
B Com (Hons) VI Semester

E content

1. Management Information System
2. Auditing Principles & Practices
3. Operation Research
4. Organizational Behaviour
5. Business Policy

For the students of

B. Com. (Hons), Sem: 6

Name of Paper : BCH 604 MANAGEMENT INFORMATION SYSTEM

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Topic : Management Information System (MIS)

Management Information System (MIS) is a planned system of collecting, storing, and disseminating data in the form of information needed to carry out the functions of management. This tutorial covers the concepts related to information and provides a detailed coverage on MIS and other major enterprise-level systems. You will also learn how these systems help in the decision-making process, which is critical to any business enterprise.

MIS - Basic Information Concepts

Information can be defined as meaningfully interpreted data. If we give you a number 1-212-290-4700, it does not make any sense on its own. It is just a raw data. However if we say Tel: +1-212-290-4700, it starts making sense. It becomes a telephone number. If I gather some more data and record it meaningfully like –

Address: 350 Fifth Avenue, 34th floor New York, NY 10118-3299 USA Tel: +1-212-290-4700 Fax: +1-212-736-1300
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It becomes a very useful information - the address of New York office of Human Rights Watch, a non-profit, non-governmental human rights organization.

So, from a system analyst's point of view, information is a sequence of symbols that can be construed to a useful message.

An **Information System** is a system that gathers data and disseminates information with the sole purpose of providing information to its users.

The main object of an information system is to provide information to its users. Information systems vary according to the type of users who use the system.

A **Management Information System** is an information system that evaluates, analyzes, and processes an organization's data to produce meaningful and useful information based on which the management can take right decisions to ensure future growth of the organization.

Information Definition

According to Wikipedia –

"Information can be recorded as signs or transmitted as signals. Information is any kind of event that affects the state of a dynamic system that can interpret the information.

Conceptually, information is the message (utterance or expression) being conveyed. Therefore, in a general sense, information is "Knowledge communicated or received, concerning a particular fact or circumstance". Information cannot be predicted and resolves uncertainty."

Information Vs Data

Data can be described as unprocessed facts and figures. Plain collected data as raw facts cannot help in decision-making. However, data is the raw material that is organized, structured, and interpreted to create useful information systems.

Data is defined as 'groups of non-random symbols in the form of text, images, voice representing quantities, action and objects'.

Information is interpreted data; created from organized, structured, and processed data in a particular context.

According to Davis and Olson –

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

Information, Knowledge and Business Intelligence

Professor Ray R. Larson of the School of Information at the University of California, Berkeley, provides an Information Hierarchy, which is –

- Data – The raw material of information.
- Information – Data organized and presented by someone.
- Knowledge – Information read, heard, or seen, and understood.
- Wisdom – Distilled and integrated knowledge and understanding.

Scott Andrews' explains Information Continuum as follows –

- Data – A Fact or a piece of information, or a series thereof.
- Information – Knowledge discerned from data.
- Business Intelligence – Information Management pertaining to an organization's policy or decision-making, particularly when tied to strategic or operational objectives.

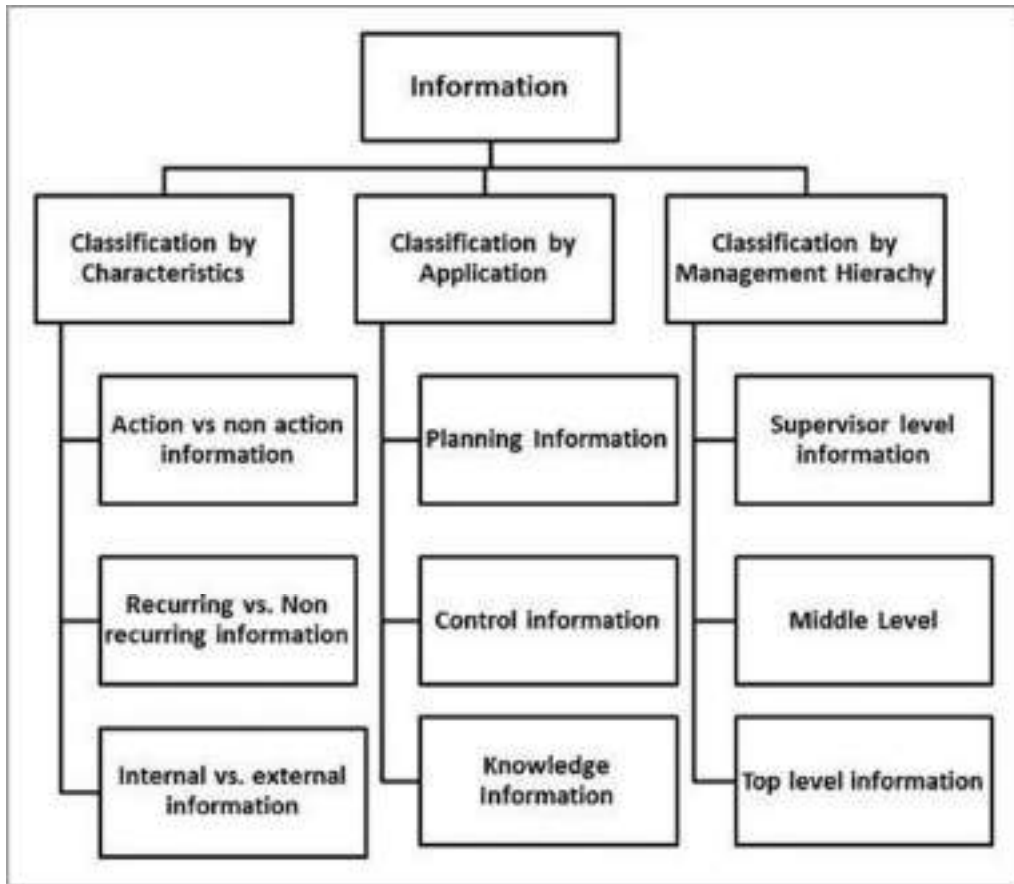
Information/Data Collection Techniques

The most popular data collection techniques include –

- Surveys – A questionnaire is prepared to collect the data from the field.
- Secondary data sources or archival data: Data is collected through old records, magazines, company website etc.
- Objective measures or tests – An experimental test is conducted on the subject and the data is collected.
- Interviews – Data is collected by the system analyst by following a rigid procedure and collecting the answers to a set of pre-conceived questions through personal interviews.

MIS - Classification of Information

Information can be classified in a number of ways and in this chapter, you will learn two of the most important ways to classify information.



Classification by Characteristic

Based on Anthony's classification of Management, information used in business for decision-making is generally categorized into three types –

- **Strategic Information** – Strategic information is concerned with long term policy decisions that defines the objectives of a business and checks how well these objectives are met. For example, acquiring a new plant, a new product, diversification of business etc, comes under strategic information.
- **Tactical Information** – Tactical information is concerned with the information needed for exercising control over business resources, like budgeting, quality control, service level, inventory level, productivity level etc.
- **Operational Information** – Operational information is concerned with plant/business level information and is used to ensure proper conduction of specific operational tasks as planned/intended. Various operator specific, machine specific and shift specific jobs for quality control checks comes under this category.

Classification by Application

In terms of applications, information can be categorized as –

- **Planning Information** – These are the information needed for establishing standard norms and specifications in an organization. This information is used in strategic, tactical, and operation planning of any activity. Examples of such information are time standards, design standards.
- **Control Information** – This information is needed for establishing control over all business activities through feedback mechanism. This information is used for controlling attainment, nature and utilization of important processes in a system. When such information reflects a deviation from the established standards, the system should induce a decision or an action leading to control.
- **Knowledge Information** – Knowledge is defined as "information about information". Knowledge information is acquired through experience and learning, and collected from archival data and research studies.
- **Organizational Information** – Organizational information deals with an organization's environment, culture in the light of its objectives. Karl Weick's Organizational Information Theory emphasizes that an organization reduces its equivocality or uncertainty by collecting, managing and using these information prudently. This information is used by everybody in the organization; examples of such information are employee and payroll information.
- **Functional/Operational Information** – This is operation specific information. For example, daily schedules in a manufacturing plant that refers to the detailed assignment of jobs to machines or machines to operators. In a service oriented business, it would be the duty roster of various personnel. This information is mostly internal to the organization.
- **Database Information** – Database information construes large quantities of information that has multiple usage and application. Such information is stored, retrieved and managed to create databases. For example, material specification or supplier information is stored for multiple users.

MIS - Quality of Information

Information is a vital resource for the success of any organization. Future of an organization lies in using and disseminating information wisely. Good quality information placed in right context in right time tells us about opportunities and problems well in advance.

Good quality information – Quality is a value that would vary according to the users and uses of the information.

According to Wang and Strong, following are the dimensions or elements of Information Quality –

- Intrinsic – Accuracy, Objectivity, Believability, Reputation
- Contextual – Relevancy, Value-Added, Timeliness, Completeness, Amount of information
- Representational – Interpretability, Format, Coherence, Compatibility
- Accessibility – Accessibility, Access security

Various authors propose various lists of metrics for assessing the quality of information. Let us generate a list of the most essential characteristic features for information quality –

- Reliability – It should be verifiable and dependable.
- Timely – It must be current and it must reach the users well in time, so that important decisions can be made in time.

- Relevant – It should be current and valid information and it should reduce uncertainties.
- Accurate – It should be free of errors and mistakes, true, and not deceptive.
- Sufficient – It should be adequate in quantity, so that decisions can be made on its basis.
- Unambiguous – It should be expressed in clear terms. In other words, it should be comprehensive.
- Complete – It should meet all the needs in the current context.
- Unbiased – It should be impartial, free from any bias. In other words, it should have integrity.
- Explicit – It should not need any further explanation.
- Comparable – It should be of uniform collection, analysis, content, and format.
- Reproducible – It could be used by documented methods on the same data set to achieve a consistent result.

MIS - Information Need & Objective

Information processing beyond doubt is the dominant industry of the present century. Following factors states few common factors that reflect on the needs and objectives of the information processing –

- Increasing impact of information processing for organizational decision making.
- Dependency of services sector including banking, financial organization, health care, entertainment, tourism and travel, education and numerous others on information.
- Changing employment scene world over, shifting base from manual agricultural to machine-based manufacturing and other industry related jobs.
- Information revolution and the overall development scenario.
- Growth of IT industry and its strategic importance.
- Strong growth of information services fuelled by increasing competition and reduced product life cycle.
- Need for sustainable development and quality life.
- Improvement in communication and transportation brought in by use of information processing.
- Use of information processing in reduction of energy consumption, reduction in pollution and a better ecological balance in future.
- Use of information processing in land record managements, legal delivery system, educational institutions, natural resource planning, customer relation management and so on.

In a nutshell –

- Information is needed to survive in the modern competitive world.
- Information is needed to create strong information systems and keep these systems up to date.

Implications of Information in Business

Information processing has transformed our society in numerous ways. From a business perspective, there has been a huge shift towards increasingly automated business processes and communication. Access to information and capability of information processing has helped in achieving greater efficiency in accounting and other business processes.

