The Operations Research Approach for an Effective Management Information System

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Management information systems

Abstract
This report serves as an overview to the design of an effective Management Information System (MIS) by incorporating the modeling techniques of an Operations Research (OR) approach. It will be shown that the consideration of OR input requirements mixed with the information requirements for a data base existing at the everyday accounting and operational level creates a responsible management control and decision-making tool. This mix of OR and everyday information approach varies as a function of the managerial activities and the organizational level of effort. In lieu of designing a "total" MIS system, MIS designers should structure a loosely connected federation of MIS sub-systems using the appropriate mix which, for each of the operations, controlling, and planning activities, meets the problem-solvers' requirements. A discussion of the background, definitions, and attributes of MIS and OR will be made in Chapters I and II prior to merging these two entities into a unified concept. Chapter III will develop this concept. A manufacturing organization environment will serve as a point of reference for the formulation of models in the application areas of sales forecasting, production, manpower planning, inventory control, and machine center utilization. I am not proposing a "pipedream" non-realistic approach to a MIS system design that will solve all of management's problems. However, by planting the seeds of OR modeling techniques in the early phase of the design and development, the MIS system will, like a tree, in 3 to 5 years bear the fruit of today's careful planning.

Notes
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Subjects
Operation research approach helps in operation management. Operation management can be defined as the management of systems for providing goods or services, and is concerned with the design and operation of systems for the manufacture, transport, supply or service. Thus the operation management is concerned with the optimum utilisation of resources i.e. effective utilisation of resources with minimum loss, under utilisation or waste. In other words, it is concerned with the satisfactory customer service and optimum resource utilisation. Inputs for an operating system may be material, machine and human resource. O.R. study is complete only when we also consider human factors to the alternatives made available.