Management Information System: Information Needs of Organization

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Abstract

In present era of information technology where information is not considered as base for competitive advantage but it is considered as competitive necessity, role of information in decision making become more vital. In this article author discuss about the introduction, nature and types of information in organizations. How information requirements in organizations could be determined analyzed with the help of information model. Basis for determining information needs are also discussed and principle of bounded rationality, Wick's model of organizing, CSF (Critical success factor) analysis, concept of Value chain analysis and porter's 5 forces model is discussed to determine information needs strategically. This article provides knowledge about how with in organization to design any information system how need of information could be determined.

Key Words: Information, Information model, Critical Success factor, Value chain, Critical Success Factor analysis.

1. Introduction-

Information need is an individual or group's desire to locate and obtain information to satisfy a conscious or unconscious need. Information needs includes subset which address information demand or requirement and information wants or desire. Information demand refers to demand which may be vocal or written and made to a library or to some other information system.

"Information is data that has been processed into a form that is meaningful to the recipient and is of real or perceived value in current or prospective actions or decisions."

Quality of information refers to its fitness for use, or its reliability. Attributes of information may be Timeliness, Accuracy, Relevance, Adequacy, Completeness, Explicitness and Exception based.

Table: 1 Decision Making Phases, Information Required and Supporting Information System

Decision Making Phase	Information Required	Supporting Information System
Intelligence	Exception reporting	Structured information system
Design	Specified and directed information	Decision support System and Executive Support System
Choice	Information for evaluation	Large models of decision support system
Implementation	Graphics and charts for monitoring	Integrated information systems, microcomputers and mainframe decision aids

Source: Prasad L M, Prasad Usha, Management Information System, Sutan Chand & Sons, Page no. 57

Taylor posits four points along the need continuum:
- An actual but unexpressed need
- Conscious description of need
- A formal statement of need
- A comprised need

2. Nature and Types of Information in Organizations-
Organizational information is equivocal - information stimuli come from several sources, and their interpretations are frequently ambiguous or conflicting. Land and Kennedy-McGregor (1981) propose taxonomy of five organizational information types
a. Descriptive information
b. Probabilistic information
c. Explanatory and evaluative information
d. Unexpected information

3. Propaganda is information
Information Requirements in Organizations-
1. Uncertainty
2. Equivocality
3. Knowledge acquisition
4. Social resource

5. Political resource
6. Make decision and Support decision

Organization must have information on the following aspects:
1. Measuring performance of own products
2. Measuring performance of competitors product
3. Reaction of buyers and suppliers

4. Information Model of Organization-
Provide a theoretical framework for analyzing the information needs of an organization, the processes by which information is acquired and utilized, and the purposes which underlie the use of information. Information processing approach to organizational analysis seeks to understand and predict how organizations perceive stimuli, interpret them, store, retrieve, and transmit information, generate judgments, and solve problems.

Elements of information Model-
a. Information processing requirements
b. Information acquisition preference
c. Information processing behavior
d. Information use in organization
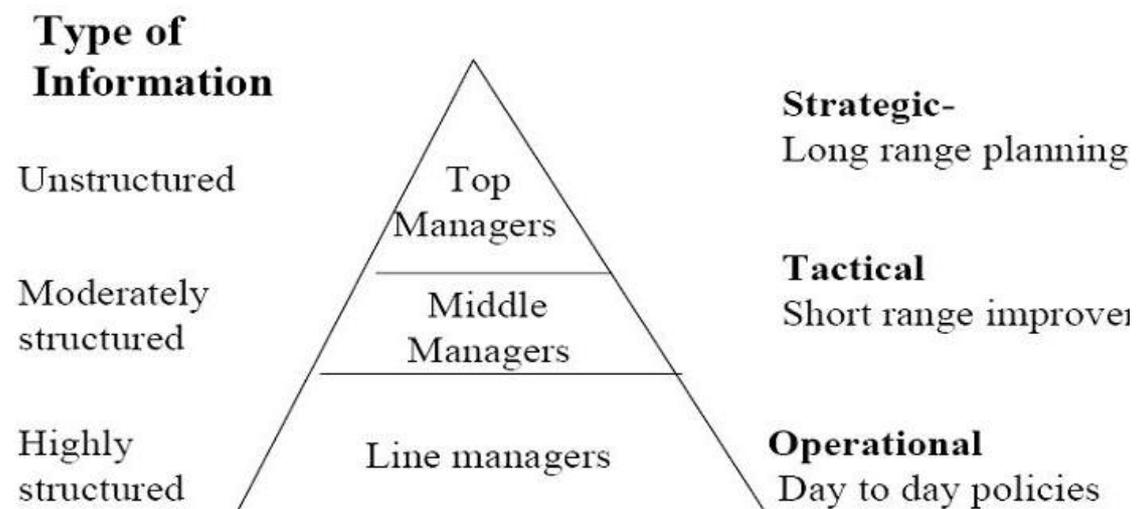
Figure: 1 Types of Information in Organization

Principle of bounded rationality model-
Proposed by Simon, Principle states it in this way: The capacity of the human mind for formulating and solving complex problems is very small compared with the size

of the problems whose solution is required for objectively rational behavior in the real world - or even for a reasonable approximation to such objective rationality. Simon's major propositions is that the organization influences its members' behaviors by controlling the decision premises upon which decisions are made, rather than controlling the actual decisions themselves.

