and their representatives. This helps both sides appreciate each others points of view. The result is an atmosphere of mutual trust, respect and understanding.

Its Annual Profit in the year 1988-89 was Rs.85 lakhs.

UPS: U.P. STATE SUGAR CORPORATION LIMITED

The UP State Sugar Corporation Limited is a unit of the UP State Government. It is located about 20 km away from Meerut in the village of Sakhoti Tanda. The head office of this organization is located at 5, Mirabai Marg, Lucknow.

This factory was originally established in 1933-34 by Shri Dhyan Chand Virmani of the Cargoda District. It was later taken over by a private party. Finally on 3rd July, 1971, it was taken over by the UP State Government.

The crushing capacity of this plant was about 1500 M.T. per day about 6 years back, the plant was modernized and its crushing capacity was increased by an additional 800 M.T per day. It has about 300 permanent employees. The organization structure is as follows:
<table>
<thead>
<tr>
<th>General Manager</th>
<th>Civil General Manager</th>
<th>Technical Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales Manager</td>
<td>Commercial Manager</td>
<td>Personnel Manager</td>
</tr>
<tr>
<td>Controller</td>
<td>Engineer</td>
<td>Technician</td>
</tr>
<tr>
<td>Officer</td>
<td>Chief Engineer</td>
<td>Chief Technician</td>
</tr>
<tr>
<td>Head Office</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CHAIRMAN**
Most of the rules and regulations regarding promotion, appointments, wage scales, incentives etc. are set by the Head Office. Even the sales/marketing efforts and the supply of raw material is in the hands of the Head Office. In most cases the promotions occur on a departmental basis, seniority rather than merit being the main criteria. Appointments at the officer level are made by the Head Office. The General Manager is appointed on a deputation basis.

The production process is slightly different from the one employed in Daurala Sugar Works. This factory has a sulphidation process instead of a carbonation one. The sequence remains the same, i.e. the cane is collected, crushed and the juice is extracted. Then the juice is removed of impurities. In this stage however, the sulphidation process instead of the carbonation process is used. The juice is then concentrated and Sugar Crystals obtained.

During the sugar season additional seasonal and temporary workers are employed. The workers are paid about Rs.900/- per month on an average. They are entitled to an annual increase of 75 rupees and bonus is paid as per the Bonus Act. Other facilities provided to the workers include free residential facilities, free electricity water and medical facilities. Free educational facilities till the
8th standard, canteen facilities and cots and buckets are provided to all the workers. The watch and ward staff is given one free uniform, woollen jerseys, shoes, belt etc. in a year.

There are 4 affiliated unions, the first to the INTUC and the second to RMS, the third to HMS and the 4th to CITU. Labour relations are strained. In the year 1982-83 the factory remained closed for nearly 10 months due to labour problems. The factory has been running at a loss consistently. The tonnes produced and the loss in lakhs is given below:

<table>
<thead>
<tr>
<th>Year</th>
<th>Sugar in tonnes produced</th>
<th>Loss in lakhs of Rupees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987-88</td>
<td>15809</td>
<td>179.83</td>
</tr>
<tr>
<td>1986-87</td>
<td>17907</td>
<td>202.96</td>
</tr>
<tr>
<td>1985-86</td>
<td>6839</td>
<td>308.30</td>
</tr>
<tr>
<td>1984-85</td>
<td>11958</td>
<td>230.45</td>
</tr>
<tr>
<td>1983-84</td>
<td>10100</td>
<td>400.23</td>
</tr>
<tr>
<td>1982-83</td>
<td>The factory remained closed</td>
<td></td>
</tr>
</tbody>
</table>

The reasons for the losses given by the management is the policy of cane price fixation followed by the State Government and the sugar price fixation followed by the Central Government. The profit margin is thus squeezed. This coupled with a low capacity utilization and high overheads have resulted in losses.
There have been 16 accidents in the past 5 years out of which 3 were serious and resulted in a loss of limb. Others merited hospitalization though the recovery was complete. The rate of absenteeism is also high, touching nearly 20% in some years. Labour turnover is however, almost negligible.

The major problem of the plant seems to be an unmotivated work force and a management which can not take any initiative on its own but has to look towards the Head Office for direction.

ATMA TUBES PRIVATE LIMITED

Atma Tube Products Private Limited is located in Dera Bassi. Its registered office is in New Delhi and its administrative office is in Chandigarh. This company belongs to the Atma Group of Industries. It manufactures ERW Precision Steel Tubes. It has an installed capacity of 10,000 M.T. annually. Shri Atma Singh was the first director of the Company. They produced about 700-800 tonnes of finished tubes in one year and the annual turnover is around 80 lakhs.