A complete business information system, accomplishes the following functionalities –

- Collection and storage of data.
- Transform these data into business information useful for decision making.
- Provide controls to safeguard data.
- Automate and streamline reporting.

The following list summarizes the five main uses of information by businesses and other organizations –

- Planning – At the planning stage, information is the most important ingredient in decision making. Information at planning stage includes that of business resources, assets, liabilities, plants and machineries, properties, suppliers, customers, competitors, market and market dynamics, fiscal policy changes of the Government, emerging technologies, etc.
- Recording – Business processing these days involves recording information about each transaction or event. This information collected, stored and updated regularly at the operational level.
- Controlling – A business need to set up an information filter, so that only filtered data is presented to the middle and top management. This ensures efficiency at the operational level and effectiveness at the tactical and strategic level.
- Measuring – A business measures its performance metrics by collecting and analyzing sales data, cost of manufacturing, and profit earned.
- Decision-making – MIS is primarily concerned with managerial decision-making, theory of organizational behavior, and underlying human behavior in organizational context. Decision-making information includes the socio-economic impact of competition, globalization, democratization, and the effects of all these factors on an organizational structure.

In short, this multi-dimensional information evolves from the following logical foundations –

- Operations research and management science
- Theory of organizational behavior
- Computer science –
 - Data and file structure
 - Data theory design and implementation
 - Computer networking
 - Expert systems and artificial intelligence
- Information theory

Following factors arising as an outcome of information processing help speed up of business events and achieves greater efficiency –

- Directly and immediate linkage to the system
- Faster communication of an order
- Electronic transfer of funds for faster payment
- Electronically solicited pricing (helps in determining the best price)

MIS Need for Information Systems

Managers make decisions. Decision-making generally takes a four-fold path –

- Understanding the need for decision or the opportunity,
- Preparing alternative course of actions,
- Evaluating all alternative course of actions,
- Deciding the right path for implementation.

MIS is an information system that provides information in the form of standardized reports and displays for the managers. MIS is a broad class of information systems designed to provide information needed for effective decision making.

Data and information created from an accounting information system and the reports generated thereon are used to provide accurate, timely and relevant information needed for effective decision making by managers.

Management information systems provide information to support management decision making, with the following goals –

- Pre-specified and preplanned reporting to managers.
- Interactive and ad-hoc support for decision making.
- Critical information for top management.

MIS is of vital importance to any organization, because –

- It emphasizes on the management decision making, not only processing of data generated by business operations.
- It emphasizes on the systems framework that should be used for organizing information systems applications.

Topic: Management Information System (MIS) Application using IT

MIS - Major Enterprise Applications

Enterprise applications are specifically designed for the sole purpose of promoting the needs and objectives of the organizations.

Enterprise applications provide business-oriented tools supporting electronic commerce, enterprise communication and collaboration, and web-enabled business processes both within a networked enterprise and with its customers and business partners.

Services Provided by Enterprise Applications

Some of the services provided by an enterprise application includes –

- Online shopping, billing and payment processing
- Interactive product catalogue
- Content management
- Customer relationship management
- Manufacturing and other business processes integration
- IT services management
- Enterprise resource management
- Human resource management
- Business intelligence management
- Business collaboration and security
- Form automation

Basically these applications intend to model the business processes, i.e., how the entire organization works. These tools work by displaying, manipulating and storing large amounts of data and automating the business processes with these data.

Most Commonly Used Enterprise Applications

Multitude of applications comes under the definition of Enterprise Applications. In this section, let us briefly cover the following applications –

- Management information system (MIS)
- Enterprise Resource Planning (ERP)
- Customer Relationship Management (CRM)
- Decision Support System (DSS)
- Knowledge Management Systems (KMS)
- Content Management System (CMS)
- Executive Support System (ESS)
- Business Intelligence System (BIS)
- Enterprise Application Integration (EAI)
- Business Continuity Planning (BCP)

- Supply Chain Management (SCM)

MIS - Introduction

To the managers, Management Information System is an implementation of the organizational systems and procedures. To a programmer it is nothing but file structures and file processing. However, it involves much more complexity.

The three components of MIS provide a more complete and focused definition, where **System** suggests integration and holistic view, **Information** stands for processed data, and **Management** is the ultimate user, the decision makers.

Management information system can thus be analyzed as follows –

Management

Management covers the planning, control, and administration of the operations of a concern. The top management handles planning; the middle management concentrates on controlling; and the lower management is concerned with actual administration.

Information

Information, in MIS, means the processed data that helps the management in planning, controlling and operations. Data means all the facts arising out of the operations of the concern. Data is processed i.e. recorded, summarized, compared and finally presented to the management in the form of MIS report.

System

Data is processed into information with the help of a system. A system is made up of inputs, processing, output and feedback or control.

Thus, MIS means a system for processing data in order to give proper information to the management for performing its functions.

Definition

Management Information System or 'MIS' is a planned system of collecting, storing, and disseminating data in the form of information needed to carry out the functions of management.

Objectives of MIS

The goals of an MIS are to implement the organizational structure and dynamics of the enterprise for the purpose of managing the organization in a better way and capturing the potential of the information system for competitive advantage.

Following are the basic objectives of an MIS –

- **Capturing Data** – Capturing contextual data, or operational information that will contribute in decision making from various internal and external sources of organization.
- **Processing Data** – The captured data is processed into information needed for planning, organizing, coordinating, directing and controlling functionalities at strategic, tactical and operational level. Processing data means –
 - making calculations with the data

- sorting data
- classifying data and
- summarizing data
- **Information Storage** – Information or processed data need to be stored for future use.
- **Information Retrieval** – The system should be able to retrieve this information from the storage as and when required by various users.
- **Information Propagation** – Information or the finished product of the MIS should be circulated to its users periodically using the organizational network.

Characteristics of MIS

Following are the characteristics of an MIS –

- It should be based on a long-term planning.
- It should provide a holistic view of the dynamics and the structure of the organization.
- It should work as a complete and comprehensive system covering all interconnecting sub-systems within the organization.
- It should be planned in a top-down way, as the decision makers or the management should actively take part and provide clear direction at the development stage of the MIS.
- It should be based on need of strategic, operational and tactical information of managers of an organization.
- It should also take care of exceptional situations by reporting such situations.
- It should be able to make forecasts and estimates, and generate advanced information, thus providing a competitive advantage. Decision makers can take actions on the basis of such predictions.
- It should create linkage between all sub-systems within the organization, so that the decision makers can take the right decision based on an integrated view.
- It should allow easy flow of information through various sub-systems, thus avoiding redundancy and duplicity of data. It should simplify the operations with as much practicability as possible.
- Although the MIS is an integrated, complete system, it should be made in such a flexible way that it could be easily split into smaller sub-systems as and when required.
- A central database is the backbone of a well-built MIS.

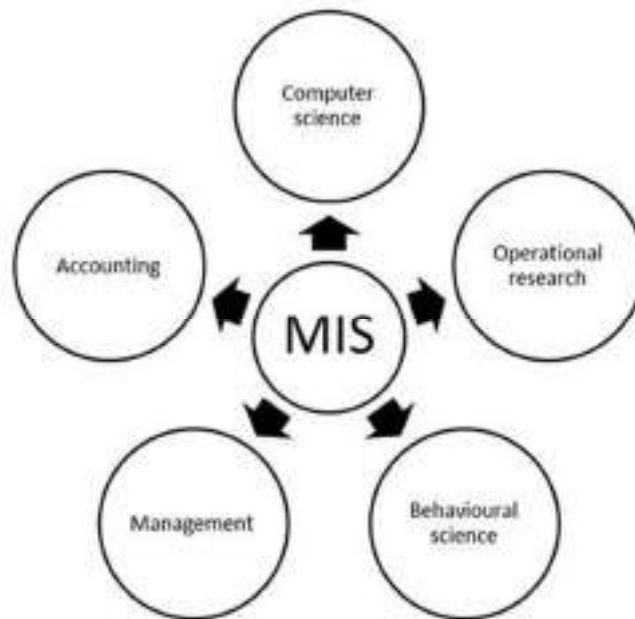
Characteristics of Computerized MIS

Following are the characteristics of a well-designed computerized MIS –

- It should be able to process data accurately and with high speed, using various techniques like operations research, simulation, heuristics, etc.
- It should be able to collect, organize, manipulate, and update large amount of raw data of both related and unrelated nature, coming from various internal and external sources at different periods of time.
- It should provide real time information on ongoing events without any delay.
- It should support various output formats and follow latest rules and regulations in practice.
- It should provide organized and relevant information for all levels of management: strategic, operational, and tactical.
- It should aim at extreme flexibility in data storage and retrieval.

Nature and Scope of MIS

The following diagram shows the nature and scope of MIS –



MIS - Enterprise Resource Planning

ERP is an integrated, real-time, cross-functional enterprise application, an enterprise-wide transaction framework that supports all the internal business processes of a company.

It supports all core business processes such as sales order processing, inventory management and control, production and distribution planning, and finance.



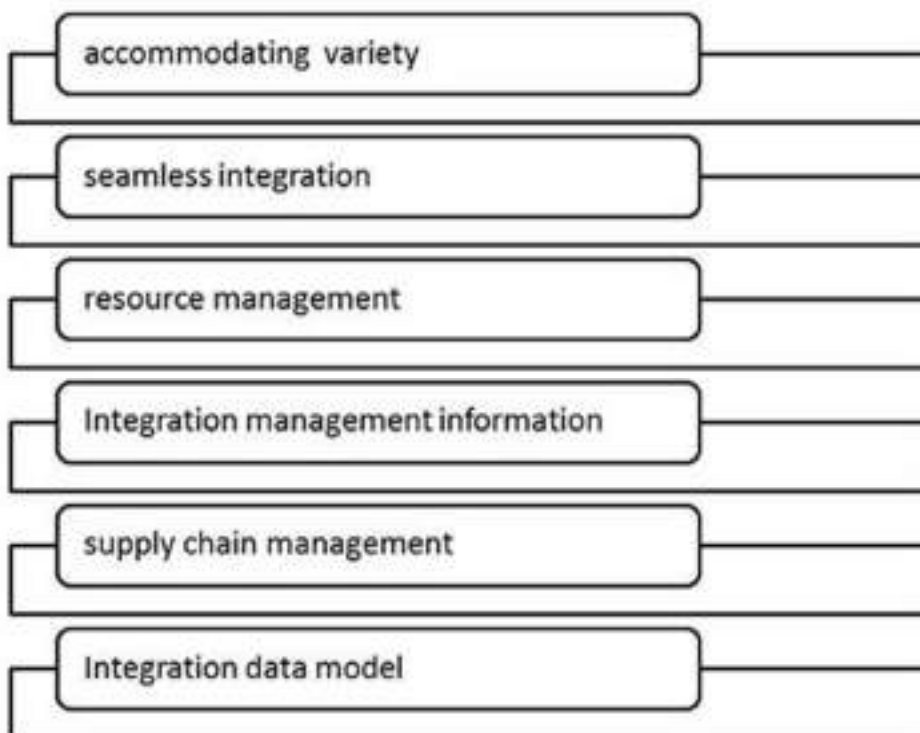
Why of ERP?

