

Management Information System

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[Second Instalment]

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B. Observer.

THE management information system (MIS) aids management in doing its job. In order to accomplish this objective, management involvement and participation are imperative in the system development efforts. It is not a one-time effort. Continued review and participation are necessary to ensure that the system has been geared to management needs and the implemented system meets the specifications of the system that was designed. Management must determine what material usage standards should be established and what information is necessary to improve its control of material costs. These standards and specifications are reflected in the system which is going to be designed. The system must supply the production management with monthly material usage summary showing the amount of idle time of machinery material variances and material cost trends.

All these requirements could be effectively reflected in the system provided manager himself or a high-level representative of his department involves himself in system design. Priority determination of application development is an important element of system planning where management participation and control are essential. An organisation without formal application programme and management steering committee to determine priorities will never develop MIS.

Integrated Concept: The integrated concept is a necessary element of management information system. Here integration means adopting a total approach in designing the system. There are a number of interlocking sub-systems that operate within a company. System development may start from particular sub-system but unless its place in the total system is realized and properly reflected serious shortcomings may result. Information

must be blended from several operational areas to make MIS effective. For example, in order to develop an effective inventory system it is necessary to balance such factors as (a) capital cost (b) order cost (c) holding cost (d) customer service (e) production capacity (f) sales forecast. A system that ignores one of these elements, say customer service, for an example, is not providing management with a meaningful system. The reaction of a dissatisfied customer in terms of future business is a cost estimate of the roughest nature and it may offset the benefits expected from the system.

That is way integrated concept is an essential element of MIS.

Sub-system Concept: To facilitate design and implementation of MIS, it is necessary to break the system into manageable sub-systems. This analysis is essential for applying boundaries to the problem so that the designer may concentrate on the manageable aspects of the problems. Without this analysis there is a chance to overlook or ignore certain important aspects of the problem which may turn the system meaningless. The necessity of this concept is more significant during implementation phase of MIS. If the whole system is tried to be implemented at a time, severe dislocations are bound to occur due to onrush of a number of problems unknown to the management. This necessitates implementation of the system in phases.

Control Data Base. MIS is designed to provide meaningful information to the management for decision making. This implies that the system must have a storage of data covering all pertinent aspects of the organisation. If the data are stored efficiently and common usage is in mind, one master file can provide the data needed by any of the functional systems. It is economical to gather data once,

properly validate those and place those on a central storage medium which can be accessed by any system. Though it is a logical concept of maintenance of data file, yet it must be viewed in a practical and pragmatic light. Because of the management needs in the light of its method of operation and its internal procedures, it may be better to live with a little duplication in order to make the system meaningful.

COST: Information is considered as a business commodity and like any other business resource it is not free. Therefore in looking at the economics of MIS, one must consider the cost of MIS compared to the savings that MIS can accrue and/or the added benefits derived from the system. Just as it would be economically foolish for an organisation to spend Tk. 100 to mine coal worth of Tk. 75 so too it would be unwise to produce information costing Tk. 100 if this information did not lead to action that yielded a proportionate return. The costs can be divided into three major categories (a) hardware! software (b) system/programmers and (c) operators/supplies. Analysis of EDP (Electronic Data Processing) costs has concluded that the percentage break down of these costs is roughly 35:40:25. Turning now to the benefits that can be expected from MIS, we can distinguish two general categories tangible and intangible. A tangible benefit is one that can be accurately measured and that can be accurately related to the introduction of MIS. An example is a cost reduction where work formerly accomplished on overtime has been eliminated by improved accounting system. An example of an intangible benefit is an improvement in customer service brought on by a more responsive order processing system. It is interesting to note the major benefit areas experienced by the organisations

that have introduced MIS are (i) ability to obtain reports and information heretofore unavailable, (ii) timely availability of reports and information, (iii) reduction in clerical costs (iv) aid in management decision making.

Though it is possible to institute MIS without being powered by a computer, it is considered by many that computer is the sine qua non of medium and large scale information system. The necessity to handle a wide variety of applications and the quick response required by system users often make it mandatory for the data to be processed in a high speed computer. However, computerisation of MIS is only justified when several or all of the following conditions are met: high volume of transactions; repetitive nature of transactions; quick response time; sizeable mathematical computations. Source data have multiple uses etc. If these factors are found favourable, the next part is the technological consideration which is directed at the question whether the necessary hardware, software and tools are available or will be available when required by the particular application under study. Certain hardware items are required such as input-output devices, communication capabilities and bulk magnetic storage devices. Software items, such as data base management, operating system and special languages as well as application packages and management science technique may be MIS requirements. Each of the required items must be carefully evaluated to ascertain its relevance to MIS development. The higher the dependence on sophisticated and/or technical items yet to be field tested, the higher the risk factor in selecting a particular application for development. It may be wiser to proceed along the safer route particularly if this represents a first venture into MIS.

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