In 1986 ATP employed about 145 workers, while there are about 30 people in the officer and supervisory category.

The organization chart is as follows:
This unit began production in August 1978 with 50 workers. In 1986 when the survey was carried out there were 145 workers. Currently there are around 240 employees in all. The initial production of 300–400 tonnes has now doubled to around 700–800 tonnes. In addition to this about 44 crores of rupees were spent in 1988 on improvements. One new rolling mill, two new tube mills, a generator set and some other equipment was purchased. In the year 1989 they produced about 800 tonnes tubes and 600–700 tonnes strips per month.
The tubes are used mostly in the making of cycles, automobiles and furniture. This organization has branch officers in Bangalore, Ludhiana and Delhi and consignee agents in Lucknow, Calcutta and Jaipur.

The workers are paid according to the minimum wages Act. The average pay of an unskilled worker in 1986 was around Rs.650.00. Currently it has been increased to Rs.825.00. The average pay of the Supervisors is around Rs.1100.00. The annual bonus which used to be around 8.23% is currently nearing 20%. Ex-Gratia payment, Diwali Bonus or gift, two sets of uniforms, shoes and a jersey is also given once in 2 years to all workers.

The rate of absenteeism in the years since the inception of the company has remained around 15%. The man days lost due to minor accidents have been around 2-3 months on an average per year. There has been no serious accident which has resulted in loss of limb or life.

There are 4 cases of industrial disputes which are under adjudication. Workers and management hold joint meetings once in 15 days where grievances are aired and problems discussed. The last major strike took place in 1985 when work was stopped for nearly 3 months from April to July. Eighty three new appointments were made after the work was resumed. The workers had a long list of demands chief among them was an increase in pay.
The work process: The raw material for steel tubes is known as Hot Rods. These are rods of steel which come from Rourkela and Bokaro. They come in the thickness of 2 mm and 6 mm. Following procedures take place in this unit:

**Slitting:** The rods are slit with the help of a machine length wise and flattened.

**Pickling:** After the slitting the rods are immersed in Hydrochloric acid to clean the surface, after which they are again immersed in water to wash the acid and finally in cutting oil to retain the smoothness and brightness.

**Rolling:** The rods are then passed through a rolling machine that rolls them breadth wise to the required diameter.

**Heating and Cooling:** Once the rod has obtained the dimensions that are required it is heated in a furnace upto 620°C to 720°C for nearly 50 hours to remove brittleness. After which the rods are cooled outside in the open for nearly 12 hours.

**Surface Brightening:** For the purposes of brightening the surface of the rods, they are passed over the pinch pass. The surface then becomes smooth and shiny.

**Cutting & Rounding:** The next step is the cutting and rounding of the tubes. For the cutting a mini sliding is used. A spider wheel is used for the rounding of big tubes and loops are used for the small ones.
Welding: The welding is done on a high speed welder. The scrap is again melted and re-used.

According to the 11th annual Directors Report of the Company for the period ending on 31st March, 1989, the profits of the year before providing for taxes and depreciation were 165.43 lacs. It achieved a turnover of Rs. 21.88 crores for the same period.

HARYANA SMALL SCALE INDUSTRIES AND EXPORT CORPORATION:
Nutan Stove and Tool Room, Panchkula:

This is a Haryana State Government undertaking. The head office of this unit is in Chandigarh, while the factory is located in the Industrial Area of Panchkula. The products that this unit made in 1986 were kerosene stoves and solar cookers. Recently, however, the manufacture of solar cookers was ceased.

This unit was initially started as a project of the Haryana Small Scale Industries in 1980. It was to manufacture kerosene oil wick stoves which were designed by the Indian Oil Corporation. These stoves were so designed that they were more fuel saving and efficient and also safer to use.

This unit has a capacity of manufacturing 5000 stoves per month when started. The original plan was that these stoves would be marketed through Indian Oil Corporation through their...
Nation wide network of petrol pumps. However, this system of marketing proved unsuccessful and in 1985 the unit faced such a severe problem of marketing its products that it was almost shut down. Simultaneously since 1983 onwards it had also begun the manufacture of solar cookers designed by the Natural Resources Association of India. These cookers were provided on a subsidized basis to its villages by the Haryana Government.