ERP is very helpful in the following areas –

- Business integration and automated data update
- Linkage between all core business processes and easy flow of integration
- Flexibility in business operations and more agility to the company
- Better analysis and planning capabilities
- Critical decision-making
- Competitive advantage
- Use of latest technologies

Features of ERP

The following diagram illustrates the features of ERP



Scope of ERP

- **Finance** – Financial accounting, Managerial accounting, treasury management, asset management, budget control, costing, and enterprise control.
- **Logistics** – Production planning, material management, plant maintenance, project management, events management, etc.
- **Human resource** – Personnel management, training and development, etc.

- Supply Chain – Inventory control, purchase and order control, supplier scheduling, planning, etc.
- **Work flow** – Integrate the entire organization with the flexible assignment of tasks and responsibility to locations, position, jobs, etc.

Advantages of ERP

- Reduction of lead time
- Reduction of cycle time
- Better customer satisfaction
- Increased flexibility, quality, and efficiency
- Improved information accuracy and decision making capability
- Onetime shipment
- Improved resource utilization
- Improve supplier performance
- Reduced quality costs
- Quick decision-making
- Forecasting and optimization
- Better transparency

Disadvantage of ERP

- Expense and time in implementation
- Difficulty in integration with other system
- Risk of implementation failure
- Difficulty in implementation change
- Risk in using one vendor

MIS - Customer Relationship Management

CRM is an enterprise application module that manages a company's interactions with current and future customers by organizing and coordinating, sales and marketing, and providing better customer services along with technical support.

Atul Parvatiyar and Jagdish N. Sheth provide an excellent definition for customer relationship management in their work titled - 'Customer Relationship Management: Emerging Practice, Process, and Discipline' –

Customer Relationship Management is a comprehensive strategy and process of acquiring, retaining, and partnering with selective customers to create superior value for the company and the customer. It involves the integration of marketing, sales, customer service, and the supply-chain functions of the organization to achieve greater efficiencies and effectiveness in delivering customer value.

Why CRM?

- To keep track of all present and future customers.
- To identify and target the best customers.
- To let the customers know about the existing as well as the new products and services.
- To provide real-time and personalized services based on the needs and habits of the existing customers.
- To provide superior service and consistent customer experience.

- To implement a feedback system.

Scope of CRM



Advantages of CRM

- Provides better customer service and increases customer revenues.
- Discovers new customers.
- Cross-sells and up-sells products more effectively.
- Helps sales staff to close deals faster.
- Makes call centers more efficient.
- Simplifies marketing and sales processes.

Disadvantages of CRM

- Some times record loss is a major problem.
- Overhead costs.
- Giving training to employees is an issue in small organizations.

MIS - Decision Support System

Decision support systems (DSS) are interactive software-based systems intended to help managers in decision-making by accessing large volumes of information generated from various related information systems involved in organizational business processes, such as office automation system, transaction processing system, etc.

DSS uses the summary information, exceptions, patterns, and trends using the analytical models. A decision support system helps in decision-making but does not necessarily give a decision itself. The decision makers compile useful information from raw data, documents, personal knowledge, and/or business models to identify and solve problems and make decisions.

Programmed and Non-programmed Decisions

There are two types of decisions - programmed and non-programmed decisions.

Programmed decisions are basically automated processes, general routine work, where –

- These decisions have been taken several times.
- These decisions follow some guidelines or rules.

For example, selecting a reorder level for inventories, is a programmed decision.

Non-programmed decisions occur in unusual and non-addressed situations, so –

- It would be a new decision.
- There will not be any rules to follow.
- These decisions are made based on the available information.
- These decisions are based on the manager's discretion, instinct, perception and judgment.

For example, investing in a new technology is a non-programmed decision.

Decision support systems generally involve non-programmed decisions. Therefore, there will be no exact report, content, or format for these systems. Reports are generated on the fly.

Attributes of a DSS

- Adaptability and flexibility
- High level of Interactivity
- Ease of use
- Efficiency and effectiveness
- Complete control by decision-makers
- Ease of development
- Extensibility
- Support for modeling and analysis
- Support for data access
- Standalone, integrated, and Web-based

Characteristics of a DSS

- Support for decision-makers in semi-structured and unstructured problems.
- Support for managers at various managerial levels, ranging from top executive to line managers.
- Support for individuals and groups. Less structured problems often requires the involvement of several individuals from different departments and organization level.
- Support for interdependent or sequential decisions.

- Support for intelligence, design, choice, and implementation.
- Support for variety of decision processes and styles.
- DSSs are adaptive over time.

Benefits of DSS

- Improves efficiency and speed of decision-making activities.
- Increases the control, competitiveness and capability of futuristic decision-making of the organization.
- Facilitates interpersonal communication.
- Encourages learning or training.
- Since it is mostly used in non-programmed decisions, it reveals new approaches and sets up new evidences for an unusual decision.
- Helps automate managerial processes.

Components of a DSS

Following are the components of the Decision Support System –

- **Database Management System (DBMS)** – To solve a problem the necessary data may come from internal or external database. In an organization, internal data are generated by a system such as TPS and MIS. External data come from a variety of sources such as newspapers, online data services, databases (financial, marketing, human resources).
- **Model Management System** – It stores and accesses models that managers use to make decisions. Such models are used for designing manufacturing facility, analyzing the financial health of an organization, forecasting demand of a product or service, etc.
- **Support Tools** – Support tools like online help; pulls down menus, user interfaces, graphical analysis, error correction mechanism, facilitates the user interactions with the system.

Classification of DSS

There are several ways to classify DSS. Hoi Apple and Whinstone classifies DSS as follows –

- **Text Oriented DSS** – It contains textually represented information that could have a bearing on decision. It allows documents to be electronically created, revised and viewed as needed.
- **Database Oriented DSS** – Database plays a major role here; it contains organized and highly structured data.
- **Spreadsheet Oriented DSS** – It contains information in spread sheets that allows create, view, modify procedural knowledge and also instructs the system to execute self-contained instructions. The most popular tool is Excel and Lotus 1-2-3.
- **Solver Oriented DSS** – It is based on a solver, which is an algorithm or procedure written for performing certain calculations and particular program type.
- **Rules Oriented DSS** – It follows certain procedures adopted as rules.
- **Rules Oriented DSS** – Procedures are adopted in rules oriented DSS. Expert system is the example.
- **Compound DSS** – It is built by using two or more of the five structures explained above.

Types of DSS

Following are some typical DSSs –

- **Status Inquiry System** – It helps in taking operational, management level, or middle level management decisions, for example daily schedules of jobs to machines or machines to operators.
- **Data Analysis System** – It needs comparative analysis and makes use of formula or an algorithm, for example cash flow analysis, inventory analysis etc.
- **Information Analysis System** – In this system data is analyzed and the information report is generated. For example, sales analysis, accounts receivable systems, market analysis etc.
- **Accounting System** – It keeps track of accounting and finance related information, for example, final account, accounts receivables, accounts payables, etc. that keep track of the major aspects of the business.
- **Model Based System** – Simulation models or optimization models used for decision-making are used infrequently and creates general guidelines for operation or management.

MIS - Knowledge Management System

All the systems we are discussing here come under knowledge management category. A knowledge management system is not radically different from all these information systems, but it just extends the already existing systems by assimilating more information.

As we have seen, data is raw facts, information is processed and/or interpreted data, and knowledge is personalized information.

What is Knowledge?

- Personalized information
- State of knowing and understanding
- An object to be stored and manipulated
- A process of applying expertise
- A condition of access to information
- Potential to influence action

Sources of Knowledge of an Organization

- Intranet
- Data warehouses and knowledge repositories
- Decision support tools
- Groupware for supporting collaboration
- Networks of knowledge workers
- Internal expertise

Definition of KMS

A knowledge management system comprises a range of practices used in an organization to identify, create, represent, distribute, and enable adoption to insight and experience. Such insights and experience comprise knowledge, either embodied in individual or embedded in organizational processes and practices.

Purpose of KMS

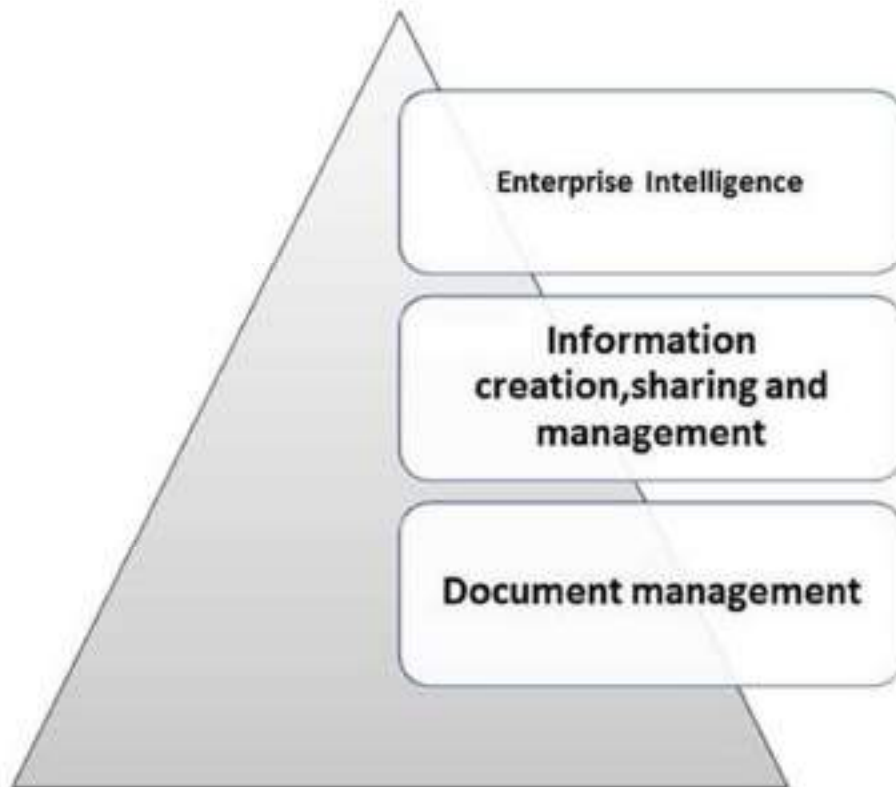
- Improved performance
- Competitive advantage
- Innovation
- Sharing of knowledge
- Integration
- Continuous improvement by –
 - Driving strategy
 - Starting new lines of business
 - Solving problems faster
 - Developing professional skills
 - Recruit and retain talent

Activities in Knowledge Management

- Start with the business problem and the business value to be delivered first.
- Identify what kind of strategy to pursue to deliver this value and address the KM problem.

- Think about the system required from a people and process point of view.
- Finally, think about what kind of technical infrastructure are required to support the people and processes.
- Implement system and processes with appropriate change management and iterative staged release.

