



LOGIC OF MANAGERIAL DECISION MAKING

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ABSTRACT

Decision Making is considered an integral part of the Management Process. For managers, decision making is one of the most crucial functions to be carried out by them. This is simply because they are always in search of appropriate solutions to various problems which they come across during the process from the beginning to the end. Decision Making supersedes all other managerial activities and is contained in the process of management to such an extent that management can be regarded as almost equivalent to decision making. Etymologically, the verb decide is derived from the Latin prefix do, meaning 'off', and the word caedo, meaning 'to cut'. In this sense, some cognitive process cuts off as preferred, or elects, a particular course of action among a set of possible alternatives. The process of meeting and resolving choice making situations is the essence of decision making. This paper examines the role of logic in managerial decision making. The logical analysis of problem followed by imaginative solutions may prove to be an extremely powerful tool in designing and implementing managerial decisions whether they are routine or programmed decisions or strategic and non-programmed decisions.

Decision Making – An Introduction

From Stone Age to Space Age, decision making has been the greatest challenge to the mankind. Our sacred epics like Ramayana and Mahabharata are full of remarkable instances of decision-making, that show the mighty consequences of taking 'good' and 'bad' decisions. It is said that a man's success or failure in life is, to a great extent, determined by the different decisions that he

takes in life-time. Decision-making is a part and parcel of a man's life whether he takes decision for his own sake or for the organization he belongs.

In all walks of life, one aims at making good decisions either for himself or for his community, but he was at a loss to understand precisely the mechanics through which good decisions could be taken or bad decisions be warded off. Naturally, all categories of thinkers, the philosophers, the logicians, the behavioral scientists, the industrial engineers and the management experts gave thought to this vital aspect of life and tried to unearth the mystery of 'decision'¹ and decision-making' in their own way. Even when their views in regard thereto are found to be widely dispersed, yet all of them realize this basis fact that decision is the choice of the best alternative and decision-making is the process by which such a choice is obtained. It was also realized by them that decision-making was highly complex phenomenon and there was hardly any well-defined formula which could define this phenomenon in a logical form.

Role of Logic in Decision Making

Still decision-making is a logical activity as it is more concerned with the laws of thought and faculties of reasoning². Naturally, decision-making requires the use of judgement and imagination, because even those decisions that are taken as a routine affair or are taken at the 'spur of the moment' they too are designed with future consequences in mind. This leads to the conclusion that the whole process of decision-making has to follow a logical approach where, as the logicians say, the conclusion is to be arrived at by a sound reasoning, whether the reasoning proceeds from the general to the particular (deductive) or from the particular to the general (inductive).

From the above discussion, it could be inferred that though decision-making is a highly complex activity, yet everyone in the society has to discharge this function. Thus the shape and dimension of decisions may differ widely from person to person and from community to community and hence it may not be possible to understand the exact logic that works behind all such decisions. In view of this fact, the present paper is based on a restricted approach and is dealing with the managerial decisions only with which we may be more concerned.

Logic is the science of reasoning which is fundamentally concerned with the investigation of the laws of thought and expressing these laws in the form of a suitable symbolic language. Here it should be made clear that while discussing the logic of managerial decisions our objective is to

deal primarily with the first function of logic rather than the second function, as the latter function is simply descriptive and deals with the construction of 'Truth Tables' through the application of Boolean Algebra, Set Theory and other Network techniques, which we call as mathematical logic.

The dictionary meaning of the words 'Executive' and 'Manager' convey a sense that they are the persons who are basically concerned with 'carrying out' or 'carrying into effect' the actions relating to their jobs. Thus, they appear to be more concerned with 'doing rather than 'deciding'. But, in practice, decision-making is regarded as the fundamental function of a business executive or manager³ and, to a great extent, his success is evaluated with reference to the quality of decisions made by him. A manager has, therefore, to strike a balance between 'doing' and 'deciding' as he has to perform both the functions with the desired level of efficiency. It is observed that he is generally in a dilemma as to what part of his time he should devote for 'decision-making' and what part he should devote for the performance of his 'other duties, because to the extent the manager is involved in the performance of one function, he will be having lesser time for the performance of the other. And since 'doing' and 'deciding' are highly interrelated, they produce many inter-actions the consequences of which need also to be examined by him.

Modern managers are 'hired' managers and their survival depends to a large extent upon a higher percentage of correct decisions. And this situation is expected to aggravate further with a more expanding democratic set up that we envisage in future and with every increase in the level of economic activity. Higher the level of business activity, greater are the chances of wrong decisions and still greater is the likelihood of such wrong decisions being more costlier and painful⁴. It is the manager who has to see how he can close the widening gap between what he wants to achieve and what he is afraid of achieving through his rationalized decision-making efforts.

According to experts on Logic and Scientific Method, a logical process is usually characterized by four basic steps- a feeling of doubt, an analysis of the problematic situation, the proposal of alternatives, and the deductive treatment of these hypotheses⁵. The end product of this process or the 'cut off' point is a logical decision. Thus, the process of decision-making is clearly a 'Conscious' activity having a human element⁶. But it is further to be noted that this 'cut-off' point is not the termination or conclusion of a process. In majority of cases, especially in the

field of management, this end point of the process is the starting point of another process. As pointed out by Miller and Starr, “This (Process) brings us into a hall of mirrors where each mirror reflects its image onto a facing mirror in a seemingly endless progression of transformations”⁷.

