

IS Management:

1. IS Planning.
2. System Development.
3. Using Information Systems.

1- IS Planning:

The various components of an organization's information systems (hardware, software, databases, networks, and people) need to be successfully integrated in order to provide the right information at the right place and time. This is not going to happen by accident.

The starting point for IS planning should be the clear identification of the application needs of the business, based on the information that is required by management. The activities that are managed by the IS department, such as the ordering and scheduling of system development projects, must be in line with overall business goals.

Alternative software products need to be evaluated before a decision can be made about the hardware and operating system that would be most appropriate. Computer hardware should then be evaluated on the basis of its compatibility with existing and future systems.

Other important issues include the availability of technical support, estimation of operating costs, and the financial method that is to be used.

Organizations always need new computer systems. Once the need for a new system has been identified, plans must be developed to ensure that the new system can be successfully integrated with existing business processes, and that it will provide an acceptable return on investment for the organization. The current system and the new one must be analyzed.

Frameworks for Analyzing Information Systems:

There are many frameworks for analyzing and studying information systems. To give you an idea of these frameworks, we give you three examples.

1- Value chain analysis

In value chain analysis, the organization is seen as a large input-output system, in which the inputs are the raw materials or services brought into the organization, which are processed in some way, marketed and sold as outputs. Each point of this chain is analyzed to find chances where value can be added or costs reduced.

The primary activities are:

- **Arriving logistics** include the receiving, warehousing, and inventory control of input materials.
- **Operations** are the value-creating activities that transform the inputs into the final product.
- **Finishing logistics** are the activities required to get the finished product to the customer, including warehousing, etc.
- **Marketing & Sales** are those activities associated with getting buyers to purchase the product, including channel selection, etc.
- **Service** activities are those that maintain and enhance the product's value including customer support, repair services, etc.



2- The Zachman Framework

According to Zachman, information systems need to be considered from six different perspectives (or dimensions).

- **Data:** which data *entities* do you want to capture and what are the *relationships* between these entities?
- **Function:** which (business) *functions* need to be addressed and which *arguments* does each function have?
- **Network:** which *nodes* need to be supported and what *links* exist between them?
- **People:** who are your *agents* and what are their *tasks* or *work*?

- **Time.** *When* do things happen and to which *cycles* do they conform?
- **Motivation:** what are the *ends* or goals and by what *means* will you get there?

Each of these dimensions is then examined at a number of different levels, to identify the system requirements and how they can best be implemented.

3- Cost-benefit analysis

Cost-benefit analysis can be used to evaluate new system development projects, by measuring the financial impact of proposed systems.

Typical costs that have to be considered in evaluating projects are

- Development costs, including staff training and conversion from the previous system.
- Equipment costs, including space and air-conditioning requirements.
- Operating costs such as staffing, insurance and power.

Software Gaining Options:

1- In-house development

Most large organizations have their own IS department, which is responsible for the development and support of the computer systems used to support the company's strategic goals. The methods commonly used during ***in-house development*** depends on highly skilled employees, and because of the time and cost involved, it often results in a delay of projects developing time.

2- Commercial packages

Software packages provide a low-cost alternative to in-house development. The software can be examined and tested previous to purchase, minimizing the risk involved, and user training and support are often commercially available.

3- Outsourcing

Outsourcing involves the purchasing of a service, in this case software development, from another company. With rapid changes in technology and high turnover rates for IS staff, it becomes increasingly difficult to

maintain high levels of expertise in-house. Outsourcing allows an organization to benefit from the expertise and economies of scale that can be provided by the outsourcing company.

4- End-user computing

End-user computing has become an important factor in system development; an increasing number of users are attempting to develop their own systems. The common of user-developed applications do not follow to organizational standards. Data validation and security may be poor, backup and recovery procedures are often missing. In response to these concerns, user support centers may be established to provide training and assistance for users.