The unit still ran into losses amounting to nearly 4 lakhs per year since 1981 to 1987. The unit has about 50 regular workers. About another 50 workers are employed on a contract basis. There are about 10 members of the supervisory and management cadre.

The head of the whole of the Haryana State Small Scale Industries and Export Corporation is an M.D. A.G.M. below him is incharge of this, as well as a block of several other units. This organizational set up is at the Head Office. In Panchkula the unit is headed by a manager, who has 2 section incharges below him followed by foreman. The workers operate on a single shift basis, except when a time bound order has to be completed, when 3-4 shifts of 6 hours each are kept.
The organization structure is as under:

GENERAL MANAGER (HEAD OFFICE)

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Production Manager

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Section Incharge
Foreman
Workers

Section Incharge
Foreman
Workers

After the series of losses that this unit suffered from 31 to 87 it decided to change its marketing agents from the Indian Oil Company to a private party. However, after sometime that deal also did not work out. In 1989 the head office came up with a successful marketing strategy. The kerosene stoves were sold to the UNICEF on the basis of a series of orders obtained from them. They were paid for this in foreign exchange. The workers also received a handsome bonus and their wages were also increased. In fact so successful was the selling of the stoves that the solar cookers unit was terminated and workers diverted to the stove unit.

Though the wage increase was due to the general increase in Government scales, it came at a time when the factory was doing well and served to boost the flagging morale of the workers to quite an extent. There was a marked difference in the spirit of the workers which was felt by the researcher during
informal follow up interviews in the end of 1989, the questionnaires however, were filled by the workers in 1986, and they reflect the low morale experienced by the workers during that period.

In 1989 the unit made a small profit of about 2½ lakhs. The work process for the making of stoves is as follows:

The raw material for the stoves are black iron sheets called CRCA. The first process called sheering involves their cutting to size. Then they are cut into strips after they are fed through a press. Next the required shape is obtained by folding or twisting of these strips. Welding is carried out on the spot to join points. Pre-treatment of the parts is carried out to remove rust, oil and dirt. The assembling of all the components then takes place by hand. Finally the assembled stove is painted and dried.

The workers are paid according to the scales laid down by the Haryana Government. They were reasonably well paid. E.S.I. benefits, compensation, leave, medical facilities, gratuity pension etc. were all according to the Haryana State Government rules. The head office was also incharge of all policy and planning matters.

CHOOSING OF THE REPRESENTATIVE SAMPLE GROUP:

Besides choosing a sample of six organizations, it was further necessary to choose a small group of employees from each organization from which representative data for that particular organization could be collected. In order to do that a simple
random sample between 10%-15% was taken out from the total permanent employees registered on the rolls of each organization.

The criteria for selecting the sample population from the total employees of each organization were:

1. The employees should be Indian nationals.
2. They must be working physically in the plants and their premises.
3. Respondents were to be drawn from all three levels of organizational hierarchy namely managers, supervisors and workers.
4. The respondent should be a permanent employee.

The sample size ranged between 10-15% in each organization. It was deliberately kept small in order to make the study more intensive. While the questionnaire was primarily used for the collection of data, in a number of cases detailed follow up with interviews for the purposes of analysis and had to be carried out. This required detailed conversations with the employee especially those in the workers category. In the worker category, often certain words and concepts had to be explained in order to elicit correct responses. The final sample consisted of 197 employees as shown on the next page.
Sample population:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Organization</th>
<th>Total Employees</th>
<th>Managers</th>
<th>Supervisors</th>
<th>Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>UBL</td>
<td>150</td>
<td>6</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>2</td>
<td>URL</td>
<td>500</td>
<td>9</td>
<td>3</td>
<td>34</td>
</tr>
<tr>
<td>3</td>
<td>HIL</td>
<td>600</td>
<td>14</td>
<td>8</td>
<td>50</td>
</tr>
<tr>
<td>4</td>
<td>UPS</td>
<td>300</td>
<td>5</td>
<td>3</td>
<td>26</td>
</tr>
<tr>
<td>5</td>
<td>ATP</td>
<td>200</td>
<td>5</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>6</td>
<td>HLS</td>
<td>100</td>
<td>2</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>39</strong></td>
<td><strong>31</strong></td>
<td><strong>127</strong></td>
<td></td>
</tr>
</tbody>
</table>

The technique to be adopted:

This study demanded the measurement of both attitudes and perceptions of employees. Employees' morale in an organization would be a measurement of the state of well being felt by the employees and would be reflected in the employees own perception about themselves. The culture being the effect of all the employees' attitude towards one another and their perceptions regarding their organization would have to be a measure of both.

