CHAPTER-8

HUMAN FACTORS IN INDUSTRY
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It is obvious that while enterprise objectives may differ somewhat in various organisations, the individuals involved also have needs and objectives that are specially important to them. Through the function of leading, managers help people see that they can satisfy their own needs and utilize their potential and at the same time contribute to the aims of an enterprise. Manager thus requires an understanding of the roles assumed by people, the individuality of people and the personalities of the people.

(A) Roles Variety:

Individuals are much more than merely a productive factor in management's plans. They are members of social systems of many organisations; they are consumers of goods and services, and thus they vitally influence demand; they are members of families, schools, churches, trade associations and political parties. In these different roles, they establish laws that govern managers, ethics that guide behaviour, and a tradition of human dignity that is a major characteristic of our society. In short, managers and the people they lead are interacting members of a broad social system.

(B) Persons are alike:

People act in different roles, but they are also different themselves. There is no average person. Firms develop rules, procedures, work schedules, safety standards and position
descriptions all with the implicit assumption that people are essentially alike. Of course, this assumption is necessary to a great extent in organized efforts, but it is equally important to acknowledge that individuals are unique. They have different needs, different ambitions, different attitudes, different desires for responsibility, different levels of knowledge and skills, and different potentials.

Unless managers understand the complexity and individual of people, they may misapply the generalisation about motivation, leadership and communication. Principles and concepts, although generally true have to be adjusted to its specific situations.

The significance of Personal Dignity:

Achieving result is important but means must never violate the dignity of people.

The concept of individual dignity means that people must be treated with respect, no matter what their position in the organisation. The President, Vice President, Manager, First line supervisor, and worker all contribute to the aims of the enterprise. Each is unique, with different abilities and aspirations, but all are human being and all deserve to be treated as such.

(C) Person's Complete Personality:

Persons complete personality not just separate and distinct characteristics such as knowledge, attitudes, skills, or personality traits should be considered. A person has them all to different degrees. Moreover, these characteristics interact with one another,
and their predominance in specific situations changes quickly and unpredictably. The human being is a total person influenced by external factors. People cannot divest themselves of the impact of these forces when they come to work. Managers must recognize these facts and be prepared to deal with them to harmonize human relations leading to industrial harmony.

(D) Behavioural Models:

In order to understand the complexity of people, writers on management have developed several models. Managers, whether they consciously know it or not, have in mind a model of individual and organizational behaviour that is based on assumptions about people. These assumptions and their related theories influence managerial behaviour.

Dealing with all of them would not be practical, but consideration is given to models by Schein, Maslow’s Need based, Herberg’s two factor and McGregor’s classic assumptions about people.

(i) Rational-Economic View to the complex person:

Edgar H. Schein developed four conceptions about people. The first concept, rational-economic assumption, is based on the idea that people are primarily motivated by economic incentives. Since these incentives are controlled by the enterprise, people are generally passive and are manipulated, motivated, and controlled by the organization.
The Second concept, concerning social assumptions, is based on Elton Mayo's idea that, basically, people are motivated by social needs. Thus, social forces of the peer group are more important than controls by managers.

The third concept, concerning self-actualizing assumptions, suggests that motives fall into five classes in a hierarchy ranging from the simple needs for survival to the highest needs of self-actualization with maximum use of a person's potential. According to this conception, people are self-motivated—they want to be, and can be, mature.

The fourth concept, based on complex assumptions, presents Schein's own view of people. His underlying assumptions are that people are complex and variable and have many motives, which combine into a complex motive pattern. In addition, people are able to learn new motives and to respond to different managerial strategies.

(ii) Maslow's Theory of Human Motivation:

Abraham Maslow, a famous social scientist and a psychologist, developed a theory of motivation, which is based on the hierarchy of needs. According to him there are five kinds of needs viz. physiological, safety, social, esteem and self-actualization.
Maslow's Hierarchy of Needs

1. **Physiological Needs:** Physiological needs refer to those needs which are so essential that the survival of human being will be in danger if these needs are not satisfied e.g. food, shelter, clothing, water, air, sleep, etc. These needs are biological in nature and keep the body fit. There is a famous saying that a man can live on bread alone if there is no butter.

2. **Safety needs:** After the physiological needs are satisfied to a reasonable degree, the safety needs take the place e.g. security of job, pension for old age, insurance plan compensation for lay off or retrenchment in choosing a job, security plays an important role.

3. **Social needs:** Social needs include needs for love, affection, friendship, acceptance by group, etc. A man is a social being and he has a need to love and to be loved. (Workers form informal groups for having a meaningful relationship with others) Management should not mind to such groups unless they are detrimental to the organization.

