Executive Information System (EIS)

An Information System that provides Strategic information tailored to the needs of executives and other decision makers.
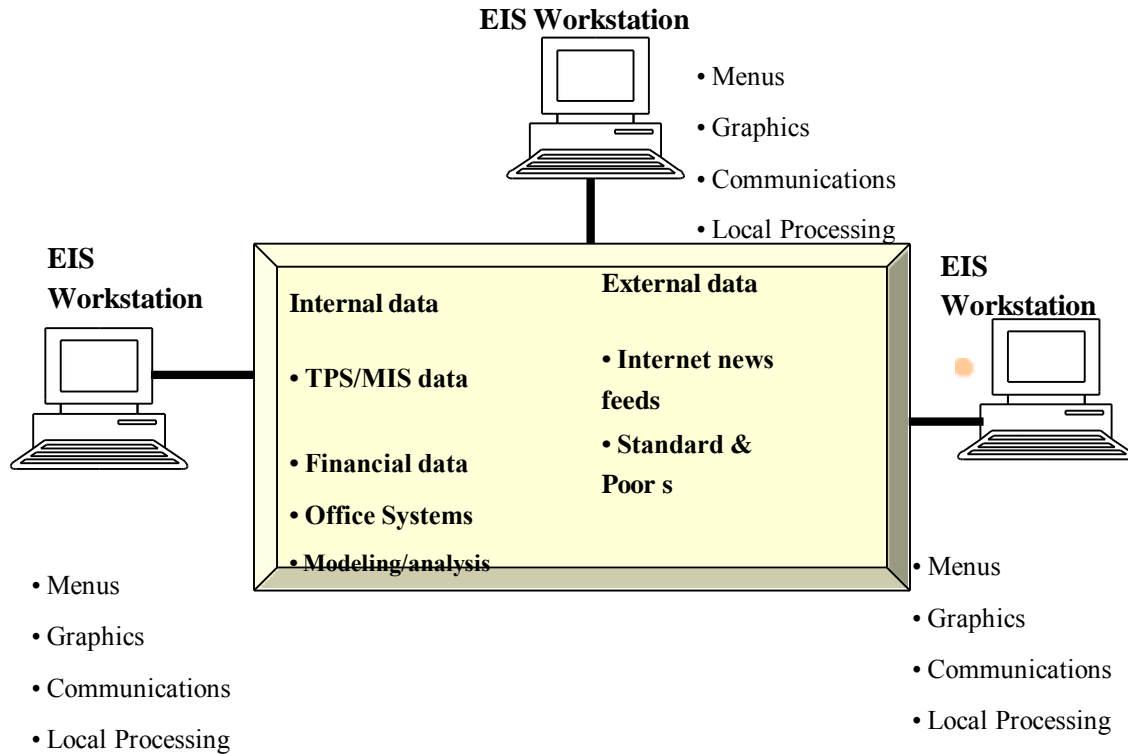
The emphasis of EIS is on graphical displays and easy-to-use user interfaces. They offer strong reporting and drill-down capabilities. In general, EIS are enterprise-wide DSS that help top-level executives analyze, compare, and highlight trends in important variables so that they can monitor performance and identify opportunities and problems.

Senior managers need systems that address strategic issues and long-term trends, both in firm and in the external environment. They are mainly concerned with the following frequently asked questions so as to find the suitable solutions.

- ➢ What will employment levels be in 5 years?
- ➢ What are the long term industry cost trends, and where does our firm fit in?
- ➢ How well competitors performing?
- ➢ What products should we be making in 5 years?
- ➢ What new acquisitions would protect us from cyclical business swings?

Model of an EIS

EIS Workstation

• Menus

• Graphics

• Communications

• Local Processing

**EIS
Workstation**

External data

Internal data

• **TPS/MIS data**

• **Internet news
feed**

• **Financial data**

• **Standard &
Poor s**

• **Office Systems**

• **Modeling/analysis**

**EIS
Workstation**

• Menus

• Graphics

• Communications

• Local Processing

• Menus

• Graphics

• Communications

• Local Processing

However executive information system are becoming so widely used by managers,
analyst and other knowledge workers that they are sometimes humorously called
"everyone's information systems." More popular alternative names are enterprise

information system (EIS) and executive support system (ESS). These names also reflect the fact that more features, Such as Web browsing, electronic mail, groupware tools, and DSS and expert system capabilities, are being added to many systems to make them more useful to managers and business professionals.

Characteristics & capabilities of EIS:-

Some of the desired characteristics and capabilities are described as below.

1) DRILL DOWN

The investigation of information in detail. For e.g. an executive may notice a decline in corporate sales by region or by any means.

