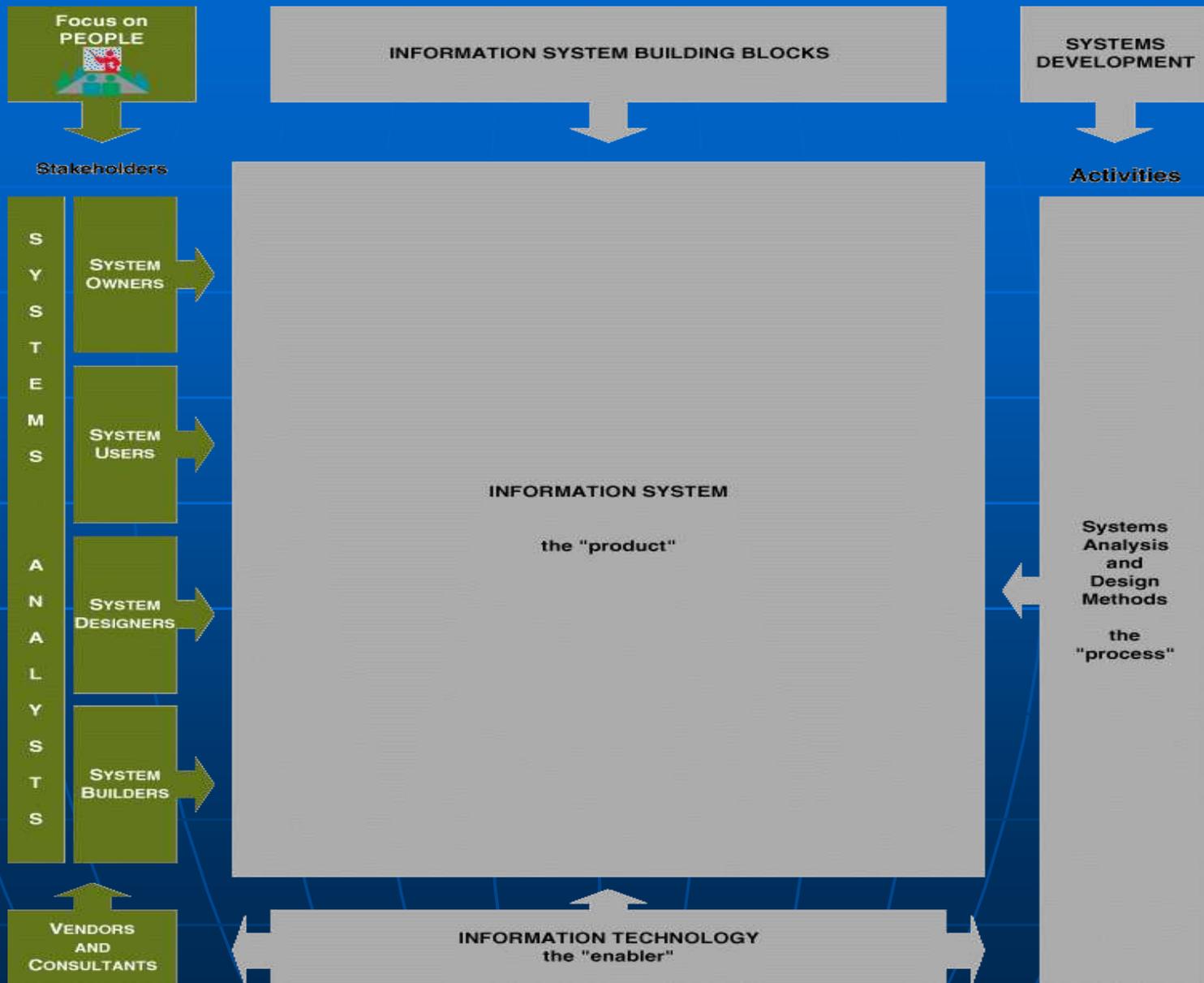


Players In The System Game

- **What are information systems, and who are the stakeholders in the information systems game?**
- **What role will you personally play in the development and use of information systems?**
- **Who are information system users? How is the definition changing in a remote computing and Internet-centric world?**
- **What is a systems analyst and why are these individuals the key players in the development and implementation of information systems?**
- **What are systems analysis and design?**
- **Where do systems analysts work?**
- **What modern business and technology trends are affecting information systems development?**
- **What are the career prospects for systems analysts?**
- **If you want to pursue a career as a systems analyst, what knowledge and skills do you need to acquire?**



Stakeholders: Players in the Systems Game

- A **stakeholder** is any person who has an interest in an existing or new information system. Stakeholders can be technical or nontechnical workers.
- For information systems, the stakeholders can be classified as:
 - System owners
 - System users
 - Systems analysts
 - System designers
 - System builders
 - IT vendors and consultants

Information versus Knowledge

Workers

Information

workers are those workers whose jobs involve the creation, collection, processing, distribution, and use of information.