4. **Esteem Needs:** These needs are concerned with one's self esteem such as self-respect, self-confidence, status, recognition, approval, appreciation, etc. The satisfaction to these needs produces a feeling of self-confidence among the employees. The employees should be praised for good work since it amounts to recognition of their good work.
5. **Self Actualization needs:** These needs include need for self-development, self actualization, self advancement, desire to take an increased responsibilities, etc. Not many employees try to fulfill these needs but an employee who wants to develop will feel restlessness till he satisfies his need. According to Maslow, this need might be phrased as the desire to become and more what one is, to become everything that one is capable of becoming.

**Maslow’s motivation theory emphasizes three basic ingredients:**

(i) A man is a social animal and he always wants more and more. His needs are of many types.

(ii) There is a hierarchy of the occurrence of these needs i.e., these needs are arranged miseries of preference. After the lower level needs are satisfied the needs at the higher level take their place. A man whose stomach is satisfied becomes conscious of other needs.

(iii) **Hygienes and Motivators:**

Some people argue that productivity of an employee depends on his job-satisfaction and productivity of organisations or their work units can be raised by improving the job-satisfaction of employees. Unfortunately the relationship between job-satisfaction and productivity is not that simple. It is possible to have highly satisfied workers not giving their best to an organisation. This happens when they are not highly motivated to work. Absence of dissatisfaction or presence of job-satisfaction does not mean presence of work
motivation. A behavioural scientist by the name Herzberg, differentiated these factors.

Both work-motivation and job-satisfaction are dimensions that influence the productivity of any employee. Some factors in the work environment that contribute to job-satisfaction do not necessarily ensure motivation,

Research has shown that adequate salary, good working conditions, job security, physical facilities, goods human relations and the quality of supervision all contribute to the job-satisfaction of employees. Factors such as recognition of work done status, opportunity for growth play an important role in creating a motivation to work on the part of employees. The first set of factors that prevent job dissatisfaction have been called hygiene. The second set of factors are called 'motivator's Both sets need to be consideration in order to improve employee productivity.

Hygiene factors are essential for people to work but motivators play an important role in helping people to work more and better. The top managers in organisations as well as personnel and Human Resource Development (HRD) departments should understand the distinction between the two. Every supervisor in all types of organisations should understand this distinction. This will help them to create conditions for work-motivation.

(iv) McGregor's Theory 'X' and Theory 'Y':

Another view about the nature of people has been expressed in two sets of assumptions developed by Douglas McGregor and
commonly known as "Theory X" and "Theory Y". Managing, McGregor suggested, must start with the basic question of how managers see themselves in relation to others. This viewpoint requires some thought on the perception of human nature. Theory X and Theory Y are two sets of assumptions about the nature of people. McGregor chose these terms because he wanted neutral terminology without any connotation of being "good" or "bad".

Theory 'X' assumptions:

The "traditional" assumptions about the nature of people according to McGregor are included in Theory X as follows:

1. Average human beings have an inherent dislike for work and will avoid it if they can.

2. Because of this human characteristic of disliking work, most people must be coerced, controlled, directed, and threatened with punishment to get them to put forth adequate effort toward the achievement of organizational objectives.

3. Average human beings prefer to be directed, wish to avoid responsibility, have relatively little ambition, and want security above all.

Theory Y assumptions:

The assumptions under Theory Y are seen by McGregor as follows:
1. The expenditure of physical effort and mental effort in work is natural as play or rest.

2. External control and the threat of punishment are not the only means for producing effort toward organizational objectives. People will exercise self-direction and self-control in the service of objectives to which they are committed.

3. The degree of commitment to objectives is in proportion to the size of the rewards associated with their achievement.

4. Average human beings learn, under proper conditions, not only to accept responsibility but also to seek it.

5. The capacity to exercise a relatively high degree of imagination, ingenuity, and creativity in the solution of organizational problems is widely, not narrowly, distributed in the population.

6. Under the conditions of modern industrial life, the intellectual potentialities of the average human being are only partially utilized.

These two sets of assumptions obviously are fundamentally different. Theory X is pessimistic, static, and rigid. Control is primarily external, that is, imposed on the subordinate by the superior. In contrast, Theory Y is optimistic, dynamic, and flexible,
with an emphasis on self-direction and the integration of individual needs with organizational demands. There is little doubt that each set of assumptions will affect the way managers carry out their managerial functions and activities.