Once the data on the employees' perception and attitudes was collected, it was then to be comparatively analyzed, as also treated methodically, to observe if any definite relationship
resulted between the culture of the organizations and the employees' perception regarding their morale.

The Selection of the Tool:

The next logical step was a selection of the instrument to measure the dependent as well as the independent variable of our study. The merits and demerits of the various methods of data collection were weighed, and finally the questionnaire method was adopted, because of its suitability.

While the observation method had its merits of accuracy and revealing insights about the working of the organizations, which may or may not be apparent by any other method, it also suffered from the following disadvantages:

1. If one has to penetrate the barrier and the facade which most organizations build around themselves, the observation has to be made over a long drawn and sustained period of time.

2. An observation where all attributes of the organizational culture are subject to such an intense scrutiny would require a very high degree of co-operation at all levels— a degree that is only possible in highly open, organic and confident organizations. Organizations with such cultures are rare in our present industrial set up.

The interview method was also considered for the collection of the data. However, a preliminary pretesting of the interview schedule revealed that some employees were hesitant...
to say what they actually felt, and additional prompting caused either an element of bias to creep in, or non-committal replies.

Finally the questionnaire method was adopted because of the following advantages:

(1) It was impersonal, and therefore, people did not hesitate to fill in what they actually felt.

(2) It was easier to classify and tabulate so that results could be co-related meaningfully.

(3) It was more standardized and, therefore, eliminated bias to a greater extent.

The questionnaire in some cases also served as a basis for the interview schedule, as many of the workers had to be explained the meaning of the texts. This led to a number of interesting and revealing conversations which gave an insight into the culture of the organization, that was helpful in confirming the validity of our results.

The framing of the questionnaire: The questionnaire was first framed in English and later translated into simple Hindi for workers and some supervisors.

The questionnaire was based on the dimensions of culture and morale elaborated earlier on in this chapter. The questionnaire was divided into three parts, Part A, B, and C (Appendix).
Part A: Consisted of demographic details such as age, sex designation, marital status of the respondent. The education occupation, income and family size of the respondents, were also asked. Also included were two columns regarding the respondents career progression in the organizations previous to the present one, as also in the present organization. All this was done in order to form a basis for analysis in the later stage. In several cases, the difference in result could be explained on the basis of differences in pay, or a slow career progression.

Part B: Consisted of questions regarding various attributes of culture. As mentioned earlier certain dimensions of culture were listed. Questions based on these formed Part B. These questions try and gauge the perception and attitude of the employees towards these dimensions of culture.

To a large extent these questions were based on other surveys carried out previously to measure such aspects of culture such as communication decision making, interpersonal relationships, innovation and change etc. However, these were modified to a great extent to suit the present purpose.

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16 Based on MAQ(c) developed by Udai Pareek and Organizational climate questionnaire developed by Somnath Chattopadhyay. Udai Pareek et al; Behavioural Processes in Organizations, New Delhi, Oxford and IBH Publishing Co. 1981, pp 490-496.
(a) Our questionnaire had to be more simple because it was uniformly applied to officers, workers and supervisors.

(b) Our aim was not to pinpoint troubled areas of culture in one particular organization in order to initiate or implement a change, but had to cover a wide range of organizations, in order to compare and contrast their culture and thus differed in intensity and applicability.

Part C: Consisted of questions which revealed the respondents attitude towards morale. Five dimensions of morale have been identified earlier. Out of these the job satisfaction Index was based on the index of Brayfield and Rothe\textsuperscript{17} some of the positive points of the scale were its applicability to a wide variety of jobs and its ability to give an index to "overall" job satisfaction rather than specific job situation". Some of the questions on the other indexes were based on the questionnaire framed by Srivastava et al, for a survey of the morale of employees.

THE PRETESTING OF THE SCHEDULE

Before finalizing the questionnaire a small pilot study was conducted in order to assess the feasibility of the study. A preliminary analysis of the results was also made. The aims of the pilot study were as follows:

(1) To confirm the validity and reliability of the questionnaire.

(2) To modify questions which seemed ambiguous to the respondents.

(3) To assess the nature of the replies and thus confirm whether the method adopted was showing results.

Most of the questions elicited good responses and were kept as they were, a few were simplified and some ambiguities were removed. In all the following number of final questionnaires were distributed; the total number of complete responses are also given alongside in Table 2.11.