Knowledge

workers are a subset of information workers whose responsibilities are based on a specialized body of knowledge.



**Focus on
PEOPLE**

Stakeholders

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SYSTEM OWNERS

SYSTEM USERS

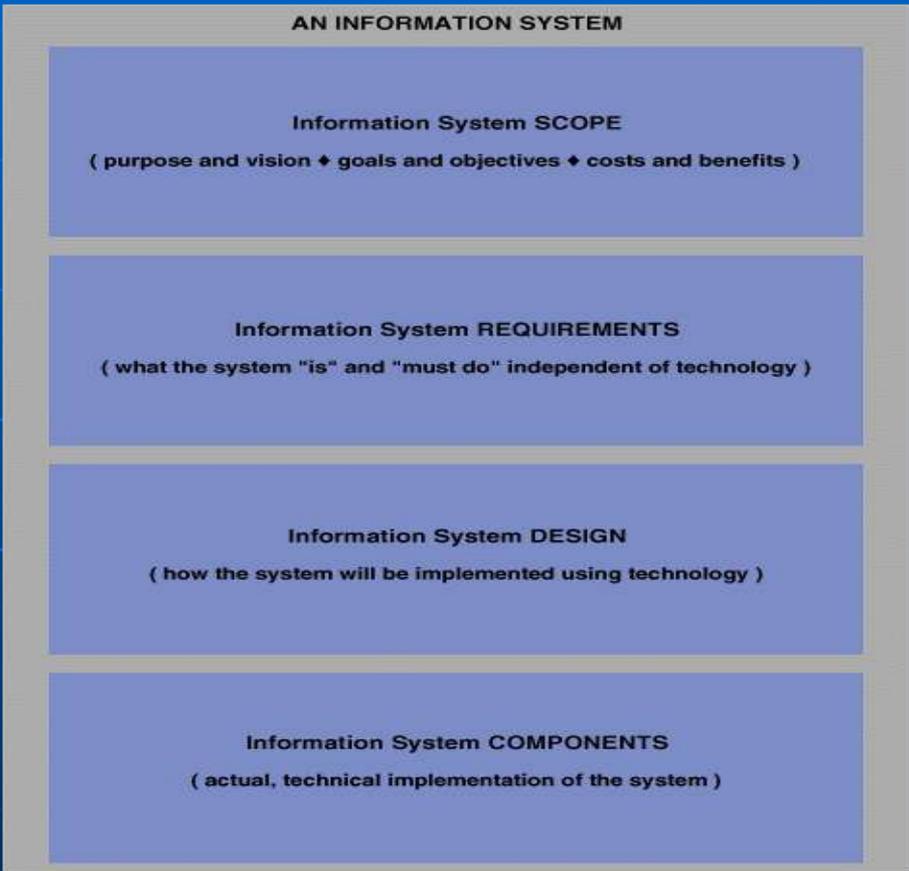
SYSTEM DESIGNERS

SYSTEM BUILDERS

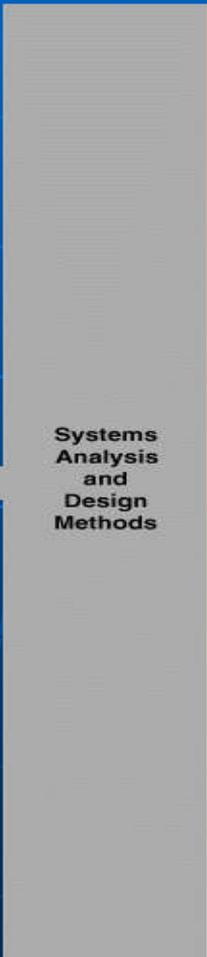
**VENDORS
AND
CONSULTANTS**

INFORMATION SYSTEM BUILDING BLOCKS

**SYSTEMS
DEVELOPMENT**



Activities



INFORMATION TECHNOLOGY & ARCHITECTURE

System Owners

System owners are the information system's sponsors and chief advocates. They are usually responsible for funding the project to develop, operate, and maintain the information system.

