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**Q1:** What are systems? Explain in detail. Take a daily life example of system (any organization or company) and explain its component one by one in detail

**Ans:** A **system** is a group of [interacting](#) or interrelated entities that form a unified whole.<sup>[1]</sup> A system is described by its spatial and temporal boundaries, surrounded and influenced by its environment, described by its structure and purpose and expressed in its functioning. Systems are the subjects of study of [systems theory](#).

"System" means "something to look at". You must have a very high visual gradient to have systematization. But in philosophy, prior to Descartes, there was no "system". Plato had no "system". Aristotle had no "system".<sup>[3][4]</sup>

In the 19th century the French physicist [Nicolas Léonard Sadi Carnot](#), who studied [thermodynamics](#), pioneered the development of the concept of a "system" in the [natural sciences](#). In 1824 he studied the system which he called the *working substance* (typically a body of water vapor) in [steam engines](#), in regards to the system's ability to do work when heat is applied to it. The working substance could be put in contact with either a boiler, a cold reservoir (a stream of cold water), or a piston (on which the working body could do work by pushing on it). In 1850, the German physicist [Rudolf Clausius](#) generalized this picture to include the concept of the [surroundings](#) and began to use the term "working body" when referring to the system.

The biologist [Ludwig von Bertalanffy](#) became one of the pioneers of the [general systems theory](#). In 1945 he introduced *models, principles, and laws that apply to generalized systems or their subclasses, irrespective of their particular kind, the nature of their component elements, and the relation or 'forces' between them*.<sup>[5]</sup>

[Norbert Wiener](#) and [Ross Ashby](#), who pioneered the use of mathematics to study systems, carried out significant development in the concept of a *system*.

## Example:

**Organizational structure examples** of this type include insurance companies, engineering firms, law firms, regulatory agencies, etc. In other words, **organizations** that need isolated technical advice to assist employees who handle or manage the day-to-day operations on the front line.

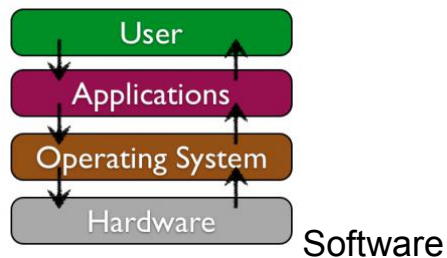
## Components:

### Technology

Technology can be thought of as the application of scientific knowledge for practical purposes. From the invention of the wheel to the harnessing of electricity for artificial lighting, technology is a part of our lives in so many ways that we tend to take it for granted. As discussed before, the first three components of information systems – hardware, software, and data – all fall under the category of technology. Each of these will get its own chapter and a much lengthier discussion, but we will take a moment here to introduce them so we can get a full understanding of what an information system is.

### Hardware

Information systems hardware is the part of an information system you can touch – the physical components of the technology. Computers, keyboards, disk drives, iPads, and flash drives are all examples of information systems hardware. We will spend some time going over these components and how they all work together in chapter 2.



Software is a set of instructions that tells the hardware what to do. Software is not tangible – it cannot be touched. When programmers create software programs, what they are really doing is simply typing out lists of instructions that tell the hardware what to do. There are several categories of software, with the two main categories being operating-system software, which makes the hardware usable, and application software, which does something useful. Examples of operating systems include Microsoft Windows on a personal computer and Google’s Android on a mobile phone. Examples of application software are Microsoft Excel and Angry Birds. Software will be explored more thoroughly in chapter 3.

# Data

The third component is data. You can think of data as a collection of facts. For example, your street address, the city you live in, and your phone number are all pieces of data. Like software, data is also intangible. By themselves, pieces of data are not really very useful. But aggregated, indexed, and organized together into a database, data can become a powerful tool for businesses. In fact, all of the definitions presented at the beginning of this chapter focused on how information systems manage data. Organizations collect all kinds of data and use it to make decisions. These decisions can then be analyzed as to their effectiveness and the organization can be improved. Chapter 4 will focus on data and databases, and their uses in organizations.