Level of Knowledge Management



MIS - Content Management System

A Content Management System (CMS) allows publishing, editing, and modifying content as well as its maintenance by combining rules, processes and/or workflows, from a central interface, in a collaborative environment.

A CMS may serve as a central repository for content, which could be, textual data, documents, movies, pictures, phone numbers, and/or scientific data.

Functions of Content Management

- Creating content
- Storing content
- Indexing content
- Searching content
- Retrieving content
- Publishing content

- Archiving content
- Revising content
- Managing content end-to-end

Content Management Workflow

- Designing content template, for example web administrator designs webpage template for web content management.
- Creating content blocks, for example, a web administrator adds empower CMS tags called "content blocks" to webpage template using CMS.
- Positioning content blocks on the document, for example, web administrator positions content blocks in webpage.
- Authoring content providers to search, retrieve, view and update content.

Advantages of CMS

Content management system helps to secure privacy and currency of the content and enhances performance by –

- Ensuring integrity and accuracy of content by ensuring only one user modifies the content at a time.
- Implementing audit trails to monitor changes made in content over time.
- Providing secured user access to content.
- Organization of content into related groups and folders.
- Allowing searching and retrieval of content.
- Recording information and meta-data related to the content, like author and title of content, version of content, date and time of creating the content etc.
- Workflow based routing of content from one user to another.
- Converting paper-based content to digital format.
- Organizing content into groups and distributing it to target audience.

MIS - Executive Support System

Executive support systems are intended to be used by the senior managers directly to provide support to non-programmed decisions in strategic management.

These information are often external, unstructured and even uncertain. Exact scope and context of such information is often not known beforehand.

This information is intelligence based –

- Market intelligence
- Investment intelligence
- Technology intelligence

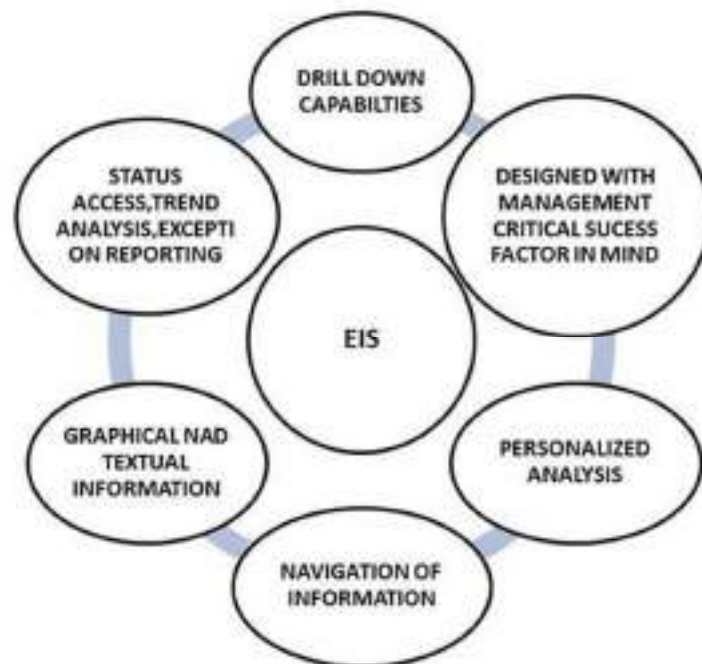
Examples of Intelligent Information

Following are some examples of intelligent information, which is often the source of an ESS –

- External databases
- Technology reports like patent records etc.
- Technical reports from consultants
- Market reports

- Confidential information about competitors
- Speculative information like market conditions
- Government policies
- Financial reports and information

Features of Executive Information System



Advantages of ESS

- Easy for upper level executive to use
- Ability to analyze trends
- Augmentation of managers' leadership capabilities
- Enhance personal thinking and decision-making
- Contribution to strategic control flexibility
- Enhance organizational competitiveness in the market place
- Instruments of change
- Increased executive time horizons.
- Better reporting system
- Improved mental model of business executive
- Help improve consensus building and communication
- Improve office automation
- Reduce time for finding information
- Early identification of company performance
- Detail examination of critical success factor
- Better understanding
- Time management
- Increased communication capacity and quality

Disadvantage of ESS

- Functions are limited

- Hard to quantify benefits
- Executive may encounter information overload
- System may become slow
- Difficult to keep current data
- May lead to less reliable and insecure data
- Excessive cost for small company

MIS - Business Intelligence System

The term 'Business Intelligence' has evolved from the decision support systems and gained strength with the technology and applications like data warehouses, Executive Information Systems and Online Analytical Processing (OLAP).

Business Intelligence System is basically a system used for finding patterns from existing data from operations.

Characteristics of BIS

- It is created by procuring data and information for use in decision-making.
- It is a combination of skills, processes, technologies, applications and practices.
- It contains background data along with the reporting tools.
- It is a combination of a set of concepts and methods strengthened by fact-based support systems.
- It is an extension of Executive Support System or Executive Information System.
- It collects, integrates, stores, analyzes, and provides access to business information
- It is an environment in which business users get reliable, secure, consistent, comprehensible, easily manipulated and timely information.
- It provides business insights that lead to better, faster, more relevant decisions.

Benefits of BIS

- Improved Management Processes.
- Planning, controlling, measuring and/or applying changes that results in increased revenues and reduced costs.
- Improved business operations.
- Fraud detection, order processing, purchasing that results in increased revenues and reduced costs.
- Intelligent prediction of future.

Approaches of BIS

For most companies, it is not possible to implement a proactive business intelligence system at one go. The following techniques and methodologies could be taken as approaches to BIS –

- Improving reporting and analytical capabilities
- Using scorecards and dashboards
- Enterprise Reporting
- On-line Analytical Processing (OLAP) Analysis
- Advanced and Predictive Analysis
- Alerts and Proactive Notification
- Automated generation of reports with user subscriptions and "alerts" to problems and/or opportunities.

Capabilities of BIS

- Data Storage and Management –
 - Data ware house

- Ad hoc analysis
- Data quality
- Data mining
- Information Delivery
 - Dashboard
 - Collaboration /search
 - Managed reporting
 - Visualization
 - Scorecard
- Query, Reporting and Analysis
 - Ad hoc Analysis
 - Production reporting
 - OLAP analysis

MIS - Enterprise Application Integration

An organization may use various information systems –

- Supply Chain Management – For managing suppliers, inventory and shipping, etc.
- Human Resource Management – For managing personnel, training and recruiting talents;
- Employee Health Care – For managing medical records and insurance details of employees;
- Customer Relationship Management – For managing current and potential customers;
- Business Intelligence Applications – For finding the patterns from existing data from business operations.

All these systems work as individual islands of automation. Most often these systems are standalone and do not communicate with each other due to incompatibility issues such as –

- Operating systems they are residing on.
- Database system used in the system.
- Legacy systems not supported anymore.

EAI is an integration framework, a middleware, made of a collection of technologies and services that allows smooth integration of all such systems and applications throughout the enterprise and enables data sharing and more automation of business processes.

Characteristics of EAI

- EAI is defined as "the unrestricted sharing of data and business processes among any connected applications and data sources in the enterprise."
- EAI, when used effectively allows integration without any major changes to current infrastructure.
- Extends middleware capabilities to cope with application integration.
- Uses application logic layers of different middleware systems as building blocks.
- Keeps track of information related to the operations of the enterprise e.g. Inventory, sales ledger and execute the core processes that create and manipulate this information.

Need for Enterprise-wise Integration

- Unrestricted sharing of data and business processes across an organization.
- Linkage between customers, suppliers and regulators.
- The linking of data, business processes and applications to automate business processes.
- Ensure consistent qualities of service (security, reliability etc.).
- Reduce the on-going cost of maintenance and reduce the cost of rolling out new systems.

Challenges of EAI

- Hub and spoke architecture concentrates all of the processing into a single server/cluster.
- Often became hard to maintain and evolve efficiently.
- Hard to extend to integrate 3rd parties on other technology platforms.
- The canonical data model introduces an intermediary step.
- Added complexity and additional processing effort.
- EAI products typified.
- Heavy customization required to implement the solution.
- Lock-In – Often built using proprietary technology and required specialist skills.
- Lack of flexibility – Hard to extend or to integrate with other EAI products!
- Requires organization to be EAI ready.

Types of EAI

- **Data Level** – Process, techniques and technology of moving data between data stores.
- **Application Interface Level** – Leveraging of interfaces exposed by custom or packaged applications.
- **Method Level** – Sharing of the business logic.
- **User Interface Level** – Packaging applications by using their user interface as a common point of integration.

MIS - Business Continuity Planning

Business Continuity Planning (BCP) or Business Continuity and Resiliency Planning (BCRP) creates a guideline for continuing business operations under adverse conditions such as a natural calamity, an interruption in regular business processes, loss or damage to critical infrastructure, or a crime done against the business.

It is defined as a plan that "identifies an organization's exposure to internal and external threats and synthesizes hard and soft assets to provide effective prevention and recovery for the organization, while maintaining competitive advantage and value system integrity."

Understandably, risk management and disaster management are major components in business continuity planning.

Objectives of BCP

Following are the objectives of BCP –

- Reducing the possibility of any interruption in regular business processes using proper risk management.
- Minimizing the impact of interruption, if any.
- Teaching the staff their roles and responsibilities in such a situation to safeguard their own security and other interests.
- Handling any potential failure in supply chain system, to maintain the natural flow of business.

- Protecting the business from failure and negative publicity.
- Protecting customers and maintaining customer relationships.
- Protecting the prevalent and prospective market and competitive advantage of the business.
- Protecting profits, revenue and goodwill.
- Setting a recovery plan following a disruption to normal operating conditions.
- Fulfilling legislative and regulatory requirements.

Traditionally a business continuity plan would just protect the data center. With the advent of technologies, the scope of a BCP includes all distributed operations, personnel, networks, power and eventually all aspects of the IT environment.

Phases of BCP

The business continuity planning process involves recovery, continuation, and preservation of the entire business operation, not just its technology component. It should include contingency plans to protect all resources of the organization, e.g., human resource, financial resource and IT infrastructure, against any mishap.

