The Managers, as a rule are rather busy men and the amount of time they can devote for reading vital material is limited. The odd seminar, the occasional 'training' course, travel to and from work, a few leisure hours at the weekend - are the chief opportunities available to him for keeping abreast of the relevant areas of knowledge. Of these areas, psychology - has to do with the systematic study of human behaviour is of some significance to a manager. This is because a manager is one who has some authority to plan, organize and control activities of an enterprise and behaviour of others. The chief elements in manager's decision making power are that - he can determine what plans will be made and he can assert how activity will be organized and controlled. While exercising his authority a manager has to work with, for and through people in a way in which the requisite job is accomplished. Maintaining good human relations is a managerial responsibility. Providing and maximising human satisfaction from work, output and relationships is another obligation of a manager.
The typical decision-making process in the field of scientific management consists of drawing inferences or inferred judgments about individuals and phenomena. When a particular decision is taken in respect of a particular problem, it is presumed that the inferences are valid. Inferences are basically judgments derived from other judgments. All knowledge and all beliefs consist of judgments. There are certain things which managers claim to know, there are others which they do not claim to know but which they believe. Beliefs are however just beliefs, but knowledge is an adequately justified belief. In most of the decision making situations beliefs and not knowledge, are found to be the basis for formulating judgments.

Some judgments are obviously derived from other judgments and there are others which are not so derived. Judgments derived from other judgments or personal and direct observation are inferences. Inferences about the correlations between factors, individuals and events may be -
i) the immediate result of suggestion
ii) derived from belief in the credibility of one's informant or
iii) derived from one's knowledge.

Immediate judgments or intuitive judgments are not derived from other judgments because they result from perception by means of the senses. For example the General Manager of a company may 'feel' that labourers are restless as a result of a particular modification in the company's policies and are conspiring against management and would go in for agitation as a reaction to such modification. These judgments are formed from a kind of intellectual intuition. There are, however, other judgments which are based on certain beliefs in certain relationships e.g. a manager may believe that giving more bonus to workers would increase productivity and efficiency.

Many judgments commonly regarded as immediate are really inferential judgments. Logic is concerned only with those inferences which are 'valid'. Logic is the study of valid inferences, and not of beliefs generally. People frequently jump to conclusions quite uncritically, without deliberation. Uncritical, indiscreet or
Reflective inferences are frequently so mischievous that they should be carefully weighed vis-a-vis the evidence for and against.

In every argument there are two things:

i) the premises, or the data or evidence, and

ii) conclusion or inference.

The evidence is said to prove the conclusion and converts it into a valid inference. Proof is always assumed to be a correct proof, but inferences may be correct or incorrect because in the proof process some belief or suggestion is entertained and then is justified by means of suitable evidence. Inference from analogy is a very common type of inference (or reasoning) but it is no proof. Reasoning may take the form of drawing conclusions from evidence or of finding evidence for beliefs or suggestions already entertained.

In this context, let us consider the specific management 'theories' developed viz. Theory X and Theory Y of management. Theory X of management:

(1) the average human being has an inherent dislike for work and will avoid it if he can.
(2) Because of this human characteristic of dislike for work, most people must be coerced, controlled, directed, threatened with punishment to get them to put forth adequate effort toward the achievement of organisational objectives.

(3) The average human being prefers to be directed, wishes to avoid responsibility, has relatively little ambition, wants security above all.

As against this the Theory of Y of management rests on the assumption that:

(a) The average human being does not inherently dislike work. Depending upon controllable conditions work may be a source of satisfaction (and will be voluntarily performed) or a source of punishment (and will be avoided if possible).

(b) External control and the threat of punishment are not the only means for bringing about effort toward organisational objectives. Man will exercise self-direction and self-control in the service of objectives to which he is committed.

(c) Commitment to objectives is a function of the rewards associated with their achievement. The most significant of such rewards, e.g. the satisfaction of their
ego and self-actualization needs, can be direct products of efforts directed toward organisational goals.

(d) the average human being learns under proper conditions not only to accept but to seek responsibility. Avoidance of responsibility, lack of ambition and emphasis on security are generally consequences of experiences, and not of inherent human characteristics.