Difficulties to the Logical Approach

But, in practice, it is highly difficult for managers to strictly adhere to the logical approach to decision-making cited above due to innumerable internal and external factors. For example, development of alternatives may require different categories of information and each piece of information may mean some cost of management. In view of these facts, we find that managerial decisions are not always the best decisions as arrived at by the principles of right reason, and hence their ‘goodness’ is a function of the various influences operating on the decision-makers. Being a central figure in the environment in which he has to take decision, it is but natural that he has to adjust himself and his organization in such an environment by adopting many non-logical approaches, such as emotional approach, psychological approach, negotiational approach, democratic approach or mechanistic approach. These approaches may not produce the best decisions according to strict principles or logic that always aim at searching the truth, but they enable a manager to do the best under the circumstances through what is known as ‘Practical rationality’ or ‘bounded rationality. It is the general experience that “complete rationality can seldom be achieved, particularly in the area of managing”⁸.

Thus, in a number of cases, the managerial decisions may not be logical in the true sense, Sometimes they may not even be optimal as the circumstantial constraints force a manager to make only judgmental selection of a few reasonably appealing alternatives by discarding many other alternatives. Then it is also observed that in many cases all the different alternatives, especially relating to future, may not even be worked out or if somehow or the other he is able to work them out, he may not be able to analyze them with the help of the computational techniques that he may be having at his disposal. As pointed out by Simon, while selecting the alternatives he is guided more by efficiency than effectiveness of his action rather than searching for the ultimate reality by a strictly designed logical or methodological approach. For example, “muddling through” is a common managerial approach to decision-making that provides a considerable amount of maneuverability in such cases. This approach also enables a manager to

take care of many other psychological, social and cultural influences working on the decisions he is going to take⁹.

It is further to be noted that all managerial decisions have an important time element which cannot be lost sight of. The longer it takes to make the decision, the more time and money are expended in fact-finding activities and there is also the risk of competitive counter-measures. Therefore, there is always a 'best' time to take a managerial decision and that time is the time when 'sum of the expected costs of information collection and delay plus the expected costs of acting under uncertainty are minimal'¹⁰. But again it is a purely theoretical guideline and it is the manager who has to strike the balance between the two by utilizing his judgmental skills and making a realistic assessment of environmental and circumstantial situations in which he is placed. Again the timely decision so taken may not necessarily be the best decision as per rules of logic and scientific method, yet such a decision may prove to be more economical from the point of view of management. Innumerable managerial decisions are taken through this balancing techniques in the field of production and finance.

Another important fact that we should remember in this connection is that though a number of mathematical and statistical techniques are recommended for the determination or creation of alternatives in decision theory and operations research (though, as said earlier, all alternatives cannot be worked out), the development of alternatives is partly in the technological domain and partly in the managerial domain, and the nature of the problem determines the extent to which each domain participates, For example, if the problem is of a technological nature such as related to the manufacturing of a mould or die, more technological knowledge would be needed to the allocation of cost, more knowledge of accounting and finance would be helpful. Mathematical and statistical knowledge, therefore, plays a secondary role and not a primary role in managerial decisions. Again for example, Game theory and Simulation techniques do provide a handy tool for measuring the effectiveness of the movements of the challengers and competitors, yet these tools may not provide the desired results if the decision-maker lacks the much needed technical and managerial knowledge relating to the subject and the level of decision. Even the best hardwares developed in the world are not the decision-makers themselves, but are only aids in the managerial decision-making process¹¹. It is the decision-maker who has to design and control the information flow produced by them according to his own time, resource and situational limitations. It has aptly been said that in view of the large-scale computer failures reported in the

managerial quarters, management must recognize now that no machine can be better than its data input, and where hard data are not available as an aid to decision-making, human judgement will have to be substituted¹².

Practical Decision Making

Thus, we see that all managerial decisions are not, in fact, the logical decisions nor does a knowledge of abstract logic absolutely necessary for success in the art of decision-making. Even without the knowledge of logic appropriate and rational decisions can be taken as a man learns to walk without a knowledge of anatomy and physiology¹³. But just as a study of anatomy and physiology is essential to a doctor for handling the patients effectively, a knowledge of logic and scientific method may also prove to be useful to a business executive in framing the alternatives and weighing their evidence in a systematic manner. Again just as a knife manufacturer cannot give a guarantee that the operation performed by a surgeon will be necessarily successful, a purely logical approach to decision-making will not also guarantee that whatever decisions will be taken by the manager will certainly be the most appropriate one. Logical methods can only reline and perfect the intellectual tools, but they can never be the substitute for the human skills which are so instrumental in business decisions. Thus, “decision-making in business is a valuable human skill and not a science”¹⁴, as is argued commonly.

A modern manager, equipped with logic, statistics, decision theory and a host of other data processors may build a logical model or an O.R. model to help him provide a basis for making a sound managerial decision, but he still knows that there will still remain at least some degree of probability of his decision being a bad one. But he is not discouraged as he knows that by re-fashioning the model with the application of his imaginative faculty he will come to a stage when an optimum or the best solution will be reached as it happens in the case of transportation models.

Conclusion

It can, thus, be concluded that a combination of the logical analysis of problems followed by imaginative solutions may prove to be an extremely powerful tool in designing and implementing managerial decisions whether they are routine or programmed decisions or strategic and non-programmed decisions. The logical analysis will help the manager a lot in reducing risk and uncertainty associated with the different degrees of lack of knowledge about

the 'state' or affairs in the 'system' whereas his creative and imaginative skill will guide him to take the most timely and appropriate action. Iterative, trial and error, heuristic and cybernetic approaches will then prove to be of immense value in streamlining and sharpening his decisions further.

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