System Users

System users are the people who use or are affected by the information system on a regular basis—capturing, validating, entering, responding to, storing, and exchanging data and information. A common synonym is client. Types include:

- Internal users
 - Clerical and service workers
 - Technical and professional staff
 - Supervisors, middle managers, and executive managers
 - Remote and mobile users (internal but disconnected)
- External users

System Designers and System Builders

System designers translate system users' business requirements and constraints into technical solutions. They design the computer files, databases, inputs, outputs, screens, networks, and programs that will meet the system users' requirements.

System builders construct the information system components based on the design specifications from the system designers. In many cases, the system designer and builder for a component are one and the same.

Systems Analysts

A **systems analyst** studies the problems and needs of an organization to determine how people, data, processes, communications, and information technology can best accomplish improvements for the business. When information technology is used, the analyst is responsible for:

- The efficient capture of data from its business source,
- The flow of that data to the computer,
- The processing and storage of that data by the computer, and
- The flow of useful and timely information back to the business and its people.

Variations on the Systems Analysts Title

- A **business analyst** is a systems analyst that specializes in business problem analysis and technology-independent requirements analysis.
- A **programmer/analyst** (or **analyst/programmer**) includes the responsibilities of both the computer programmer and the systems analyst.
- Other synonyms for systems analyst include:
 - Systems consultant
 - Systems architect
 - Systems engineer
 - Information engineer
 - Systems integrator

Problem-Solving Scenarios

- True problem situations, either real or anticipated, that require corrective action
- Opportunities to improve a situation despite the absence of complaints
- Directives to change a situation regardless of whether anyone has complained about the current situation