It has the following phases –

- Project management & initiation
- Business Impact Analysis (BIA)
- Recovery strategies
- Plan design & development
- Testing, maintenance, awareness, training

Project Management and Initiation

This phase has the following sub-phases –

- Establish need (risk analysis)
- Get management support
- Establish team (functional, technical, BCC - Business Continuity Coordinator)
- Create work plan (scope, goals, methods, timeline)
- Initial report to management
- Obtain management approval to proceed

Business Impact Analysis

This phase is used to obtain formal agreement with senior management for each time-critical business resource. This phase has the following sub-phases –

- Deciding maximum tolerable downtime, also known as MAO (Maximum Allowable Outage)
- Quantifying loss due to business outage (financial, extra cost of recovery, embarrassment), without estimating the probability of kinds of incidents, it only quantifies the consequences
- Choosing information gathering methods (surveys, interviews, software tools)
- Selecting interviewees
- Customizing questionnaire
- Analyzing information
- Identifying time-critical business functions

- Assigning MTDs
- Ranking critical business functions by MTDs
- Reporting recovery options
- Obtaining management approval

Recovery Phase

This phase involves creating recovery strategies are based on MTDs, predefined and management-approved. These strategies should address recovery of –

- Business operations
- Facilities & supplies
- Users (workers and end-users)
- Network
- Data center (technical)
- Data (off-site backups of data and applications)

BCP Development Phase

This phase involves creating detailed recovery plan that includes –

- Business & service recovery plans
- Maintenance plan
- Awareness & training plan
- Testing plan

The Sample Plan is divided into the following phases –

- Initial disaster response
- Resume critical business ops
- Resume non-critical business ops
- Restoration (return to primary site)
- Interacting with external groups (customers, media, emergency responders)

Final Phase

The final phase is a continuously evolving process containing testing maintenance, and training.

The testing process generally follows procedures like structured walk-through, creating checklist, simulation, parallel and full interruptions.

Maintenance involves –

- Fixing problems found in testing
- Implementing change management
- Auditing and addressing audit findings
- Annual review of plan

Training is an ongoing process and it should be made a part of the corporate standards and the corporate culture.

MIS - Supply Chain Management

Supply chain management is the systemic, strategic coordination of the traditional business functions and tactics across these business functions - both within a particular company and across businesses within the supply chain- all coordinated to improve the long-term performance of the individual companies and the supply chain as a whole.

In a traditional manufacturing environment, supply chain management meant managing movement and storage of raw materials, work-in-progress inventory, and finished goods from point of origin to point of consumption.

It involves managing the network of interconnected smaller business units, networks of channels that take part in producing a merchandise or a service package required by the end users or customers.

With businesses crossing the barriers of local markets and reaching out to a global scenario, SCM is now defined as –

Design, planning, execution, control, and monitoring of supply chain activities with the objective of creating net value, building a competitive infrastructure, leveraging worldwide logistics, synchronizing supply with demand and measuring performance globally.

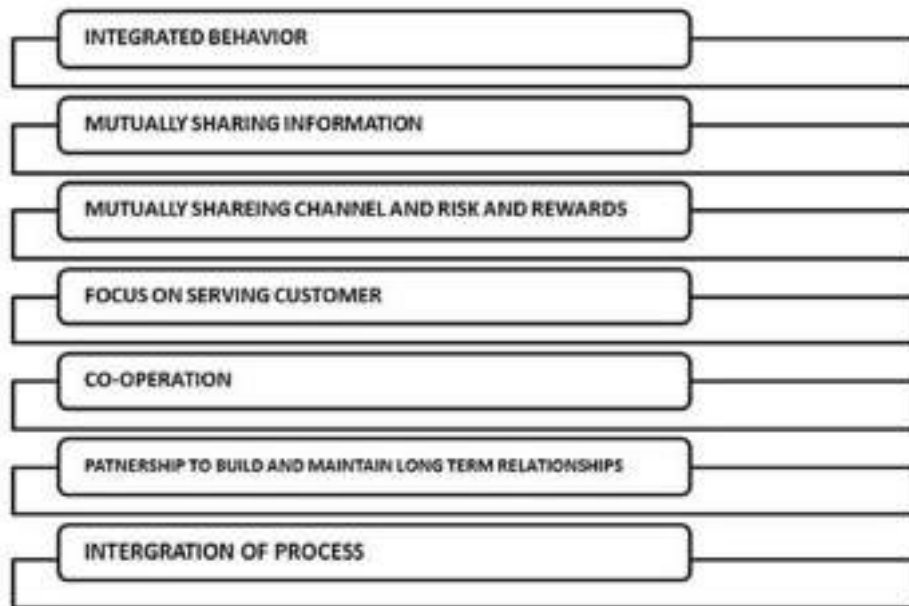
SCM consists of –

- operations management
- logistics
- procurement
- information technology
- integrated business operations

Objectives of SCM

- To decrease inventory cost by more accurately predicting demand and scheduling production to match it.
- To reduce overall production cost by streamlining production and by improving information flow.
- To improve customer satisfaction.

Features of SCM



Scope of SCM



SCM Processes

- Customer Relationship Management
- Customer Service Management
- Demand Management
- Customer Order Fulfillment
- Manufacturing Flow Management
- Procurement Management
- Product Development and Commercialization

- Returns Management

Advantages of SCM

SCM have multi-dimensional advantages –

- To the suppliers –
 - Help in giving clear-cut instruction
 - Online data transfer reduce paper work
- Inventory Economy –
 - Low cost of handling inventory
 - Low cost of stock outage by deciding optimum size of replenishment orders
 - Achieve excellent logistical performance such as just in time
- Distribution Point –
 - Satisfied distributor and whole seller ensure that the right products reach the right place at right time
 - Clear business processes subject to fewer errors
 - Easy accounting of stock and cost of stock
- Channel Management –
 - Reduce total number of transactions required to provide product assortment
 - Organization is logically capable of performing customization requirements
- Financial management –
 - Low cost
 - Realistic analysis
- Operational performance –
 - It involves delivery speed and consistency.
- External customer –
 - Conformance of product and services to their requirements
 - Competitive prices
 - Quality and reliability
 - Delivery
 - After sales services
- To employees and internal customers –
 - Teamwork and cooperation
 - Efficient structure and system
 - Quality work
 - Delivery

For the Students of

B. Com (Hons) 3-year VI semester

Auditing- Principles & Practices

Prepared by: Dr. Praveen Joshi

Management Audit

Management Audit:

Management audit is a method of independent and systematic evaluation of the management activities at all levels of management to ascertain the functions, efficiency and achievement of the management (i.e. policies) as compared to standards set by the company.

Management audit means examination and evaluation of objectives policies, activities of the business and the use of available facilities there. So, the function of the management may be revalued, and appropriate steps may be taken.

In other words, it is an intensive and constructive evaluation of any company, government, organization or branch of its any department and its plans and objectives, means of its activities and use of human and physical facilities.

Definition of Management Audit

1. According to **L. R. Howard**, "Management audit is an investigation of business from the highest level downward in order to ascertain whether sound management prevails throughout, thus facilitating the most effective relationship with outside world and smooth running of internal organization."

2. **Taylor and Perry**: "Management auditing is a method to evaluate the efficiency of management at all levels throughout the organization, or more specifically, it comprises the investigation of a business by an independent body from the highest executive level downwards, in order to ascertain whether sound management prevails through and to report as to its efficiency or otherwise with recommendations to ensure its effectiveness where such is not the case."

3. **Koontz and O'Donnell**: "Management audit means auditing the quality of managers through appraising them as individual managers and appraising the quality of the total system of managing in an enterprise."

Functions of Management Audit

Management audit is a difficult and complex task. It performs the following functions:

1. Management audit identifies the objectives of an organization if such objectives are not set up.
2. Management audit allocates the overall objectives of an organization in small parts.
3. Management audit reviews the structure of organization and asset of the organization and decides whether goals can be obtained or not.
4. Management audit examines all the scope of work and liability centers.
5. Management audit provides valuable suggestions to the management after the evaluation of all above facts.

Objectives of Management Audit

1. To make the efficiency and working of management effective.
2. To formulate the goal of an organization.
3. To help in the improvement of profits.
4. To provide help to all levels of management in discharging their functions and responsibilities.
5. To create capacity for best efficient administration of activities required for efficiency operation of business.
6. To offer suggestions to management regarding means and measures to achieve the goals and objectives decided by it.
7. To make best arrangement for successful and efficient operation of internal organization and to make available co-operation in establishing effective relation with external world.
8. To bring to light the defects and of various aspects audited by management auditor and to offer suggestion for improvement in achieving best possible results in various activities of the institution.

Need and Importance of Management Audit

The management of [business](#) at present becoming more and more complex. The use of specialized techniques such as operational research, statistical sampling, electronic data processing, production [control](#) etc. require the services of experts. The directors are not experts in every field of Management. If anything goes wrong, then directors have to face the criticism.

This has necessitated the need for management consultancy. The management auditors are often called upon to advise the firm as to how to maximize the production of quality goods. Management audit or consultancy helps in improving the operations of the business. The benefits derived from his service are for more than the cost incurred on it following are some of the benefits of Management Audit.

The need for management Audit can be felt by studying the following points:

1. Useful for performance appraisal: Management audit enables appraisal of performance of various managers. The standards for every manager are predetermined and their performance has to be judged in view of these targets. There should be a regular system of evaluation for keeping efficiency standards. Various Incentive plans may also be linked with such reports.

2. Result oriented: Management audit is result oriented. The performance is judged on the basis of rates of inputs and outputs. It does not give much importance to the procedures followed and formalities completed which is generally said that when Management audit is introduced then managers be more particular about completing the file work only.

3. Satisfies Financial Institutions: When a concern approaches various financial institutions for loans then they would like to see the performance of the business. Management Audit System is already undertaken then lending institutions will not find any difficulty in taking a decision. Moreover, outside agencies will feel satisfied that the management is constantly evaluating its performance.

4. Helpful in entering Foreign Collaborations. Whenever there is a proposal to enter into a foreign collaboration then collaborators will not find any difficulty in assessing the managerial potentials of the party. They can be provided with management audit report which will enable the parties to form a judgement about the concern.

5. Necessary for Government Organizations. There is an urgent need for management audit in government organizations. The present system of audit is not useful in curbing inefficiency. It gives more importance to formalities and ignores performance. Management audit will emphasize results and when performance be judged pre-determined standards then officials will try to improve their efficiency.

6. Basis for Critical Evaluation. Management Audit is needed for dynamic management to know what the deficiencies are and how to get them to remove.

7. Mirror of Organization Progress. The management Audit is useful in knowing the reasonable return on [capital](#) employed

8. The Management Audit needed for Change. The [cost Audit](#) is very useful for knowing the effect of changes in organizational structure such as : change is useful or not

Difference Between Management Audit and Cost Audit

Management Audit deals with verifying the effectiveness and efficiency of the company's management. Basically, you audit the decisions taken by the management. Say, management of the company took an 'X' decision on a matter, now auditors would try and verify the effectiveness of this decision and question the management in case of any suspicion.

Cost Audit comprises of the verification of the cost accounting records such as the accuracy of the cost accounts, cost reports, cost statements, cost data and costing techniques and examination of these records to ensure that they adhere to the cost accounting principles, plans, procedures and objectives. It can be done on behalf of the management, customers, government, or done by trade associations or for statutory purposes.

Management Auditor

Management auditor is an expert with expertise in different fields of Management. Management auditor coordinates with the other levels of management and runs a smooth audit process. He is an expert with full knowledge about management science. He has a practical working experience of being a part of management. Such experience helps him handle actual work situations in a better way.