**Clarification of the theories:**

McGregor was apparently concerned that Theory X and Theory Y might be misinterpreted. The following points will clarify some of the areas of misunderstanding and keep the assumptions in proper perspective. First, Theory X and Theory Y assumptions are

Just that: They are assumptions only. They are not prescriptions or suggestions for managerial strategies. Rather, these assumptions must be tested against reality. Furthermore, these assumptions are intuitive deductions and are not based on research. Second, Theories X and Y do not imply "hard" or "soft" management. The "hard" approach may produce resistance and antagonism. The "soft" approach may result in laissez-faire management and is not congruent with Theory Y. The effective manager recognizes the dignity and capabilities, as well as the limitations, of people and adjusts behaviour as demanded by the situation. Third, Theories X and Y are not to be viewed as being on a continuous scale with X and Y on opposite extremes. They are not a matter of degree; rather they are completely different views of people.
Towards an Eclectic view of Behavioural Models:

Which of these many views of individuals is valid? Many similarities can be found among the various models, but it appears that no single model is sufficient to explain the full range of individual and organizational behaviour. People behave differently in diverse situations, and in complicated matters, they even behave differently in similar situations at different times. In some situations people act rationally; in other situations they are guided by emotions. It is the manager's responsibility to create an environment in which people are induced to contribute to the aims of the enterprise. Yet assuming that people can be manipulated, ignores their individuality and underestimates their intelligence. Economic rewards certainly are important in an enterprise, but people often want more than money from a job. They usually want to develop their capabilities, their competence, and their potential as well.

The effective manager will take an eclectic approach by drawing from different models that describe the nature of people. At the very least, one must recognize that people are different and do not fit neatly into a single conceptual model. They must be treated with respect and dignity; they must be considered as whole persons; and they must be seen in the context of their total environment, in which they assume different roles. It is important to realize that different situations require a variety of managerial approaches for utilizing most effectively and efficiently the most valuable resource of the enterprise, namely, people.
(vi) Creativity and Innovation:

An important factor in managing people is creativity. A distinction can be made between creativity and innovation. The term creativity usually refers to the ability and power to develop new ideas. Innovation, on the other hand, usually means the use of these ideas.

E. The Creative Process:

The creative process is seldom simple and linear. Instead, it generally consists of four overlapping and interacting phases; (1) Unconscious Scanning (2) Intuition (3) Insight (4) Logical formulation.

The first phase, unconscious scanning, is difficult to explain because it is beyond consciousness. This scanning usually requires an absorption in the problem, which may be vague in the mind. Yet managers working under time constraints often make decisions prematurely rather than dealing thoroughly with ambiguous, ill-defined problems.

The second phase, intuition, connects the unconscious with the conscious. This stage may involve a combination of factors that may seem contradictory at first. For example in the 1920s Donaldson Brown and Alfred Sloan of General Motors conceived the idea of a decentralized division structure with centralized control-concepts which seem to contradict each other yet the idea makes
sense when one recognizes the underlying principles of (1) giving responsibility for the operations to the general manager of each division, and (2) maintaining centralized control in headquarters over certain functions. It took the intuition of two great corporate leaders to see that these two principles could interact in the managerial process.

Intuition needs time to work. It requires that people find new combinations and integrate diverse concepts and ideas. Thus, one must think through the problem. Intuitive thinking is promoted by several techniques such as brainstorming and synectics, etc. Insight, the third phase of the creative process, is mostly the result of hard work. For example, many ideas are needed in the development of a usable product, a new service or a new process. Interestingly, insight may come at times when the thoughts are not directly focused on the problem at hand. Moreover, new insights may last for only a few minutes, and effective managers may benefit from having paper and pencil ready to make notes of their creative ideas.

The last phase in the creative process is logical formulation or Verification - Insight needs to be tested through logic or experiment. This may be accomplished by continuing to work on an idea or by inviting critiques from others. Brown and Sloan's ideas of decentralization, for example, needed to be tested against organisational reality.
F. Techniques to Enhance Creativity:

Creativity can be taught. Creative thoughts are often the fruits of extensive efforts, and several techniques are available to nurture those kinds of thoughts, especially in the decision-making process. Some techniques focus on group interactions; others focus on individual actions. As illustrative of the various techniques, two popular ones are brainstorming and synectics.

**Brainstorming**: One of the best known techniques for facilitating creativity has been developed by Alex F Osborn, who has been called the father of brain storming. The purpose of this approach is to improve problem solving by finding new and unusual solutions. In the brainstorming session, a multiplication of ideas is sought. The rules are as follows:

1. No ideas are ever criticized.
2. The more radical the ideas are, the better.
3. The quantity of idea production is stressed.
4. The improvement of ideas by others is encouraged.