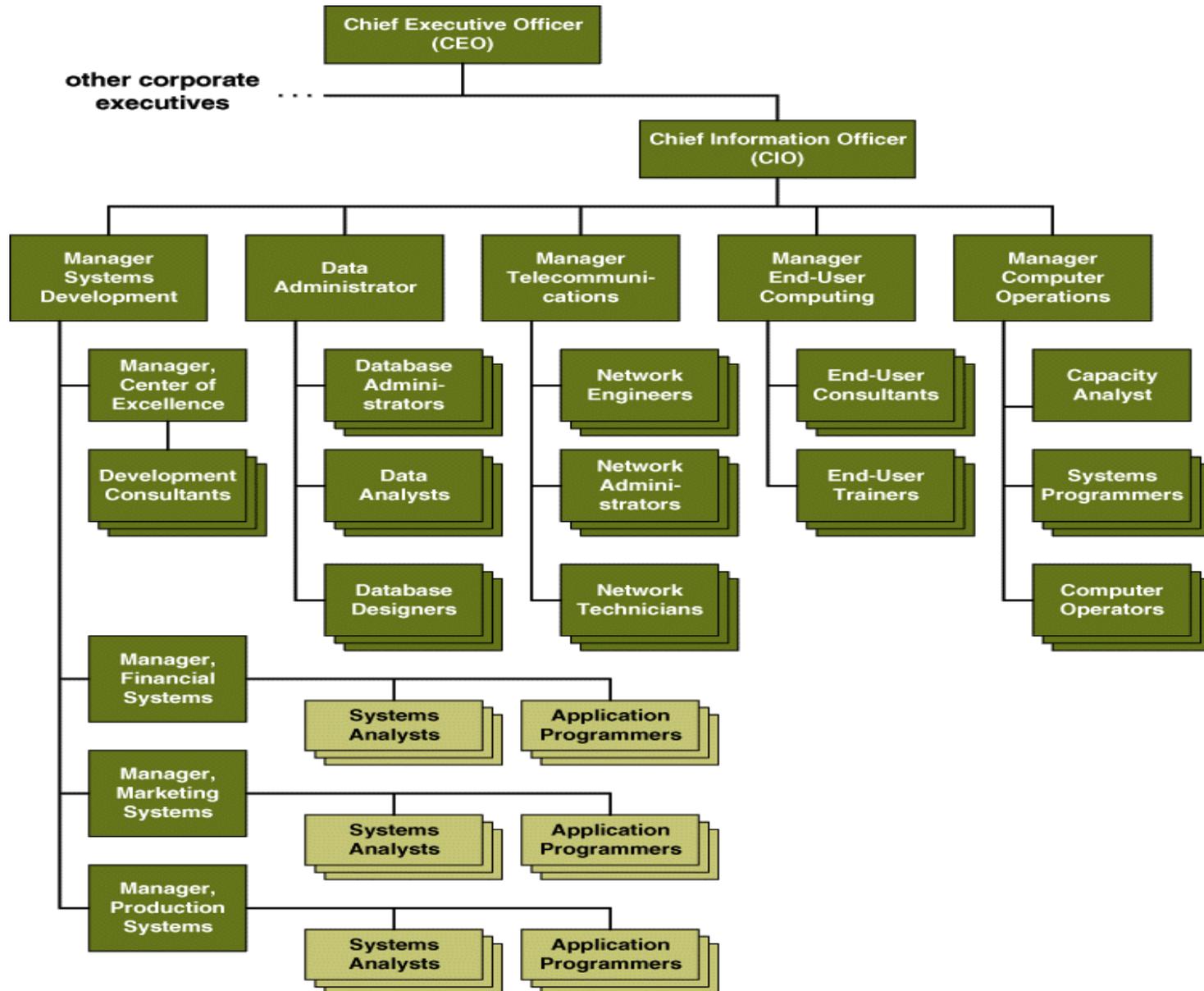
General Problem-Solving Approach

1. Identify the problem.
2. Analyze and understand the problem.
3. Identify solution requirements or expectations.
4. Identify alternative solutions and decide a course of action.
5. Design and implement the "best" solution.
6. Evaluate the results. If the problem is not solved, return to step 1 or 2 as appropriate.