**Q2:** What is Management information system? Take an example of MIS of any organization and elaborate in your own words

**Ans:** Management Information System, commonly referred to as MIS is a phrase consisting of three words: management, information and systems. Looking at these three words, it's easy to define Management Information Systems as systems that provide information to management.

That is the simple definition of MIS that generally sums up what a Management Information System is, and what it should do. However, its role and impact on the smooth operation of a company can never be overemphasized. That is the reason why every successful company makes use of these systems in one way or another.

The reason why Management Information Systems are very important in the day to day operation of companies is because these systems work with people, organizations, technology and relationships among the people and organizations affecting the company.

This means that when properly implemented, Management Information Systems will help achieve a high level of efficiency in a company's management operations.

This explains why [MIS degrees are in high demand globally](#) since the graduates have practical knowledge that will help them develop more efficient solutions thanks to their systems perspective of business processes developed in their training in Management Information Systems.

In the decade between 2014 and 2024, the US Bureau of Labor Statistics predicts that MIS professionals, and specifically database administrators, should expect [the highest job growth](#) when compared to all the other occupations.

In this guide, we explore 1) the **history** of Management Information Systems, 2) **types of information systems**, 3) **components** of Management Information Systems, 4) **its**

role in business, 5) common **advantages and disadvantages of using MIS**, and 6) **tips for effectively applying MIS in your business**.

**Q3:** Explain Marketing Information system and its types in detail.

**Ans: Definition:**

The **Marketing Information System** refers to the systematic collection, analysis, interpretation, storage and dissemination of the market information, from both the internal and external sources, to the marketers on a regular, continuous basis.

The marketing information system distributes the relevant information to the marketers who can make the efficient decisions related to the marketing operations viz. pricing, packaging, new product development, distribution, media, promotion, etc.

Every marketing operation works in unison with the conditions prevailing both inside and outside the organization, and, therefore, there are several sources ( viz. Internal, Marketing Intelligence, Marketing Research) through which the relevant information about the market can be obtained.

Components of Marketing Information System

1. **Internal Records**
2. **Marketing Intelligence System**
3. **Marketing Research**
4. **Marketing Decision Support System**

- **Types of Marketing Information System**

Mainly 3 types of marketing information related systems are available that marketing decision-makers use to have valuable insights for wise marketing decisions i.e.

**Internal Data-Based MIS,  
Marketing Research, and  
Competitive Intelligence.**

## 1. Internal data-based marketing information system

Internal data includes information related to current customers and prospective customers of an organization that is part of its internal operating system.

**For example**, the marketing department of an organization keeps track of the interest of prospective customers as well as the leads generated from them. The information can be acquired for target market segmentation like gender, age, buying habits, geographic area, etc. Other information i.e. visitors of website, web traffic or customer involvement activities, etc. are also considered as useful internal data. Moreover, salespeople collect and record the information related to customers who are purchasing products or services, their location, buying behavior, the success stories of customers, the progression of prospective customers towards new customers, etc.

Similarly, the accounts department maintains information or data related to the financial activities of an organization i.e. payment and expense details, etc. Earlier, every department used to maintain these data using their separate systems instead of a common system for access to all departments. This was a challenging task for marketing people to gather required internal data from different departments. Now organizations are using the marketing information system to collect and maintain internal data at a single place.

This results in accurate and timely access to internal data for marketers to gain useful insights from the data. Marketers depend on the internal data system for customer interaction or communication and also to identify consumer behavior patterns.