Brainstorming, which emphasized group thinking was widely accepted after its introduction. However, the enthusiasm was dampened by research which showed that individuals could develop better ideas working by themselves than they could working in groups. Additional research, however, showed that in some situations the group approach may work well. This may be the case
when the information may be distributed among various people or when a poorer group decision is more acceptable than a better individual decision, which, for example, may be opposed by those who have to implement it. Also the acceptance of new ideas is usually greater when the decision is made by the group charged with its implementation.

Synectics originally known as the Gordon technique (named after its creator William J. Gordon) this system was further modified and became known as synectics. In this approach the member of synectics team are carefully selected for their suitability to deal with the problem, a problem which may involve the entire organisation.

The leader of the group plays a vital role in this approach. In fact only the leader knows the specific nature of the problem. This person narrows and carefully leads the discussion without revealing the actual problems itself. The main reason for this approach is to prevent the group from reaching a premature solution of the problem. The system involves a complex set of interaction from which a solution emerges frequently the invention of a new product.

**Nominal Grouping:**

Developed by Andre Delbeeq Andrew Van de Ven nominal grouping differs from both brainstorming and synectics in two important ways. Nominal grouping does not rely on free association of ideas and it purposely attempts to reduce verbal interaction, from the letter characteristics a nominal group derives its name. It is group "in name only".
Nominal grouping has been found to be particularly effective in situation requiring a high degree of innovation and idea generation. It generally follows a highly structured procedure involving the following stages:

**Stage 1**: Seven to ten individuals with different background and training are brought together and familiarised with a selected problem such as "What alternatives are available for achieving a set of objectives?"

**Stage 2**: Each group member is asked to prepare a list of ideas in response to the identified problem working silently and alone.

**Stage 3**: After a period of ten to 15 minutes, group member share their ideas, one at a time, in a round-robin manner. A group facilitator records the ideas on a board or flip chart for all to see. The round-robin process continues until all ideas are presented and recorded.

**Stage 5**: Each group member votes by privately ranking the presented ideas in order of their perceived importance. Following a brief discussion of the vote, a final secret ballot is conducted. The group's preference is the arithmetical outcome of the individual votes. This concludes the meeting.

Nominal grouping has been used successfully in a wide variety of organisations. Its principal benefit is that it minimises the inhibiting effects of group interaction in the initial generation of
alternative solutions. In this sense, the search process is proactive rather than "hitch hike" on the ideas of others. Additionally, the use of a round robin recording procedure allows risk-inclined group members to state risky solution early, making it easier for less secure participants to engage in similar disclosure.

**Creative Thinking:**

There are many ways of searching for information and alternatives in problem solving. Effective managers use all of their capacities—analytic and creative, conscious and seek both individual and group involvement in this stage of decision making process.

It is clear that the basic requirement at the stage of identification of alternatives is to become more creative. Creativity involves novel combination of ideas which must have theoretical or social value or make an emotional impact on other people. Like the decision making process itself the creative process also have three stages in the following exhibit.
### Stages in the Creative Process

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<tr>
<th>STAGE</th>
<th>TYPE</th>
<th>BEHAVIOURS</th>
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<tbody>
<tr>
<td>Preparation</td>
<td>Conscious</td>
<td>Saturation: Investigating the problem in all directions to become fully familiar with it, in setting, causes and effects.</td>
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<tr>
<td>Latent Period</td>
<td>Unconsciousness</td>
<td>Incubation: Relaxing, switching off and turning the problem over to the unconscious mind.</td>
</tr>
<tr>
<td>Presentation</td>
<td>Conscious</td>
<td>Illumination: Emerging with possible answers dramatic, perhaps off beat, but fresh and new.</td>
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<td>Verification: Clarifying and flushing out the idea, testing it against the criterion of appropriateness.</td>
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<td></td>
<td>Accommodation: Trying the solution out on other people and other problems.</td>
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H. Harmonising Objectives: The Key To Industrial Peace:

Understanding and motivating the Human Factor in enterprises is important for the industrial productivity and industrial peace. How a manager views human nature, influences the selection of motivational and leadership approaches. A number of models presenting various conception of the nature of people have been proposed, however, no single view is sufficient to understand the persons. Therefore, an elective view of the nature of people is suggested.

Managers need to understand the various behavioral patterns of themselves and their subordinates that help in harmonizing objectives.
CHAPTER-6

LEGISLATIVE MEASURES

(Legalistic Approach to Harmonise Industrial Relations)