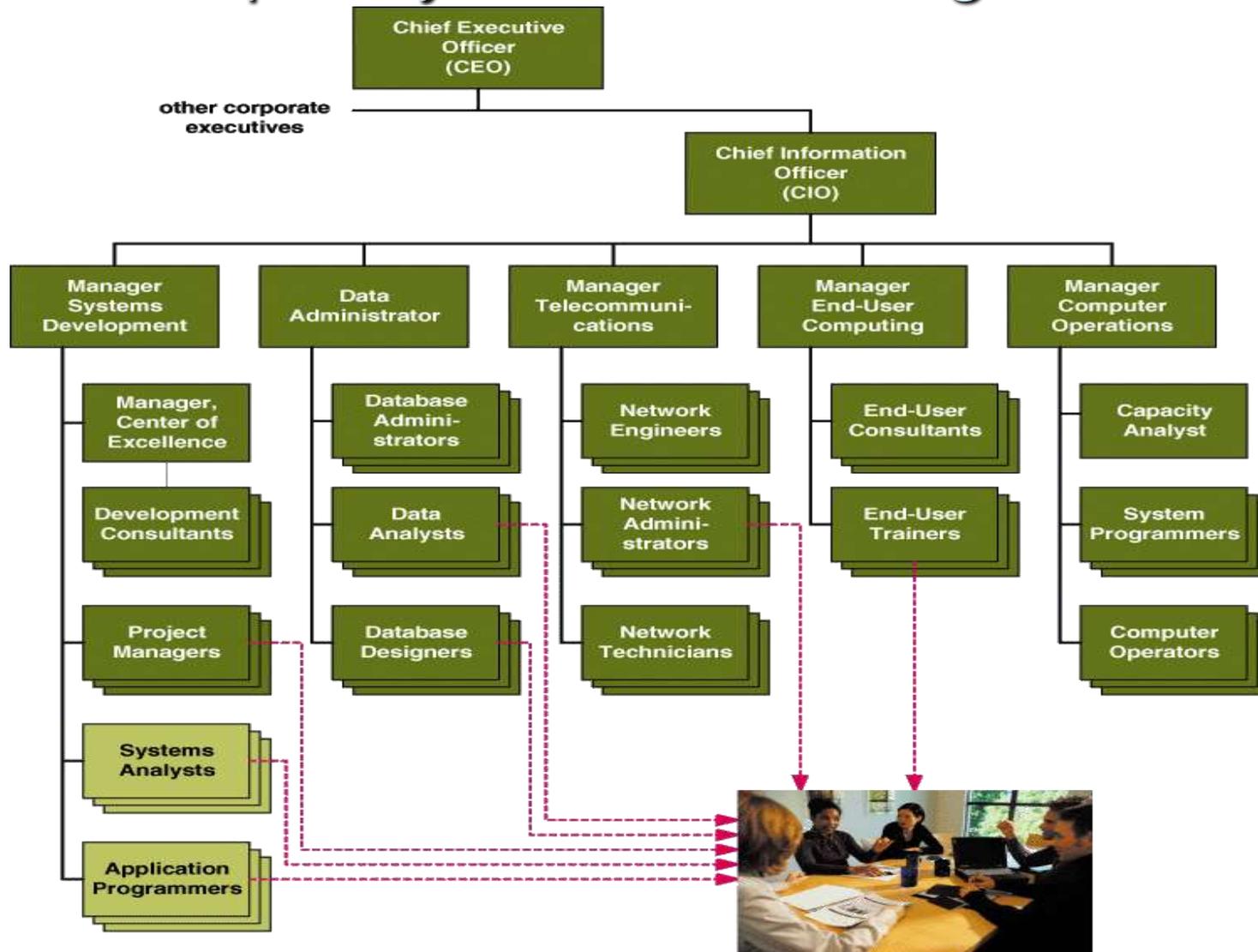
Where Systems Analysts Work

- In traditional businesses
 - Working in traditional information services organizations (permanent project teams)
 - Working in contemporary information services organizations (dynamic project teams)
- In outsourcing businesses
 - Contracted to traditional businesses
- In consulting businesses
 - Contracted to traditional businesses
- In application software businesses
 - Building software products for traditional businesses

Traditional IS Services Organization



Contemporary IS Services Organization



THE PROJECT TEAM
SYSTEM OWNERS, USERS, DESIGNERS,
BUILDERS, AND ANALYSTS
(temporarily assigned to a specific business unit)

Business Trends and Drivers

- Total quality management (TQM)
- Continuous process improvement (CPI)
- Globalization of the economy
- Information technology problems and opportunities
 - Year 2000 problem (Y2K)
 - Euro currency directive
 - Enterprise resource planning (ERP)
 - Electronic commerce (EC or E-commerce)

Total Quality Management

- **Total quality management (TQM)** is a comprehensive approach to facilitating quality improvements and management within a business.
- Information systems quality standards:
 - **ISO 9001**, *Quality systems – Model for quality assurance in design/development, production, installation, and servicing.*
 - **Capability Maturity Model (CMM)** is a framework to assess the maturity level of an organization's information systems development and management processes and products. It consists of five levels of maturity as measured by a set of guidelines called the key process areas.

Business Process Redesign

Business process redesign (BPR) is the study, analysis, and redesign of fundamental business processes to reduce costs and/or improve value added to the business.

- Usually complemented by **continuous process improvement**

Continuous Process Improvement

Continuous process improvement (CPI) is the continuous monitoring of business processes to effect small but measurable improvements to cost reduction and value added.

- Essentially the opposite of **business process redesign**; however,
- CPI can and frequently does complement BPR.

Legacy Systems

Legacy systems are older information system applications that have become crucial to the day-to-day operation of a business and that may use technologies considered old or outdated by current standards.

- Can be adversely affected by technology and economic forces:
 - Year 2000
 - Euro
- Can be replaced by alternative solutions:
 - ERP
 - E-Commerce

Enterprise Resource Planning

An **Enterprise resource planning** (ERP) software product is a fully integrated information system that spans most basic business functions required by a major corporation. An ERP product is built around a common database shared these business functions. Examples of ERP software vendors include.