<table>
<thead>
<tr>
<th>Organization</th>
<th>Total Sample selected</th>
<th>Total No. of questionnaires</th>
<th>Total No. of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCL</td>
<td>20</td>
<td>30</td>
<td>25</td>
</tr>
<tr>
<td>EPL</td>
<td>50</td>
<td>60</td>
<td>46</td>
</tr>
<tr>
<td>LSW</td>
<td>60</td>
<td>70</td>
<td>52</td>
</tr>
<tr>
<td>UoS</td>
<td>40</td>
<td>50</td>
<td>34</td>
</tr>
<tr>
<td>ATP</td>
<td>20</td>
<td>30</td>
<td>22</td>
</tr>
<tr>
<td>HSS</td>
<td>10</td>
<td>20</td>
<td>13</td>
</tr>
</tbody>
</table>

TABLE 2.11
TOTAL SAMPLE SELECTED AND NUMBER OF RESPONSES.
THE SCORING SYSTEM:

The likert scoring system consisting of five categories of strongly agree/maximum and strongly disagree/minimum is applied to each item. If all these items were rated positively, a high score would result indicating a more 'open' culture or a higher morale. The likert scoring system weights for each item range from one to five. Since there were 24 questions included in part B to assess culture and 20 questions in part C to assess morale, the possible score for part B ranged from 24 to 120, while that of part C ranged from 20 to 100. The average score on part B was 72 and that of part C was 60.

An example will make the point clear in the case of the following question:

(a) I would not recommend this job to any of my close friends?

(A) Strongly agree (B) Agree (C) Undecided (D) Disagree

In this case strongly disagree would get a score of 5, disagree of 4, undecided of 3, agree of 1 and strongly agree of 1.

In another question, credit is given to people who come up with newer and more efficient methods of working.

(A) Always (B) Usually (C) Sometimes (D) Rarely

(B) Never.
A response of always will get a score of 5, usually 4, sometimes 3, rarely 2 and never 1.

Thus an addition of all the scores for Part 3 divided by 24 would give the average cultural score for the particular employee, while the total scores of Part C divided by 20 will give us the average score for morale for that employee.

On the basis of these final scores a continuum for morale as also culture was prepared:

<table>
<thead>
<tr>
<th>5</th>
<th>3</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>Median</td>
<td>Closed</td>
</tr>
</tbody>
</table>

continuum for culture.

On this continuum a score of 5 represents an 'Open' culture. An open culture is defined as one that is:

- high on interpersonal trust, autonomy and freedom in decision making, where communication is free, leadership is democratic, merit is respected, new ideas are absorbed quickly, excellence is aimed for, interdepartmental co-operation and the concern for people is high and there is no emphasis on status symbols.
A score of 1, represents the closed side of the culture. A closed culture is one which is marked by mistrust, lack of autonomy and decision making powers, rigid and formal communication patterns, where merit is sidelined the leadership style is autocratic or bureaucratic, new ideas are strongly opposed, the system strives for mediocrity instead of excellence, interdepartmental rivalry is dysfunctionally high, the concern for and compliance with rules over-rides the concern for people and status symbols decrease communication and increase general frustration.

Similarly in the case of morale, the continuum ranged from high to low:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Median</td>
<td>Low</td>
</tr>
</tbody>
</table>

A basis for comparison of the culture and morale scores of different organizations was formed by these continuum. The cultural score as well as the morale score was finalized by adding the cultural scores of all employees of that organization and dividing that by the number of employees. A similar exercise was carried out to obtain the average morale score for that organization. For the average score of a particular category, the individual scores of all respondents were added and then divided by the number of respondents in that category.
The responses to the questions were then scored on the basis explained previously. Trained data operators then filed the responses of each employee on to a DES Lotus Computer. The responses were then tabulated according to organizations, categories, (workers, supervisors, and managers) as well as the 11 dimensions of culture and the 5 dimensions of morale.

In Chapter V the results of the comparison for total morale and total culture are discussed. In Chapter VI, the results of the dimensions of morale are examined and compared. In Chapter VII, the same exercise is carried out for the dimensions of culture, while in Chapter VI the effects of technology and sector on culture are examined.

A correlational analysis on the results of culture and morale was also carried out. A series X based on the cultural scores of each employee was formed and the corresponding scores of morale for each employee formed the series Y. A correlational analysis was made on the two series. This correlation was carried out for individual organizations, the different categories in each organization and the total category wise correlation for all employees of all organizations.
The validity of the Questionnaire: The Part 3 of the questionnaire, relating to the organizational culture as perceived by the employee was based on the MAO(C) developed by Udai Pareek and the organizational climate questionnaire developed by Somnath Chattopadhyay. Both these instruments have a high degree of validity. However, since our questionnaire was in adapted version of these, the concurrent validity between the questionnaire developed for the purpose of our study and Chattopadhyay's organizational climate questionnaire was established. Both the questionnaires were issued separately to a sample group of twenty persons, employed in various organizations.

