LESSON FOUR: INFORMATION FLOW AND COORDINATION

Information Flow

Information flow in an organization in two ways:

1. **Vertically** - Flow up and down among managers
   Example: Production supervisors constantly communicate with production-line workers and their own managers.

2. **Horizontally** - Flow sideways among departments
   Example: Regional sales managers from the marketing department set their sales goals by coordinating with production managers in the production department.

Organizational Functions

Most organizations have departments that perform five basic functions:

1. **Accounting -** Keep track of all financial activities.
2. **Production** - Makes company product.
3. **Marketing -** Advertises, promotes, and sells the product.
4. **Human Resources** - Finds and hires people and handle personnel matters.
5. **Research** - Does product research and relates new discoveries to the firm's current or new products.

Management Levels

There are three management levels in most organizations:

1. **Supervisors**
   A. Manage and monitor the employees or workers.
   B. Responsible for operational matters (day-to-day operations).
   C. Example: production supervisor monitors materials needed to build a product.

2. **Middle Management**
   A. Deal with control planning, tactical planning, and decision-making.
   B. Implement long-term goals of the organization.
   C. Example: regional sales manager sets sales goals for sales in several states.

3. **Top Management**
   A. Concerned with long-range planning (strategic planning)
   B. Need information to help them plan future growth and direction of the organization.

C. Example: Managing Director of marketing determines demand for current products and sales strategies for new products.

Information flow

a. Information must flow in different directions to support the different information needs of management.

b. Each level of management has different information needs.

1. **Strategic Needs of Top-level managers**
   A. Information that reveals overall condition of the business
   B. Information from all departments below and from outside the organization.
   C. Information to plan for long-range events.
   D. Example: planning for new facilities

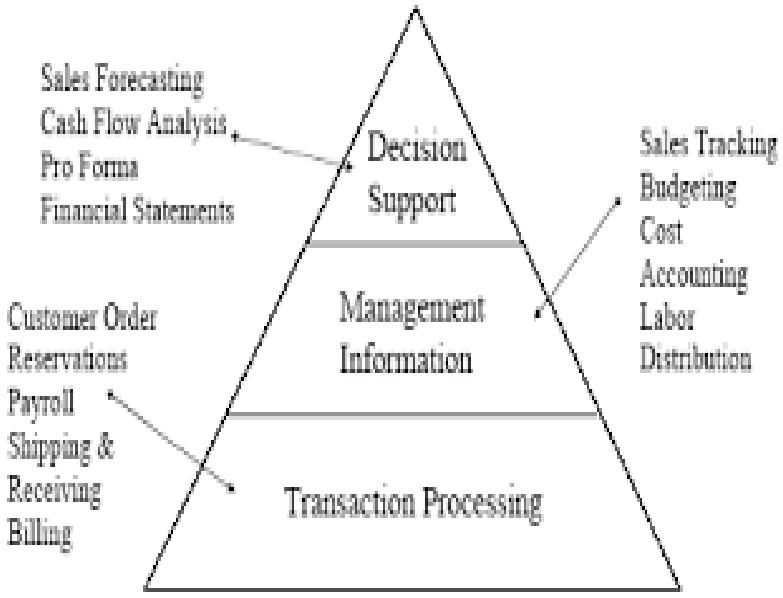
2. **Tactical Needs of Middle-level managers**
   A. Summarized information (weekly or monthly reports).
   B. Information both horizontal and vertical across functional lines within the organization.
   C. Historical, internal information to develop budgets and evaluate performances.
   D. Example: developing production goals, concurring with top-level managers and supervisors

3. **Operational Needs of Supervisors**
   A. Detailed current day-to-day information.
   B. Information flow is primarily vertical.
   C. Communicate mainly with middle managers and workers beneath them.
   D. Day-to-day internal information to keep operations running smoothly.
   E. Example: monitoring current supplies, current inventory, and production output.

,

- The first level is strategic information, which relates to long –range planning policies that are of direct interest to upper management. Information such as population growth, trends in financial investment and human resources changes would be of interest to top company officials who are responsible for developing policies and determining long-range goals. This type of information is achieved with the aid of Decision Support System (DSS).

- The second level of information is managerial information. It is of direct use to middle management and department heads for implementation and control. Examples are sales analysis, cash flow projection and annual financial statements. This information is of use in short – and intermediate -range planning – that is months rather than years. It is maintained with the aid of management information systems (MIS).
- The third information level is operational information, which is short-term, daily information used to operate departments and enforce the day-to-day rules and regulations of the business. Examples are daily employee absent sheets, overdue purchase orders and current stocks available. Operational information is established by data processing systems (DPS).



INFORMATION, MANAGEMENT AND DECISION MAKING

The evolution of management or history can be broken down into three main categories:

1. The Technical – Rational Perspective

In this perspective the organization is seen as a closed mechanical system – much like a watch or an engine. The descriptions of management and organizations that focus on the mechanistic aspects of organization and the formal management functions of planning, organizing, coordinating, deciding and controlling. The efficiency and effectiveness of the organization will depend on the precision with which the parts are designed and the cleverness of the designer in integrating the parts. The role of the manager is to design a more perfect mechanism by closely studying the parts (jobs, people, tasks and machinery), redesigning the parts and building an effective administration that can closely monitor the entire operation. There are two variations of the technical-rational perspective: the scientific

management school and the administrative bureaucratic school. The first focuses on factory settings and the second on white collar administrative organizations.