Organizations as information processing systems-
Simon, March and Cyert, Galbraith proposes the theory: That an organization processes information in order to reduce task uncertainty, defined as the difference between the amount of information required to perform the task and the amount of information already possessed by the organization. Organization structures must then be designed so that they have the information processing capability required to perform the task to the desired level of performance.

Wick's model of organizing-
Company must define organization in terms of organizing. Organizing consists of the resolving of equivocality in an enacted environment by means of interlocked behaviors embedded in conditionally related processes. Interlocked behavioral cycles are embedded in three processes that constitute the organizing activity:
1. Enactment process creates the information that the system adapts
2. Selection process sorts through the variety present in the equivocal information,
3. Retention process basically stores the interpreted segments for future application.

The information richness model-
Daft and Lengel proposed an information richness model. Integrates organizational information tasks, task uncertainty and equivocality in the environmental information. Information richness is defined as the ability of information to change understanding within a time interval. Model implies that the effective organization should balance its use of rich and less rich information mechanisms depending on the differentiation and interdependence of its subunits, and on the uncertainty and equivocality of its environment.

5) Basis for Determining Information need-
Strategic approaches to determining information needs is CSF, Value Chain Analysis and Forces Model

A) Critical Success Factors:
Proposed by Daniel but popularized by Rockart. Critical success factor (CSF) is the term for an element that is necessary for an organization or project to achieve its mission. It is a critical factor or activity required for ensuring the success of a

company or an organization. CSFs include issues vital to an organization's current operating activities and to its future success.

Table: 2 Advantages and Limitation of Critical Success Factor Approach

Advantage of CSF Approach	Limitation of CSF Approach
❖ Produce a smaller data set ❖ Can be tailored to the structure of each industry ❖ Take into the account the changing environment ❖ Bring consensus among the top managers ❖ Example- Toothpaste having CSF as quality in terms of flavor, form, foam and freshness; courier services- speedy dispatch, reliability and price.	❖ No rigorous method of identifying CSFs either industry wise or organization wise ❖ Focus more on managers individually rather than organization ❖ Specifically useful for higher level information system- Decision support system and executive support system ❖ Produce a smaller data set ❖ Can be tailored to the structure of each industry ❖ Take into the account the changing environment ❖ Bring consensus among the top managers

B) Concept of Value Chain and Concept of Forces Method
❖ Inbound logistics- Materials receiving, storing, and distribution in Production premises
❖ Operations- Transforming inputs into finished products.
❖ Outbound logistics- Storing and distributing products
❖ Marketing and Sales- Promotions and sales force
❖ Service- Service to maintain or enhance product value
❖ Corporate infrastructure- Support of entire value chain, e.g. general management planning, financing, accounting, legal services, government affairs, and QM
❖ Human resources management- Recruiting,   hiring, training, and development
❖ Technology Development- Improving product and manufacturing process
❖ Procurement- Purchasing input

Figure: 2 Value Chain Analysis
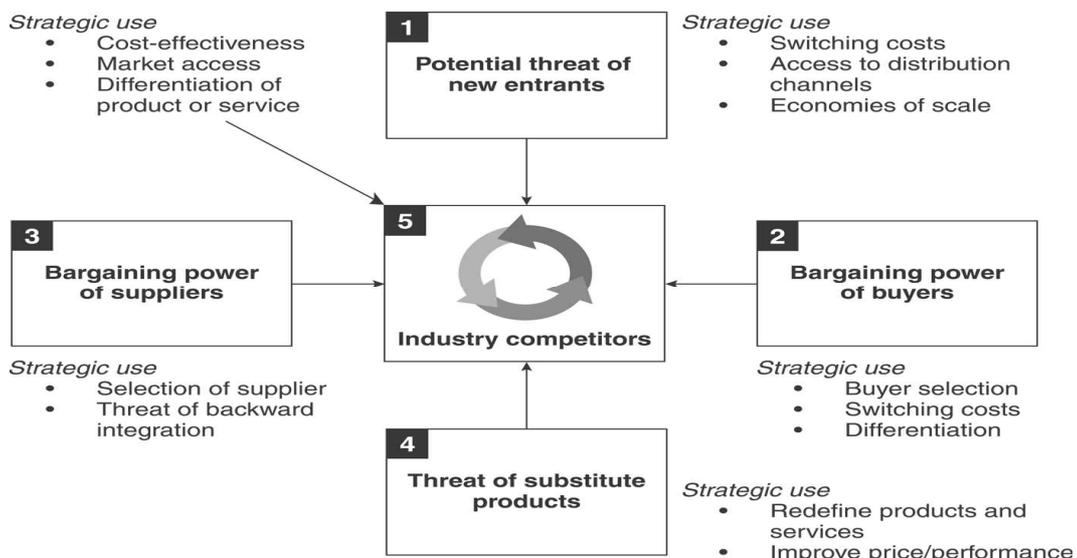
Figure: 3 Porter's five forces model

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