Qualities of Management Auditor

Following are a few important qualities of a Management Auditor –

- Good knowledge and experience of Managerial functions.
- An Auditor should have good knowledge of the financial statements analysis techniques.
- Knowledge of social accounting.
- Knowledge of human resource accounting.
- Good knowledge about economics and business laws, etc.
- Understanding about the working of organization and its problems.
- An Auditor should have sound knowledge of preparation and understanding about financial statements.
- He should know and understand the objectives of organization very well.
- He should understand about planning, budgets, rules and procedures to be applied in management.
- He should be well-versed with the entire production process.
- He should have enough knowledge and experience to understand the reason behind the lack of co-ordination between different departments.
- He should have the quality to give practical and achievable solutions instead of providing bookish suggestions.

FOR THE STUDENTS OF

B.COM (HONS) SEM.VI SEC. A

NAME OF PAPER-OPERATIONS RESEARCH

PREPARED BY-PUNEET KUMAR SRIVASTAVA

HUNGARIAN METHOD AND ITS STEPS

The Hungarian method is an efficient method for finding the optimal solution of an assignment problem. The method works on the principle of reducing the given cost matrix to a matrix of opportunity costs. Opportunity costs show the relative penalties associated with assigning a machine to a job. Hungarian method reduces the cost matrix to the extent of having at least one zero in each row and column so as to make optimal assignment. In the following, an algorithm for finding the optimal solution of an assignment problem is given.

Step 1: Identify the minimum element in each row and subtract it from each element of that row.

Step 2: Identify the minimum element in each column and subtract it from each element of that

column.

Step 3: Draw the least possible number of horizontal and vertical lines to cover all the zeros. If the number of lines equals the order of the cost matrix then go to step 5; otherwise, go to step 4.

Step :4 Identify the smallest element among the uncovered elements left after draw- ing the horizontal and vertical lines in step 3. Subtract this element from all the uncovered elements and add the same element to the elements lying at the intersections of the horizontal and vertical lines. Then go to step 3.

Step :5 For each row or column with a single zero, box that zero as an assigned cell. For every zero that becomes assigned, cross out all other zeros in the same column or row. If for a row or a column, there are two or more zeros then choose one cell arbitrarily for assignment. The process is to be continued until every zero is either assigned with box or crossed out. Cells having a box indicate optimal assignment. In case a zero cell is chosen arbitrarily then there may be alternate optimal solution.

Variation of Assignment Problem

Unbalanced Assignment Problem - If the number of facilities is not equal to the number of jobs then the problem is called an unbalanced assignment problem. In such a case, fictitious rows and/or columns are added in the cost matrix to make it a square matrix. Then, we apply Hungarian method to find the solution of the balanced assignment problem.

Maximization Problem - When the facilities are to be assigned to a number of jobs so as to maximize the overall performance or profit of the assignment, the Hungarian method can be applied to solve such a maximization problem by converting every element of the matrix to an opportunity loss. The conversion is accomplished by subtracting all the elements of the given matrix from the highest element. It turns out that minimizing opportunity loss produces the same assignment solution as the original maximization problem.

Restrictions on Assignments - If a particular resource (say, man or machine) cannot be assigned to perform a particular activity then the cost of performing that particular activity by that particular resource is considered to be very large (taken usually a large positive M or ∞) so as to prohibit the entry of this pair of resource-activity into the final solution.

Negative Cost - If the cost matrix of an assignment problem contains some negative costs then we add to each element of the rows or columns a quantity sufficient to make all the cell elements non-negative.

For the students of

B. Com. (Hons), Sem: VI

Name of Paper: Organizational Behaviour

Prepared by: Dr. Noor Us Saba

LEADERSHIP

“Leadership in influence, that is, the art or process of influencing people so that they will strive willingly and enthusiastically towards the achievement of group goals”

-Koontz and Weihrich

Leader is the one who has charismatic quality, acquire both technical and managerial skills and encourages or influence people to follow them. To be a leader one must have followers. Leader is an integral part of the work and social life. In every situation people want to attain some goals and hence, need leader to guide them, motivate them to work towards the accomplishment of goals.

Nature of Leadership

1. Leadership depends on personal traits

2. Leadership is situational in nature

3. Leader must have followers

4. Leadership is a function- $L=f(l,f,s)$ where l= leader, f=follower, s=situation

5. Leadership is pervasive in nature

6. Leader have power vis-a-vis Legitimate power, reward power, information power, referent power, connection power and coercive power

7. Leadership aims at accomplishment of goals

IMPORTANCE OF LEADERSHIP

1. Leader is the one who provide support to his subordinate, help them assembling and organizing resources, accomplish task and achieve standards.
2. Leader also provides psychological supports to the followers. He listens to the problem of his followers and tries to solve their problems. He also guides, supports and raises the morale of the followers.
3. Leader also works for the development of his followers both technical and managerial.
4. Leader is the one who motivates the follower to perform their task and reach performance standards.
5. Effective leader also facilitate change in the organization and encourages followers to adapt those changes.

STYLE OF LEADERSHIP

The leadership styles are broadly categorized into three

1. Autocratic Style- In this style of leadership strict control is on the subordinated. All the power and authority is concentrated in the hands of leaders. In this style the threat of penalties and punishment makes subordinates to follow the instructions and order of the supervisor. All the decisions are taken by the supervisors.

2. Democratic Style- This style of leadership is also called as Participative style. In this style the monitoring is less as compared to autocratic. Only critical points of the job are controlled more. In this also some work related authority is delegated to the subordinates. In this style of leadership the workers involvement is high. This is also considered as one of the best style of leadership because it is also concerned for people as well as task
3. Laissez-Faire- This style of leadership is also called as “Free- Rein’. In this the monitoring of workers is not present and all the decision making power and authority is delegated to the subordinates. There is neither a concern for people nor task. This is the most ineffective and inefficient style of leadership, as when power is given to the workers they tend to neglect their work.

THEORIES OF LEADERSHIP

- 1) Trait Theory- This theory states that there are some personality traits that differentiate leaders from non-leaders. Some of these traits are-
 - Self-confidence
 - Honesty and Integrity
 - Desire to lead
 - Emotional stability
 - Motivating skills
 - Empathy
 - Human Relation
 - Technical skills etc.

The drawbacks of this theory is-

- Traits do not guarantee success. It means it is not necessary that person possessing these traits can be a successful leader.
- This theory only talks about the trait of leaders, but ignored the traits of followers. As, to be a leader one must have followers therefore, traits of followers are also equally important
- This theory ignores the situational aspect of leadership
- This theory doesn't specify which trait is more or less important to be a good leader.

BEHAVIOURAL THEORIES OF LEADERSHIP

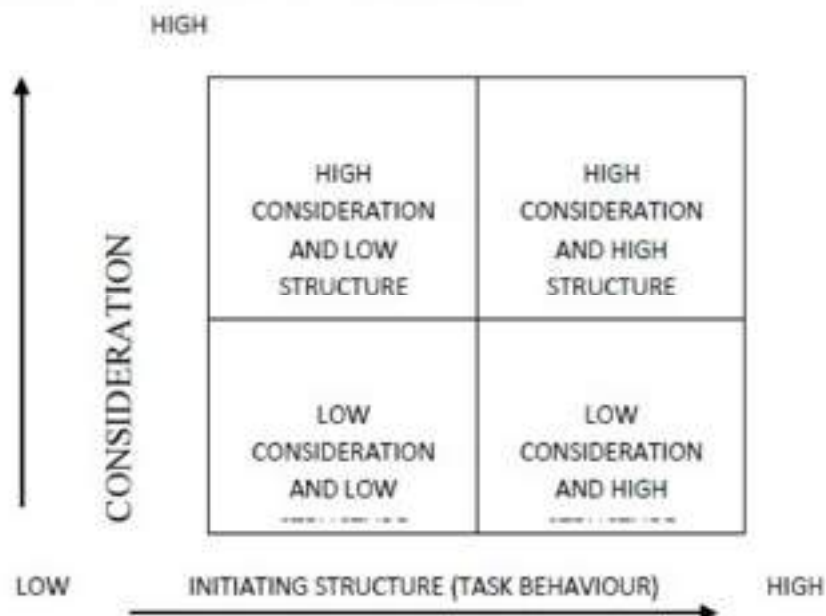
1. **Ohio State University Study-** This study was conducted in Ohio State. This theory focuses on what leader do rather than who leaders are. It says that for different situation leaders tend to show different behavior. From the list of different situation and behaviour two leadership dimensions were specified.

- a) **Initiating Structure-** It connotes the behaviour of the leader that specify, organize the work, assign the work and supervise their actions
- b) **Consideration-** It the leader's behaviour that includes- supportiveness, friendliness, trust, respect and concern for subordinates

It was found that

- High consideration leads to low absenteeism but it may reduce the performance
- High initiating structure can increase the performance but also increase grievances and absenteeism
- When both consideration and initiating structure are high then employees tend to be more satisfied.

Chart : OHIO STUDIES: LEADERSHIP



2. **The University of Michigan Study**

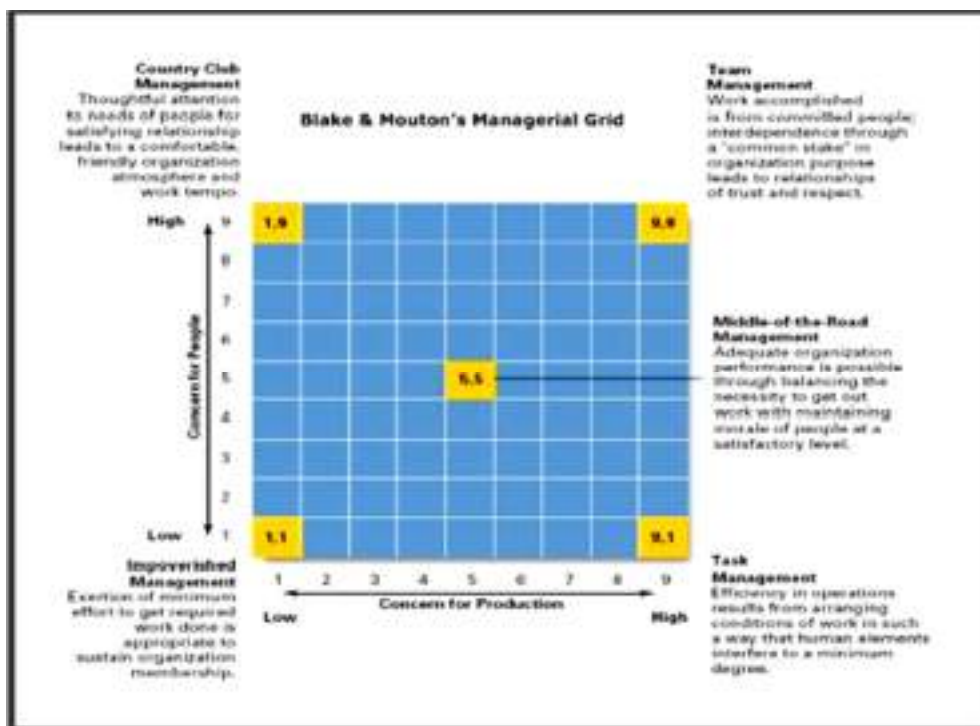
The researchers differentiated two styles of leadership-

- (i) **Production Centred-** In this style leaders set standards, organise tasks, define work procedure and closely monitor subordinates.
- (ii) **Employee Centred-** Ensure high performance by trusting and respecting subordinates. Encourage workers' participation.

