Executive Level
Managerial Level
Operational Level

Who: Foremen of supervisors
What: Automate routine and repetitive activities and events
Why: Improve organizational Efficiency

Managerial Level

Who: Midlevel Managers and Functional Managers
What: Automate the monitoring and controlling of operational activities
Why: Improve organizational Effectiveness

Executive Level

Who: Executive-level Managers
What: Aggregate summarizes past organizational data and projections of the future
Why: Improve organizational strategy and planning
Bus network: Local processors share the same bus or communication channel.
92) Internet is the largest network of networks today, and the closest model we have to the information superhighway of tomorrow. (the net) is rapidly growing globally. 

Data redundancy as application and their data files were created by different programmers over a period of time, the same piece of information could be duplicated in places.

(Traditional approach)

CSF = critical success factors:

1. success for manager
2. department
3. division
4. organization

Steps to address the problem:

1. Establish a comprehensive system for gathering, processing, and disseminating information.
2. Implement a system for tracking and analyzing data.
3. Establish clear guidelines and procedures for data management.
4. Implement a system for monitoring and evaluating data quality.
5. Establish a system for ensuring data security and confidentiality.
6. Establish a system for ensuring data accuracy and integrity.
7. Establish a system for ensuring data accessibility and usability.
8. Establish a system for ensuring data relevance and timeliness.
9. Establish a system for ensuring data relevance and timeliness.
10. Establish a system for ensuring data relevance and timeliness.
Data transmission - Data can be transmitted in 2 basic modes - whole byte at time which is feasible only over very short distances or single bit at time with long distance. The transmission can take the form of:

1. Parallel transmission - each byte is transmitted in its entirety. The electrical impulses representing the bits of a byte are transmitted along a bundle of parallel lines called a bus.

2. Serial transmission - data is transmitted one bit at a time through a single line.

Parallel and serial data transmission require different types of wiring.

Data bus - is a system of wires or strings of conductive materials, etched on the surface of a computer board. It is a communications channel that allows the transmission of a whole byte or more in one pass.

Cache memory - virtually all new microcomputer models offer cache memory as a part of RAM. Cache memory is made up of fast memory semiconductor chips. The CPU can access cache memory faster than the rest of RAM. Cache memory stores the most frequently used instructions of programs the computer runs, allowing faster retrieval and execution.
Information system: is a set of interrelated components work together to collect, retrieve, process, store and disseminate information for the purpose of facilitating planning, control analysis, coordination and decision making in business and other organizations.

Router: is like a conventional computer in that it has a central processor, memory, network interfaces. Routers do not use conventional software nor are they used to run applications. Their only job is to interconnect networks, and it is to interconnect independently.
Compiler: It is a program that translates a high-level programming language into machine language program.

1) Simplex: In a simplex communication, device A can transmit to device B, but device B cannot transmit to device A, like a radio.

2) Half-duplex: In half-duplex mode, device A can transmit to device B while device B receives the signal. Device B can transmit to device A while device A receives the signal.

3) Full-duplex: In full-duplex communication, either device can transmit to other device while simultaneously receiving signals from the other device. Device A can transmit to B and receive from B at the same time, and vice versa.
Planning, Organization, Leading, Controlling

Planning:

- In order to achieve the goals and objectives, it is necessary to define the strategies and methods to be followed.

Organization:

- The manager of the organization must ensure that the goals and objectives are clearly defined and that the employees are aware of their roles and responsibilities.

Leading:

- Effective leadership is essential to ensure that the employees are motivated and engaged.

Controlling:

- The performance of the organization must be monitored and controlled to ensure that the goals are achieved.

(3) System Identification, Selection and Planning

(1) System Analysis
(2) System Design
(3) System Implementation
(4) System Maintenance

System Analysis: Modeling, Organizational Data, Organizational Processes, Organizational Logic
system design: - Designing Forms and reports
- Designing interface and Dialogues
- Designing Databases and files
- Designing processing and Logic

- System implementation: Software programming and testing
  - System conversion, training, documentation and support.

System maintenance: 1. Obtain maintenance request
  2. Transform request into changes
  3. Design changes
  4. Implement changes

9. Industry factors:
   @ Stage of maturity
   @ Regulation
   @ Nature of competition or rivalry

Business strategy
   @ Scale
   @ Scope
   @ Strategic Potential of IT within the industry
3. Implementation Factors:

a. Type or organization
b. Political factors

c. People resources: People are required for the operation of all information systems.
   a. End users (users or clients) are people who used information.
   b. IS specialists: are people who develop and operate information systems.

d. Hardware resources: the concept of hardware resources includes all physical devices.
   a. Computers systems: which consists of central processing units.
   b. Computer peripherals: which are devices such as a keyboard or electronic mouse for input of data.

3. Software Resources: the concept of software resources includes all sets of information processing instructions
   a. System software: such as an operating system program
   b. Application software: which are programs that direct processing
   c. Procedures: operating instructions

4. Data Resources: the concept of data has been broadened
   a. Database
   b. Knowledge
5) Network resources:
   a) Communication media
   b) Network support

6) Point to Point: Each terminal is connected by its own line to a computer system.

2) Multidrop lines: Several terminals share each data communication line.

3) Star network: Ties end user computers to a central computer.

4) Ring network: Ties local computer processors together.