The results obtained on both these questionnaires were correlated. A high degree of correlation of 0.84 was found. This established the concurrent validity of the questionnaire. Besides this the questionnaire was also assessed by a group of experts including management teachers and practitioners. A face validity was established when they found it relevant and appropriate.

18 Udai Pareek: loc cit

The Part C of the questionnaire deals with morale. It borrows heavily from the Brayfield and Rothe index of job satisfaction, and the job satisfaction and morale questionnaire developed by Dr. A.K. Srivastava for the Measurement of employee job satisfaction. Both these instruments have a high degree of validity and reliability. However, since our indexes of morale were modified to quite an extent concurrent validity and face validity were both established. The scores for the questionnaire of morale were correlated with the scores on the morale questionnaire developed by Richard L. Hull and Arthur Kolstad. A high degree of correlation of 79 was found in a sample of 20 subjects. A group of experts assessed the questionnaire and found it relevant and appropriate. Thus the face validity as well as the concurrent validity of the both Part B and Part C of the questionnaire was established.


Reynal & Hitchcock, Inc. 1942, p. 35.
The Reliability of the Questionnaire: Both the Test-retest reliability as well as the split-half-reliability was established for Part B and Part C of the questionnaire. A group of twenty subject was chosen. Part A of the questionnaire was divided into two equal parts of 12 questions each. Similarly Part B was divided into 10 questions each. The score for each part was calculated. A correlation was carried out between the scores of the two halves of Part A and Part B.

The correlation between these were: -92 and 08 respectively. Thus a high degree of reliability was established.

The Limitations of the Research Design: The research design was kept as relevant to the aims of the study given the constraints of time, money as well as the abilities of the researcher. However, some of the objections to the research design adopted could be:-

(i) The organizations selected for the survey were chosen arbitrarily.

(ii) The adoption of the questionnaire method might have led to the reporting of false information by the employees.

(iii) The adoption of the simple Karl Pearson's method of correlation rather than a more complicated
regressional model.

(iv) The sample size was kept small.

The organizations selected for the survey while chosen at the discretion of the researcher, were nevertheless chosen because of certain criteria which they fulfilled on the basis of a survey of literature. Since there were no studies which made a classification of industries on the basis of culture, it was necessary to go into the factors affecting culture and choose organizations where these factors were varied. A survey of literature revealed that out of the factors affecting culture, the technology employed by organizations and the sector they were in were the two most important and well researched, determinants. In accordance with this finding, the variation of the technological factors and the sector the industry was in formed the framework of our study. Within this framework several organizations picked at random were approached for their cooperation for the survey. When this cooperation was withheld or only partly given it was decided that if industries were selected specifically within our framework, on the basis of their ungrudging cooperation, the effect would be more fruitful, specially when it came to studying a delicate concept like culture.

The questionnaire method has a limitation of false reporting by the respondents. However, since the forms were anonymous and it was specifically mentioned on the form
As well as by the instructions given by the researcher that the results would not be disclosed to anybody but were purely for the purposes of an academic research, there was no substantial reason why the true picture should not have been given.

A correlation analysis was found to be more meaningful because this research had to be carried out in an unfamiliar and uncharted area. A correlation analysis which studies the association between two variables was capable of greater generalization. It was difficult to pick out only one specific dimension of culture and calculate its effect on only one dimension of morale. A well rounded study with the inclusion of many dimensions of both the variables was possible by a simple correlational analysis.

Finally the sample size was kept small by necessity because it related to concepts which needed careful deliberation and intensive self analysis by the respondents. Besides follow up interview with each respondent or group of respondents were undertaken at regular intervals. It would not have been possible for the researcher to do justice to a
large sample single handedly. Therefore, the sample was kept small in the hope that the results obtained would be more meaningful.

**Summary of the Chapter:**

In conclusion, it may be stated that this chapter was concerned with the following:

(i) Choice of the research design for the present study.

(ii) Describing the sampling design and presenting a background of the units chosen in the sample.

(iii) Selection of tools and description of instruments applied to measure the variables.

(iv) Procedure to be followed for the conduct of the study and the nature of statistical analysis of the data.