(e) the capacity to exercise a relatively high degree of imagination, ingenuity, and creativity in the solution of organisational problems is widely and not narrowly distributed in the population.

(f) under conditions of modern industrial life, the intellectual potentialities of the average human being are only partly utilised.

One would realise that the above theories developed are based on certain beliefs, axioms, prejudices or some self-evident truths. This is because, in the management activity experiments are difficult to control, most interesting aspects cannot be measured precisely, general laws are completely lacking, each management problem is viewed as unique, and the intuitive or 'judgmental' application of subjective experience reigns supreme.
There are a number of ways in which simplifications and distortions may creep in and about the ways management science might supplement and illuminate the art of management. There are a number of ways in which the decision maker might achieve perceptual and conceptual simplifications of a complex problem. There are some of the following ways in which simplification takes place.

For example:

1. **Resort to 'rules of thumb'**. e.g. a notion that a company ought to keep 30 days' inventory on hand or 'a manager may expect an investment to pay out in three years' period. These are the examples of conventional simplifications.

2. **Appeal to a system of categories**: Often policy categories are used to place decisions in broad classes. For example breakdown in production is a problem which may be considered as pertaining only to the production area of management and other departments such as Purchases, Personnel, Finance may be treated as related to it.
3. **Suppressing uncertainty**: Ignoring unlikely events, considering only a single possible set of future conditions, considering average values or some such device to avoid the complexity of dealing with uncertainty. A conservative person deals only with the worst events that may happen, the optimist with the best, and some deal with only the most probable events and so on.

4. **Adopt a near planning horizon**: Events are considered and the implications of decisions are studied only for a short period. Similarly one might simplify by limiting the consideration of past experience to only the rather recent past.

5. **Illegitimate resolution of value conflicts**: Simplification may be sought by restricting consideration of the values of consequences to those dimensions which are most easily measurable or most 'tangible'. Thus one may consider profit and output while suppressing the complexity of human attitudes, and social and moral values.

6. **Need-determined distortions**: Habitual ways of viewing a decision situation arise because a conception which meets the needs of one situation is uncritically applied to others. If a question is
asked to the Manager: "Why did you choose this way?"
his answer would be: "Well, I guess because we always do it this way".

Thus, objective relation to the choice situation is lost. Moreover, one's conceptions of choice situations tend to move toward a view of the situation as the person would like to see it and not necessarily as it is. Finally, conceptions of choice situations get distorted because of the social and organisational processes which lead a person to view things in ways accepted by his associates.

Development of attitudes:

Apart from the subjective elements, distortions and simplification-attempts creeping in the way of decision-making, there are certain attitudes developed by people (managers) and when these attitudes form the basis for decision-making the inferences are drawn which are not necessarily logical. The following are specific, identifiable attitudes that one individual can have toward another:--

1. savagery
   the other fellow is my enemy and is to be destroyed.
2. slavery
the other fellow is to be conquered and put at my service.

3. servitude
the other fellow is to serve me for a consideration and ask no more.

4. welfare
the other fellow should be helped up when down, without too much concern for what got him down.

5. paternalism
the other fellow should be cared for, and I will decide to what extent.

6. participation
the other fellow has something to contribute to my efforts and can help me.

7. trusteeship
that for which I am responsible is not mine. I am developing and administering it for the benefit of others.

8. statesmanship
the other fellow is capable of being far more than he is, and it is my responsibility to help him develop to his fullest potential.

The closer an executive comes to an attitude of statesmanship the more he contributes to the value of the services rendered by those who are under his supervision. Wherever, totalitarianism is successful in dominating the minds of men, basic attitudes toward human beings set back to savagery, slavery and servitude.
Scientific approach to decision making and the role of deductive and inductive reasoning

As a result of the subjective elements, resort to simplification and development of typical attitudes mentioned above, most of the decision-making processes and skills employed by managers get devoid of logical reasoning and valid inferences and rational or objective approach to problem solving is lost.

Assuming that a manager develops scientific outlook or scientific approach and adopts this approach through rigorous training, the next question will be as to how he will go about the task of enquiry into the cause and effect relationships in different types of phenomena. In evolving a particular decision-making skill for himself the manager employs specific techniques and basic procedures which are employed for gathering scientific knowledge and evaluating the phenomena. They have to study the phenomena through careful observation and analysis. Scientific methods may be used for recording the behaviour of the phenomena and using such knowledge as the basis for explanation.