3. Leadership Grid

By combining the result of Ohio State University research and The University of Michigan Research, Blake and Mouton have given a leadership grid also called as Managerial grid. They identified two dimensions

- (i) Concern for people
- (ii) Concern for Production



SITUATIONAL THEORY OF LEADERSHIP

Hersey and Blanchard have integrated the leadership grid and the contingency theory and have propped Situational Theory of Leadership.

According to this the leadership is situational in nature and effective leader must assess the situation first and then according to the situation he must adopt the leadership style. They proposed that there should be a proper match between the leadership style and maturity level of the followers.

They define the maturity level/readiness level as the extent to which subordinates can perform their work or task. These can be

M₁- Unable to do job and also unwilling to do job

M₂- Unable to do job but willing to do job

M₃- Able to do job but unwilling to do job

M₄ - Able to do job and also willing to do job

For these four different maturity levels, four styles of leadership were given

S₁- Telling: Gives clear instructions and closely supervises performance). This leadership style is suitable for the readiness level M₁ where, maturity level is low

S₂- Selling: Explains decisions and encourages asking for clarifications required. This leadership style is suitable for the readiness level M₂ where, maturity level is low

S₃- Participating: Concern for people, shares ideas, and participating decision making. This leadership style is suitable for the readiness level M₃ where, maturity level is high

S₄- Delegating: Hands over responsibility for decision making and implementation. This leadership style is suitable for the readiness level M₄ where, maturity level is high.

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For the students of

B. Com. (Hons), Sem: VI

Name of Paper Business Policy

Prepared by: S Zaheer Khan

Process of strategic choice and role of selection factors:

WHAT IS A STRATEGIC CHOICE?

The process of strategic choice is all about making the right choice pertaining to a course of action which can be deemed beneficial for an organization. It is essentially a decision-making process. This decision revolves around setting objectives, generating alternatives, choosing one or more alternatives that will help the organization achieve its objectives in the best possible manner and finally implementing the chosen alternative. Strategic choice is a part of the strategic management process and involves elements like the identification and evaluation of alternative which then leads to a choice. A good strategic choice is an essential prerequisite for a business which is wanting to draft a strategic plan. In other words, firms which are wanting to make an exhaustive strategic plan should deal with a wise and careful selection of strategic choice.

DEFINITION OF STRATEGIC CHOICE:

Strategic choice can be best defined as “the decision to select from among the grand strategies considered, the strategy which will best meet the enterprise’s objective and would easily help realize the goal. The decision involves laying emphasis on a few alternatives, considering the selection factors, evaluating the alternatives against these criteria and making the actual strategic choice.”

PROCESS OF STRATEGIC CHOICE:

The process of strategic choice involves the following steps:

1. Focusing on strategic alternatives
2. Considering the selection factors
3. Evaluating the strategic alternatives
4. Making the strategic choice

Focusing on strategic alternatives: This step aims to narrow down the choice to a manageable number of feasible strategies. While dealing with the process of strategic choice, a great number of strategies, as alternatives, come along the way which a strategist has to deal with very wisely and carefully. For deciding on what would be a reasonable number of alternatives, business definition is considered. The three dimensions of business definition viz a viz customer group, customer function and alternative technology eases the process of making a prudent choice of selecting the correct alternative. Business definition also enables a decision maker to think in a structured manner and systematically move in one or more dimensions thereby generating a number of feasible alternatives. These alternatives are then analyzed in the light of organizational requirements and internal and external circumstances of the business.

Focusing on alternatives could also be done by imagining or envisioning a future state and working backwards from it. This is done through gap analysis. For instance, a company sets objectives for a future period of time (which may be ‘n’ number of years) and then works backward to find out where it can reach through the present level of efforts. Exploring the correctness and effectiveness of the work so done is also conducted. By analyzing the difference between the projected and desired performance, a gap could be easily recognized. This recognition of the gap in performances makes it easy for the strategist to make changes and improvements in the process so adopted. Once this is done, the organization can proceed with the process of strategic choice, which is to take cognizance of the selection factors.

Considering the selection factors: Role of selection factors becomes pertinent to be considered to take the strategic choice ahead. Selection factors essentially determine the criteria on which the evaluation of strategic alternatives can be based. Selection factors can be- objective and subjective. Objective factors are based on analytical techniques and are hard facts or data used to facilitate a strategic choice. They could also be termed as rational, normative or prescriptive factors. On the other hand, subjective factors are based on one’s personal judgement and collective or descriptive factors. Things like hunch, anticipation, ability to foresee, etc. are some of the subjective factors. It is important to note that the alternatives so generated in the first step have to be subjected to analysis on the basis of selection factors.

Evaluating the strategic alternatives: Narrowing the choice leads to a few alternatives, each one of which has to be evaluated for its capability to help the organization achieve its objectives. Evaluation of strategic alternatives involves bringing together the results of the analysis carried out on the basis of objective and subjective factors. It is important to observe here that both the objective and subjective factors are essentially important for evaluating the alternatives. No one particular factor can work for the organization. To make the selection of strategic alternative

worth, the objective and subjective factors necessarily need to be used in a judicious combination by the organization.

Making the strategic choice: Once the alternatives are evaluated, it becomes easier to figure out as to which alternative is most suitable under the present circumstances. The final step, therefore, is to make the strategic choice. One or more strategies may be chosen for implementation. A blueprint that will describe the strategies and the conditions under which they would operate has to be made. Also, a set of contingency strategies are drafted which are essentially made for dealing with certain unforeseen and emergent situations.

Subjective factors in strategic choice:

- **Commitment to past strategic Action:** Past strategic action shows that they move unswervingly and in an incremental fashion.
- By this, strategists are more likely to start from where the organization is, and work up the way to reach where they want to go.
- Level of commitment towards any past strategy dictates the course of action likely to be adopted by the strategists.

- **Strategist's decision styles and attitude to risk:** The decision style adopted by the strategist, particularly by CEO and their attitude to risk is a determining subjective factor in strategic choice.
- It ascertains the degree of risk an organization is capable of taking with a particular strategy.
- Good leadership styles can significantly impact the strategy likely to be adopted in organizations.
- Ability to foresee and study the changes, predict environmental shifts and taking calculated risks accordingly is also an important determinant in the process of strategic choice.

- **Internal political consideration:** When strategy formulation is viewed as a political process, there are coalition of interests too. Such political considerations affect the process of strategic choice.
- Politics is inevitable and hence its consideration becomes binding upon strategists prior to making any strategic choice.
- While considering the internal politics of an organization, it must be borne in mind that politics is not always negative and often have positive connotations.
- A dominant CEO or strategist is able to affect strategic choice substantially and decisively.
- Politics is often found intertwined with power. Therefore, any strategist making a strategic choice should be highly conscious and cognizant of the prevailing politics in the organization and the existing power pockets (positions which possess power and authority) which are highly capable of influencing decisions.

- **Consideration for Government Policies:** Strategies within organization are aware of the crucial role the government plays in setting down policies and priorities.
- Compliance to such policies becomes mandatory for businesses.
- In fact, Government policies are the deciding factor which impact the future prospects of companies. Even a small shift in government policy can have a significant impact on the future prospects of a business.

- The varying nature of government policies has the capability to impact businesses differently. Hence, the need to know the government policies.
 - For instance, the introduction of Goods and services tax (GST) by the government has impacted businesses.
 - Even for businesses wanting to expand or retrench, government policies behave as a major subjective factor and thus have to be considered.
 - Strategic choice thus made should take care of the government policies so formulated.
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- **Critical success factors (CSFs) and distinctive competence:** All those factors which are really crucial for the success of an enterprise need to be considered. For example, better and improved production mechanism, quality of after sales services, differentiated products and offerings, etc can be the basis of evaluation for firms.
 - Distinctive competence is the unique ability of an organization which can help it to gain competitive advantage.
 - While making a strategic choice, awareness about CSFs and distinctive competence should be well known to businesses so as to make improved choices.
 - Focus must be on the extent of match that exists between CSFs and distinctive competence.
 - For any organization to make its strategic choice effective and set its courses of actions right, it needs to understand the pivotal interlinkage that exists between the distinctive competence that an organization possesses and the critical success factors which are important for strategic triumph.
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- **Timing and competitor considerations:** Firms should know that timing is an important element in strategy. Even the best strategies are doomed if the timing is not right.
 - Firms must learn, what move to make is as important as to know when to make it. Timing of strategy is important.
 - Strategic choice must consider the likely timing and anticipated moves of the rival businesses, too.
 - The better the competitor understanding, more improved and well thought out the strategic choice is.
 - If an aggressive competitor response is expected, then the strategies must be made accordingly to deal with them. In such cases, counter strategies can also be chosen.

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For the students of

B. Com. (Hons), Sem: VI

Name of Paper Business Policy

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Strategy formulation

Strategy formulation refers to the process of choosing the most appropriate course of action for the realization of organizational goals and objectives and thereby achieving the organizational vision.

The process of strategy formulation basically involves six main steps. Though these steps do not follow a rigid chronological order, however they are very rational and can be easily followed in this order.

1. **Setting Organizations' objectives** - The key component of any strategy statement is to set the long-term objectives of the organization. It is known that strategy is generally a medium for realization of organizational objectives. Objectives stress the state of being there whereas Strategy stresses upon the process of reaching there. Strategy includes both the fixation of objectives as well the medium to be used to realize those objectives. Thus, strategy is a wider term which believes in the manner of deployment of resources

so as to achieve the objectives.

While fixing the organizational objectives, it is essential that the factors which influence the selection of objectives must be analysed before the selection of objectives. Once the objectives and the factors influencing strategic decisions have been determined, it is easy to take strategic decisions.

2. **Evaluating the Organizational Environment** - The next step is to evaluate the general economic and industrial environment in which the organization operates. This includes a review of the organizations competitive position. It is essential to conduct a qualitative and quantitative review of an organizations existing product line. The purpose of such a review is to make sure that the factors important for competitive success in the market can be discovered so that the management can identify their own strengths and weaknesses as well as their competitors' strengths and weaknesses.

After identifying its strengths and weaknesses, an organization must keep a track of competitors' moves and actions so as to discover probable opportunities of threats to its market or supply sources.

3. **Setting Quantitative Targets** - In this step, an organization must practically fix the quantitative target values for some of the organizational objectives. The idea behind this is to compare with long term customers, so as to evaluate the contribution that might be made by various product zones or operating departments.
4. **Aiming in context with the divisional plans** - In this step, the contributions made by each department or division or product category within the organization is identified and accordingly strategic planning is done for each sub-unit. This requires a careful analysis of macroeconomic trends.
5. **Performance Analysis** - Performance analysis includes discovering and analysing the gap between the planned or desired performance. A critical evaluation of the organizations past performance, present condition and the desired future conditions must be done by the organization. This critical evaluation identifies the degree of gap that persists between the actual reality and the long-term aspirations of the organization. An attempt is made by the organization to estimate its probable future condition if the current trends persist.
6. **Choice of Strategy** - This is the ultimate step in Strategy Formulation. The best course of action is actually chosen after considering organizational goals, organizational strengths, potential and limitations as well as the external opportunities.