2) CRITICAL SUCCESS FACTORS (CSFs)

The factors those are most critical to the success of an organization. Such factors can be strategic, managerial, or operational and are derived mainly from three resources like organizational, industrial and environmental.

3) STATUS ACCESS

A rapid access to current information, provided by a computer. It may require daily or even hourly operational tracking and reporting. In extreme cases, real-time reporting may be required.

4) ANALYSIS

Analytic capabilities are available in EIS that use mathematical formulas to derive an optimal solution directly or to predict a certain result, mainly in solving structured problems.

5) EXCEPTION REPORTING

It is based on the concept of management by exception. That means in exception reporting, the executive's attention is called only to cases with a very bad or very good performance.

6) USE OF COLORS AND AUDIO

Typically, critical items are reported not only numerically but also in color. For example,

GREEN   for   OK

YELLOW   for   WARNING

RED   for   DANGER, that means the performance outside the preset boundaries of the plan.

Some systems are equipped with audio signals to alert the user to arriving information.

7) COMMUNICATION

The mode of communications for the executives may be by e-mail, a transfer of a report addressed to the attention of someone, a call for a meeting, or a comment made to news group on the internet.

EIS Components:-

The components of an EIS can typically be classified as:

MIS

1. Hardware

When talking about hardware for an EIS environment, we should focus on the hardware that meet executive's needs. The executive must be put the first and the executive's needs must be defined before the hardware can be selected. The basic computer hardware needed for a typical EIS includes four components: (1) Input data-entry devices. These devices allow the executive to enter, verify, and update data immediately; (2) The central processing unit (CPU), which is the kernel because it controls the other computer system components; (3) Data storage files. The executive can use this part to save useful business information, and this part also help the executive to search historical business information easily; (4) Output devices, which provide a visual or permanent record for the executive to save or read. This device refers to the visual output device or printer. In addition, with the advent of local area networks (LAN), several EIS products for networked workstations became available. These systems require less support and less expensive computer hardware. They also increase access of the EIS information to many more users within a company.

2. Software

Choosing the appropriate software is vital to design an effective EIS. Therefore, the software components and how they integrate the data into one system are very important. The basic software needed for a typical EIS includes four components:

1. Text base software. The most common form of text is probably documents;
2. Database. Heterogeneous databases residing on a range of vendor-specific and open computer platforms help executives access both internal and external data;
3. Graphic base. Graphics can turn volumes of text and statistics into visual information for executives. Typical graphic types are: time series charts, scatter diagrams, maps, motion graphics, sequence charts, and comparison-oriented graphs (i.e., bar charts);
4. Model base. The EIS models contain routine and special statistical, financial, and other quantitative analysis.

Perhaps a more difficult problem for executives is choosing from a range of highly technical software packages. Ease of use, responsiveness to executives' requests, and price are all reasonable considerations. Further, it should be considered whether the package can run on existing hardware.

3. Interface

MIS

An EIS needs to be efficient to retrieve relevant data for decision makers, so the interface is very important. Several types of interfaces can be available to the EIS structure, such as scheduled reports, questions/answers, menu driven, command language, natural language, and input/output. It is crucial that the interface must fit the decision maker's decision-making style. If the executive is not comfortable with the information questions/answers style, the EIS will not be fully utilized. The ideal interface for an EIS would be simple to use and highly flexible, providing consistent performance, reflecting the executive's world, and containing help information and error messages.

4. Telecommunications

As decentralizing is becoming the current trend in companies, telecommunications will play a pivotal role in networked information systems. Transmitting data from one place to another has become crucial for establishing a reliable network. In addition, telecommunications within an EIS can accelerate the need for access to distributed data.

Applications:-

EIS enables executives to find those data according to user-defined criteria and promote information-based insight and understanding. Unlike a traditional management information system presentation, EIS can distinguish between vital and seldom-used data, and track different key critical activities for executives, both which are helpful in evaluate if the company is meeting its corporate objectives. After realizing its advantages, people have applied EIS in many areas, especially, in manufacturing, marketing, and finance areas.

Advantages

- ∀ Easy for upper-level executives to use, extensive computer experience is not required in operations
- ∀ Provides timely delivery of company summary information
- ∀ Information that is provided is better understood
- ∀ Filters data for management
- ∀ Improves to tracking information
- ∀ Offers efficiency to decision makers

Disadvantages

- ∀ Functions are limited, can not perform complex calculations
- ∀ Hard to quantify benefits and to justify implementation of an EIS
- ∀ Executives may encounter information overload
- ∀ System may become slow, large, and hard to manage

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- ∀ Difficult to keep current data
- ∀ May lead to less reliable and insecure data
- ∀ Small companies may encounter excessive costs for implementation

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