The belief that the organization is a watch-like mechanism whose internal processes and operations can be continuously improved by management is reflected in the systems information field in such popular programs as re-engineering, value chain analysis, business process design and total quality management. Each of these programs argues that managers should use information technology to improve the mechanism of production.

2. The Behavioral Perspective

The behavioural perspective on management developed in reaction to the limitations of the technical school: its failure to consider the people who worked in the organizations as human beings (rather than automation-like machines); its failures to consider the role of small groups, group norms and other sociological phenomena; and the failure of the technical school to consider the external environment in which the organizations operated. In the behavioral perspective the organization is seen as an open, biological organism much like a cell or an animal. Like a biological cell, the efficiency and effectiveness of the organization depends on its ability to adapt to its environment and its ability to arrange itself internally so that all its constituents are supported and sustained. The role of the manager is to assist the organization in its quest for survival by continually redesigning the organization so it can fit or adapt to its environment and to ensure that the organizations employees are satisfied and functioning well. There are two major schools within the behavioral perspective: the human relations school, which focuses on the psychological and social-psychological needs of employees; and the systems structural school, which focuses on the structure of the organization and the needs of the organization to adapt to an ever changing external environment.

3. The Cognitive Perspective

In the Cognitive perspective the organization is a knowing, sentient organism. Like a human being, organizations seek to make sense out of their environments and can learn as well as know things. The efficiency and effectiveness of the organization depends on the correctness, or the appropriateness of its sense making judgments, as well as its ability to gather, create, store, disseminate and use information and knowledge. The role of the manager in this perspective is to use his or her sense making ability to properly define the situation of the organization so it can act (perceive problems and define solutions) and to build the information and knowledge processing infrastructure of the organization. There are two schools within the cognitive perspective. The managerial sense making school emphasizes the key role of the manager in correctly perceiving and interpreting environmental events, understanding and conceptualizing the problems faced by an organization, defining the solution set and making the solution decision. The second cognitive school is the knowledge based view of the firm, which emphasizes the collection, storage, dissemination and use of knowledge and information. There is a growing focus in the information systems field on the role of information technology in helping the organization learn about its environment, in responding to the environment more efficiently and in storing and disseminating knowledge

using the Internet and interactive multimedia software which are far more effective in communicating knowledge.

INFORMATION RESOURCES MANAGEMENT

How to Manage Information as a Strategic Asset

1. Understand the role of Information.

Information can add value to your products and services. Improved information flows can improve the quality of decision making and internal operations. Yet many managers do not fully understand the real impact of information - the cost of a lost opportunity, of a poor product, of a strategic mistake - all risks that can be reduced by using the appropriate information.

2. Assign Responsibility for Leading your IRM Initiative.

Developing value from information resources is often a responsibility that falls between the cracks of several departments - the user departments in different business units, and corporate planning, MIS units or librarians..

3. Develop Clear Policies on Information Resources

Policies for ascertaining information needs, acquiring and managing information *throughout its life cycle*. Pay particular attention to ownership, information integrity and sharing. Make the policies consistent with your organisational culture.

4. Conduct an Information Audit (Knowledge Inventory).

Identify current knowledge and information resources (or entities), their users, usage and importance. Identify sources, cost and value. Classify information and knowledge by its key attributes. Develop knowledge maps. As knowledge management gains prominence, this is sometimes called a knowledge inventory "knowing what you know".

5. Link to Management Processes.

Make sure that key decision and business process are supported with high leverage information. Assess each process for its information needs.

6. Systematic scanning.

Systematically scan your business environment. This includes the wider environment - legal and regulatory, political, social, economic and technological - as well as the inner environment of your industry, markets, customers and competitors. Provide selective and tailored dissemination of vital signs to key executives. This goes beyond the daily abstracting service provided by many suppliers.

7. Mix hard/soft, internal/external.

True patterns and insights emerge when internal and external data is juxtaposed, when

hard data is evaluated against qualitative analysis. Tweak your MkIS system to do these comparisons.

7. Optimize your information purchases.

You don't have to *control* purchasing, but most organizations do not know how much they are really spending on external information. By treating consultancy, market research, library expenses, report and databases as separate categories, many organizations are confusing media with content.

8. Introduce mining and refining processes.

Good information management involves 'data mining', 'information refining' and 'knowledge editing'. You can use technology such as intelligent agents, to help, but ultimately subject matter experts are needed to repackage relevant material in a user friendly format. One useful technique is content analysis, whose methods have been developed by Trend Monitor International in their Information Refinery, and are used in our analysis services. The classifying, synthesizing and refining of information combines the crafts of the information scientist, librarian, business analyst and market researcher/analyst. Yet many organizations do not integrate these disciplines.

9. Develop Appropriate Technological Systems

Continual advances in technology increase the opportunities available for competitive advantage through effective information management. In particular, Intranet, group ware and other collaborative technologies make it possible for more widespread sharing and collaborative use of information. Advances in text retrieval, document management and a host of other trends in knowledge management technologies have all created new opportunities for providers and users alike.

10. Exploit technology convergence.

Telecommunications, office systems, publishing, documentation are converging. Exploit this convergence through open networking, using facilities such as the World Wide Web, not just for external information dissemination but for sharing information internally.

11. Encourage a Sharing Culture

Information acquires value when turned into intelligence. Market Intelligence Systems (MkIS) are human expert-centered. Raw information needs interpretation, discussing and analysing teams of experts, offering different perspectives. This know-how sharing is a hall-mark of successful organisations.