## 2. Competitive Intelligence

Another type of marketing information system is competitive intelligence that is used to closely monitor competitors, their marketing strategies, and competitive market statistics. Competitive intelligence is considered as a systematic process related to collecting, observing, and analyzing required information of the business environment that is external to an organization. It further includes the distribution of result data within the organization to make effective decisions. The main objective of competitive intelligence is to analyze the external environment to take appropriate decisions in a competitive market. Different types of competitive intelligence include:

1. **Information related to the product:** This includes the information regarding the various products of competitors that compete with organizations'

products in terms of packaging, quality, quantity delivery of products, features, etc.

2. **Market share related information:** This includes information related to the competitors that are selling most products in an organization's target market, changes in market share, organizations that are market leaders, etc.
3. **Pricing policy and strategy information:** This includes pricing policy, pricing structure, and strategies of competitors for similar products, discounted price strategy of competitors, comparison that affect an organization's pricing as per competitor's strategy, etc.

**For example,** different airlines like **Jet Airways, Spice Jet, Indigo,** etc. use competitive intelligence to remain in a competitive market. These companies keep on changing prices of flight tickets as per the external information of prices of other airline competitors. Once any competitor increases airfare for a specific route or destination then other flight companies may get benefit by flowing suit to gain higher margins.

#### 4. Marketing Research

A systematic process of identifying different marketing opportunities is known as marketing research. Also, it includes solving marketing problems by customer data that are captured through the analysis of marketing information.

Marketing information is useful for both purposes i.e. identifying reasons for any problem and to collect the necessary information required for research-related queries. It consists of different techniques for collecting and analyzing information. Both primary and secondary research methods can be utilized for marketing research. For more accurate results and solutions, market research may use internal data and competitive intelligence.

Different topics for which market research is being conducted include:

1. Environment-related factors like economic, technical, legal, cultural, etc.
2. Customer-related data like attitude, buying behavior and pattern, etc.
3. Research related to product i.e. product size, market, product features, pricing strategies, branding, product positioning, etc.
4. Research related to advertising and promoting products.

**Q4:** Why Decision Making is an important factor to run an organization. Explain your answer with the help of a proper example.

**Ans:** Decision making is the mental process of choosing from a set of alternatives. Every decision-making process produces an outcome that might be an action, a recommendation, or an opinion. Since doing nothing or remaining neutral is usually among the set of options one chooses from, selecting that course is also making a decision.

### **Difference Between Problem Analysis and Decision Making**

While they are related, problem analysis and decision making are distinct activities. Decisions are commonly focused on a problem or challenge. Decision makers must gather and consider data before making a choice. Problem analysis involves framing the issue by defining its boundaries, establishing criteria with which to select from alternatives, and developing conclusions based on available information. Analyzing a problem may not result in a decision, although the results are an important ingredient in all decision making.

### **Steps in Decision Making**

Decision making comprises a series of sequential activities that together structure the process and facilitate its conclusion. These steps are:

- Establishing objectives
- Classifying and prioritizing objectives
- Developing selection criteria
- Identifying alternatives
- Evaluating alternatives against the selection criteria
- Choosing the alternative that best satisfies the selection criteria
- Implementing the decision

### **Analysis of Alternatives**

A major part of decision making involves the analysis of a defined set of alternatives against selection criteria. These criteria usually include costs and benefits, advantages and disadvantages, and alignment with preferences. For example, when choosing a place to establish a new business, the criteria might include rental costs, availability of skilled labor, access to transportation and means of distribution, and proximity to

customers. Based on the relative importance of these factors, a business owner makes a decision that best meets the criteria.

The decision maker may face a problem when trying to evaluate alternatives in terms of their strengths and weaknesses. This can be especially challenging when there are many factors to consider. Time limits and personal emotions also play a role in the process of choosing between alternatives. Greater deliberation and information gathering often takes additional time, and decision makers often must choose before they feel fully prepared. In addition, the more that is at stake the more emotions are likely to come into play, and this can distort one's judgment.

## **Decision-Making Styles**

Decisions are driven by psychological, cognitive, and normative styles, each of which take into account varying influences on the final decision.