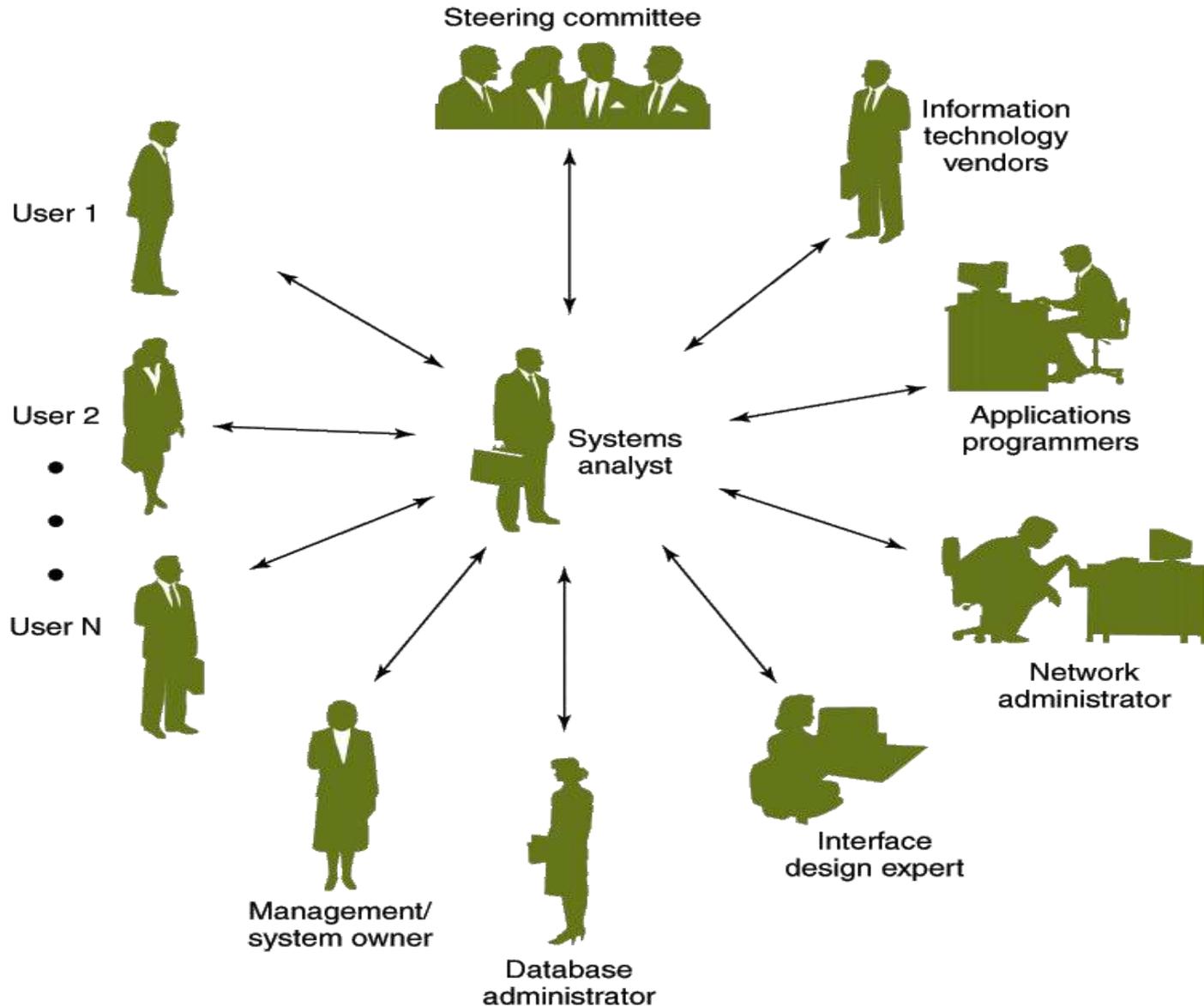
- Baan
- J. D. Edwards
- Oracle
- Peoplesoft
- SAP

Electronic Commerce

Electronic commerce (e-commerce or EC) involves conducting both internal and external business over the Internet, intranets, and extranets.

- Electronic commerce includes the buying and selling of goods and services, the transfer of funds, and the simplification of day-to-day business processes – all through digital communications.
- Three basic types of electronic commerce applications include:
 - Marketing
 - Business-to-consumer (B2C)
 - Business-to-business (B2B)

The Systems Analyst as a Facilitator



Skills Required by Systems Analysts

- Working knowledge of information technology
- Computer programming experience and expertise
- General business knowledge
- Problem-solving skills
- Interpersonal communication skills
- Interpersonal relations skills
- Flexibility and adaptability
- Character and ethics
- Systems analysis and design skills

Computer Ethics

The Ten Commandments of Computer Ethics

1. Thou shalt not use a computer to harm other people.
2. Thou shalt not interfere with other people's computer work.
3. Thou shalt not snoop around in other people's computer files.
4. Thou shalt not use a computer to steal.
5. Thou shalt not use a computer to bear false witness.
6. Thou shalt not copy or use proprietary software for which you have not paid.
7. Thou shalt not use other people's computer resources without authorization or proper compensation.
8. Thou shalt not appropriate other people's intellectual output.
9. Thou shalt think about the social consequences of the program you are writing or the system you are designing.
10. Thou shalt always use a computer in ways that insure consideration and respect for your fellow human