Management Information System

—Abdul Wadud

IN modern management, Management Information System (MIS) is considered as an important means for aiding decision making in all sorts of activities, be it business industries or government. Basically MIS is a system which economically provides information to management for making, carrying out and controlling decisions. More precisely it is a set of certain tools and techniques (software) capable of taking raw data and from them producing information through a process meaningful for the planning, operation and control of the business. In our country, the necessity of MIS is gradually being felt by the people in the arena of business, industries and government and quite a number of organisations have already introduced it. The design of MIS is a vast subject and an exhaustive discussion on all aspects is not possible within the limited span of this paper. However attempt has been made in this article to list and discuss some essential design criteria for MIS.

What information is needed at different levels of management? Managers at the lower operating levels need information to help them make the day to-day operating decisions. At the top level, however information is needed to support long-range planning and policy decisions. Thus, because of the types of decision they must make, managers at the top and lower levels generally utilize time differently, tend to need different degrees of information summarisation and are inclined to use information obtained from different sources. The lower managerial levels spend more time in performing control activities (e.g. checking to make sure that production schedules are met) while at the upper level more time is spent at planning (e.g. determining the impact of a new product in the market). In summary, the types of decisions vary and also the information needs. The specific information needed for a particular manager includes everything he must have to (i) establish, evaluate and adjust goals (ii) develop plans and standards and initiate action, (iii) measure actual performance and take appropriate action when performance varies from the standard and assess achievements. More generally, the following analysis is to be made to assess the information he needs: (i) to identify those factors that are critical to the success of his (Manager's) contribution to the organisational's goals (ii) to determine how these critical factors can be determined, (iii) to determine for each critical factor what quantifiable measurement constitutes success (iv) to take steps to acquire information

that will be needed to ensure achievement of "success measurements".

The MIS designer must look at the desirability of information that possesses the following characteristics:

Accuracy: It may be defined as the ratio of correct information to the total amount of information produced over a period of time. If, for example 1000 items of information are produced and 950 of these items give correct report of the actual situation, then the level of accuracy is 0.95. Whether or not this level is high depends on the situation. Ten incorrect bank balances in a mailing of 100 bank statements would hardly be acceptable to depositors or to the bank. On the other hand, if inventory level kept on large quantities of inexpensive parts achieves an accuracy level of 0.95, this might be acceptable. In the case of bank statement, greater accuracy must be obtained. For parts inventory greater accuracy could be obtained but the additional value to managers, of having more accurate inventory information might be less than the additional cost required.

TIMELINESS: Timeliness is another important information characteristic. Information arriving late is of no value however accurate it may be. In the past, a trade off between timeliness and accuracy was often

required. This is because greater accuracy may require more input data control points which could slow down the processing speed and therefore reduce the timeliness of the output information. However, now-a-days computer usage reduces the significance of this conflict between accuracy and processing speed.

COMPLETENESS: A report is complete if it gives the manager all the information he needs to make the decision. However, this is a rare document. But more complete information can often be provided through the design of system which does a better job of integrating and consolidating available facts.

CONCISISENESS: It should CONCISENESS : It should mation supplied to managers should be concise. Care should be taken so that important information is not buried in stocks of detailed and unrefined reports. Concise information which summarises the relevant data is what is needed by today's managers.

RELEVANCY : Relevant information is need-to-know information which leads to action. It should be noted that the information must be presented to the manager so that he perceives it to be relevant and therefore uses it to support decision making.

(To be continued).