There are two types of scientific methods which can be identified and employed by managers for investigating phenomena.
1) Technical methods, and
2) Logical methods.

A manager can usually master the technical methods in particular sciences while the logical methods are common to all the sciences. A manager who masters the logical methods becomes qualified to evaluate the validity of his conclusions drawn and decisions taken. In other words, he can always give a sound reasoning behind every decision he takes, or line of action he chooses.

Mere knowledge of techniques of investigations, however, does not make a manager a successful decision maker nor knowledge of logic alone makes him successful. In the process of active thinking the following three operations may be found more or less simultaneously:

1. to have an idea, to formulate a concept, to reach a description or definition of a thing
2. to judge, to make a judgment whereby two ideas are related in affirmation or negation, to enumerate an affirmative or negation proposition, and
3. to reason or infer whereby from two related judgments a conclusion is reached.
This is a general process by which managers solve problems through decision-making. In addition to the general process of decision-making, there are certain decision techniques, rules, and skills which can be distinguished from each other, e.g. diagnostic techniques, brainstorming techniques, linear programming techniques, simulation techniques etc. They range in scope and sophistication from simple intuitive actions to complex mathematical designs. Decision rules are the prescribed guides or tests for judgments e.g. that line of action is the best which has the least cost, or choose the product which has the lowest average cost in the long run. These rules help managers judge the worth of proposed solutions to the problems. Finally, there is the matter of decision skills - the ability to use one's knowledge effectively in the solution of a problem. The area of 'management science' contains mathematical techniques which are of key importance in management development and includes the application of such technique as statistics, mathematics, computing, operations research and econometrics - a collection of disciplines guaranteed to make for tough reading by any non-numerate manager. The techniques involved are, however, much beyond the necessary scientific background and experience of the average manager.
As far as average manager is concerned, mathematical wizardry is divorced from practical competence. It is only the exceptional mathematician who is strong enough to rise above the natural inclinations of his mathematical education and make his way in business. What is clearly needed to bridge this management numeracy gap is the logical analysis of problem structures coupled with a quantitative approach and an insight into computer utilisation.

Attempts at 'retraining' the managers in the pattern of sophisticated thinking are meaningless as the executives have found it very difficult to express how they go about in the decision making process. Leading executives of some of the largest and most successful corporations were asked to describe how they make decisions and the answers were:

'I know not how I make decisions'...
'I do not know how I do it'...
'I just do it'...
'I am damned if I know how I am able to choose the right course'...

This is because most of the managers obtain knowledge through their own reasoning. They start from
some assertions or statements, behind which their reasoning does not go, and they also do not seek to unfold their implications. For example when a fairly small minority are responsible for much labour unrest a manager may conclude (though he should not) that all labourers are revolutionaries and seek to have a lockout. Or managers may start from observed facts and try to discover their character and explanation. The former kind of reasoning may be described as formal or deductive, the latter as inductive.

Formal inference from given propositions is thus carried on by itself to a great extent, and can therefore, be studied by itself, before dealing with the additional problems which arise in connection with inductive inference, i.e. inference from observed facts. It is accordingly convenient though not necessary, to begin with the study of formal reasoning and then proceed to inductive reasoning.

Formal logic or deductive reasoning must be supplemented by inductive logic or methodology, or the study of scientific method. However, it appears that the actual decision-making process results at the spur of the moment does not conform to any particular system of
logical inferences. Frequently, the ways in which managers go about in actual decision making, appear to be logically illogical or apparently absurd and reasonably unreasonable. Inductive reasoning frequently includes some formal reasoning. What inductive reasoning mostly aims at is the discovery of some general truth from which certain observed facts might have been inferred. Many of the propositions from which formal reasoning sets out have actually been discovered by inductive reasoning from observed facts. However, many such premises are arbitrary (though they are not necessarily capricious) laws of regulations, or they may be provisional assumptions, requiring no previous induction. Thus, decision-making in actual practice is conjectural and highly speculative. However, manager's knowledge of Logic may be and should be useful in checking his conclusions, if he is not so desperately self-complacent as to be beyond all help and all improvements.

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