Environmental Analysis

Environmental Scanning - Internal & External Analysis of Environment

Organizational environment consists of both external and internal factors. Environment must be scanned so as to determine development and forecasts of factors that will influence organizational success. Environmental scanning refers to possession and utilization of information about occasions, patterns, trends, and relationships within an organization's internal and external environment. It helps the managers to decide the future path of the organization. Scanning must identify the threats and opportunities existing in the environment. While strategy formulation, an organization must take advantage of the opportunities and minimize the threats. A threat for one organization may be an opportunity for another.

Internal analysis of the environment is the first step of environment scanning. Organizations should observe the internal organizational environment. This includes employee interaction with other employees, employee interaction with management, manager interaction with other managers, and management interaction with shareholders, access to natural resources, brand awareness, organizational structure, main staff, operational potential, etc. Also, discussions, interviews, and surveys can be used to assess the internal environment. Analysis of internal environment helps in identifying strengths and weaknesses of an organization.

As business becomes more competitive, and there are rapid changes in the external environment, information from external environment adds crucial elements to the effectiveness of long-term plans. As environment is dynamic, it becomes essential to identify competitors' moves and actions. Organizations have also to update the core competencies and internal environment as per external environment. Environmental factors are infinite; hence, organization should be agile and vigil to accept and adjust to the environmental changes. For instance - Monitoring might indicate that an original forecast of the prices of the raw materials that are involved in the product are no more credible, which could imply the requirement for more focused scanning, forecasting and analysis to create a more trustworthy prediction about the input costs. In a similar manner, there can be changes in factors such as competitor's activities, technology, market tastes and preferences.

While in **external analysis**, three correlated environments should be studied and analysed —

- Immediate / Industry Environment
- National Environment
- Broader Socio-Economic Environment / Macro-Environment

Examining the **industry environment** needs an appraisal of the competitive structure of the organization's industry, including the competitive position of a particular organization and its main rivals. Also, an assessment of the nature, stage, dynamics and history of the industry is essential. It also implies evaluating the effect of globalization on competition within the industry. Analysing the **national environment** needs an appraisal of whether the national framework helps in achieving competitive advantage in the globalized environment. Analysis of **macro-environment** includes exploring macro-economic, social, government, legal, technological and international factors that may influence the environment. The analysis of organization's external environment reveals opportunities and threats for an organization.

Strategic managers must not only recognize the present state of the environment and their industry but also be able to predict its future positions.

For analysis of the external environment, there are many strategic analysis tools that a firm can use, but some are more common. The most used detailed analysis of the environment is the PESTLE analysis. This is a bird's eye view of the business conduct. Managers and strategy builders use this analysis to find where their market currently. It also helps foresee where the organization will be in the future.

PESTLE analysis consists of various factors that affect the business environment. Each letter in the acronym signifies a set of factors. These factors can affect every industry directly or indirectly.

The letters in PESTLE, also called PESTEL, denote the following things:

- Political factors
- Economic factors
- Social factors
- Technological factors
- Legal factors
- Environmental factor

Often, managers choose to learn about political, economic, social and technological factors only. In that case, they conduct the PEST analysis. **PEST is also an environmental analysis.** It is a shorter version of PESTLE analysis. STEP, STEEP, STEEPLE, STEEPLD, STEPJE and LEPEST: All of these are acronyms for the same set of factors. Some of them gauge additional factors like ethical and demographical factors.

P for Political factors

The political factors take the country's current political situation. It also reads the global political condition's effect on the country and business. When conducting this step, ask questions like "What kind of government leadership is impacting decisions of the firm?"

Some political factors that you can study are:

- Government policies
- Taxes laws and tariff
- Stability of government
- Entry mode regulations

E for Economic factors

Economic factors involve all the determinants of the economy and its state. These are factors that can conclude the direction in which the economy might move. So, businesses analyze this factor based on the environment. It helps to set up strategies in line with changes.

I have listed some determinants you can assess to know how economic factors are affecting your business below:

- The inflation rate
- The interest rate
- Disposable income of buyers
- Credit accessibility
- Unemployment rates
- The monetary or fiscal policies
- The foreign exchange rate

S for Social factors

Countries vary from each other. Every country has a distinctive mindset. These attitudes have an impact on the businesses. The social factors might ultimately affect the sales of products and services. Some of the social factors are:

- The cultural implications
- The gender and connected demographics
- The social lifestyles
- The domestic structures
- Educational levels
- Distribution of Wealth

T for Technological factors

Technology is advancing continuously. The advancement is greatly influencing businesses. Performing environmental analysis on these factors will help you stay up to date with the changes. Technology alters every minute. This is why companies must stay connected all the time. Firms should integrate when needed. Technological factors will help you know how the consumers react to various trends. Firms can use these factors for their benefit:

- New discoveries
- Rate of technological obsolescence
- Rate of technological advances
- Innovative technological platforms

L for Legal factors

Legislative changes take place from time to time. Many of these changes affect the business environment. If a regulatory body sets up a regulation for industries, for example, that law would impact industries and business in that economy. So, businesses should also analyse the legal developments in respective environments. These include:

- Product regulations
- Employment regulations
- Competitive regulations
- Patent infringements
- Health and safety regulations

E for Environmental factors

The location influences business trades. Changes in climatic changes can affect the trade. The consumer reactions to particular offering can also be an issue. This most often affects agri-businesses. Some environmental factors are:

- Geographical location
- The climate and weather
- Waste disposal laws
- Energy consumption regulation
- People's attitude towards the environment

There are many external factors other than the ones mentioned above. None of these factors are independent. They rely on each other.

Process of conducting environmental analysis:

1. Understand all the environmental factors before moving to the next step.
 2. Collect all the relevant information.
 3. Identify the opportunities for your organization.
 4. Recognize the threats your company faces.
 5. The final step is to take action.
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SWOT Analysis - Definition, Advantages and Limitations

SWOT is an acronym for Strengths, Weaknesses, Opportunities and Threats. By definition, Strengths (S) and Weaknesses (W) are considered to be internal factors over which you have some measure of control. Also, by definition, Opportunities (O) and Threats (T) are considered to be external factors over which you have essentially no control.

SWOT Analysis is the most renowned tool for audit and analysis of the overall strategic position of the business and its environment. Its key purpose is to identify the strategies that will create a firm specific business model that will best align an organization's resources and capabilities to the requirements of the environment in which the firm operates.

In other words, it is the foundation for evaluating the internal potential and limitations and the probable/likely opportunities and threats from the external environment. It views all positive and negative factors inside and outside the firm that affect the success. A consistent study of the environment in which the firm operates helps in forecasting/predicting the changing trends and also helps in including them in the decision-making process of the organization.

An overview of the four factors (Strengths, Weaknesses, Opportunities and Threats) is given below-

1. **Strengths** - Strengths are the qualities that enable us to accomplish the organization's mission. These are the basis on which continued success can be made and continued/sustained.

Strengths can be either tangible or intangible. These are what you are well-versed in or what you have expertise in, the traits and qualities your employees possess (individually and as a team) and the distinct features that give your organization its consistency.

Strengths are the beneficial aspects of the organization or the capabilities of an organization, which includes human competencies, process capabilities, financial resources, products and services, customer goodwill and brand loyalty. Examples of organizational strengths are huge financial resources, broad product line, no debt, committed employees, etc.

2. **Weaknesses** - Weaknesses are the qualities that prevent us from accomplishing our mission and achieving our full potential. These weaknesses deteriorate influences on the organizational success and growth. Weaknesses are the factors which do not meet the standards we feel they should meet.

Weaknesses in an organization may be depreciating machinery, insufficient research and development facilities, narrow product range, poor decision-making, etc. Weaknesses are controllable. They must be minimized and eliminated. For instance - to overcome obsolete machinery, new machinery can be purchased. Other examples of organizational weaknesses are huge debts, high employee turnover, complex decision-making process, narrow product range, large wastage of raw materials, etc.

3. **Opportunities** - Opportunities are presented by the environment within which our organization operates. These arise when an organization can take benefit of conditions in its environment to plan and execute strategies that enable it to become more profitable. Organizations can gain competitive advantage by making use of opportunities.

Organization should be careful and recognize the opportunities and grasp them whenever they arise. Selecting the targets that will best serve the clients while getting desired results is a difficult task. Opportunities may arise from market, competition, industry/government and technology. Increasing demand for telecommunications accompanied by deregulation is a great opportunity for new firms to enter telecom sector and compete with existing firms for revenue.

4. **Threats** - Threats arise when conditions in external environment jeopardize the reliability and profitability of the organization's business. They compound the vulnerability when they relate to the weaknesses. Threats are uncontrollable. When a threat comes, the stability and survival can be at stake. Examples of threats are - unrest among employees; ever changing technology; increasing competition leading to excess capacity, price wars and reducing industry profits; etc.

Advantages of SWOT Analysis

SWOT Analysis is instrumental in strategy formulation and selection. It is a strong tool, but it involves a great subjective element. It is best when used as a guide, and not as a prescription. Successful businesses build on their strengths, correct their weakness and protect against internal weaknesses and external threats. They also keep a watch on their overall business environment and recognize and exploit new opportunities faster than its competitors.

SWOT Analysis helps in strategic planning in following manner-

- a. It is a source of information for strategic planning.
- b. Builds organization's strengths.
- c. Reverse its weaknesses.

- d. Maximize its response to opportunities.
- e. Overcome organization's threats.
- f. It helps in identifying core competencies of the firm.
- g. It helps in setting of objectives for strategic planning.
- h. It helps in knowing past, present and future so that by using past and current data, future plans can be chalked out.

SWOT Analysis provide information that helps in synchronizing the firm's resources and capabilities with the competitive environment in which the firm operates.



Limitations of SWOT Analysis

SWOT Analysis is not free from its limitations. It may cause organizations to view circumstances as very simple because of which the organizations might overlook certain key strategic contact which may occur. Moreover, categorizing aspects as strengths, weaknesses, opportunities and threats might be very subjective as there is great degree of uncertainty in market. SWOT Analysis does stress upon the significance of these four aspects, but it does not tell how an organization can identify these aspects for itself.

There are certain limitations of SWOT Analysis which are not in control of management. These include-

- a. Price increase;
- b. Inputs/raw materials;
- c. Government legislation;
- d. Economic environment;
- e. Searching a new market for the product which is not having overseas market due to import restrictions; etc.

Internal limitations may include-

- a. Insufficient research and development facilities;
- b. Faulty products due to poor quality control;
- c. Poor industrial relations;
- d. Lack of skilled and efficient labour; etc