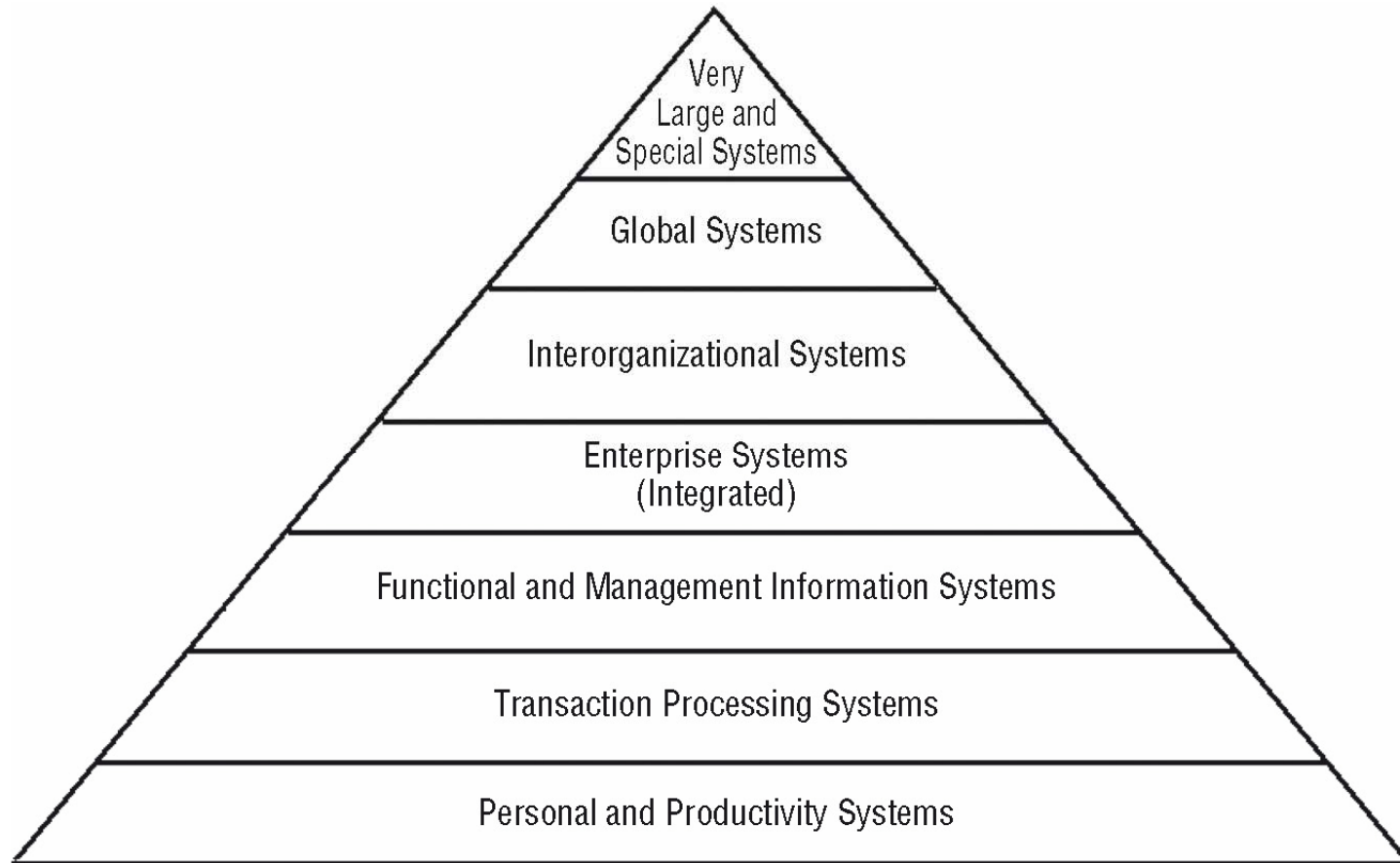


Information System - Classification & Types



Information System - Classification & Types

- **Personal and Productivity Systems:**
 - Systems to support P/PC balance.
 - Personal Information Management (PIM)

Information System - Classification & Types

- **Personal information management (PIM)**

- Practice and the study of the activities people perform in order to acquire, organize, maintain, retrieve and use information items such as documents, web pages and email messages for everyday use to complete tasks and fulfill a person's various roles as:
 - Parent,
 - Employee,
 - Friend,
 - Member of community, etc.

Information System - Classification & Types

- **Personal information management (PIM)**

- One of the goals of PIM is to have the right information in the right place, in the right form, and of sufficient completeness and quality to meet the current need.
- Technologies and tools such as personal information managers can reduce the amount of time and number of errors in management-related activities (such as looking for information).

Transaction Processing System (TPS)

- TPS automates routine and repetitive tasks that are critical to the operation of the organization, such as preparing a payroll, billing customers, Point-of-Sale, and Warehouse operations
- Data collected from this operation supports the MIS and DSS systems employed by Middle Management
- Computerizes the primary and most of the secondary activities on the Value Chain
- Primary purpose to perform transactions and collect data

Transaction Processing System (TPS)

- Routine Business Transactions in a Manufacturing Company:
 - Payroll and Personnel
 - Purchasing
 - Finance and Accounting
 - Sales
 - Production
 - Inventory Management

Functional and Management Information Systems (MIS)

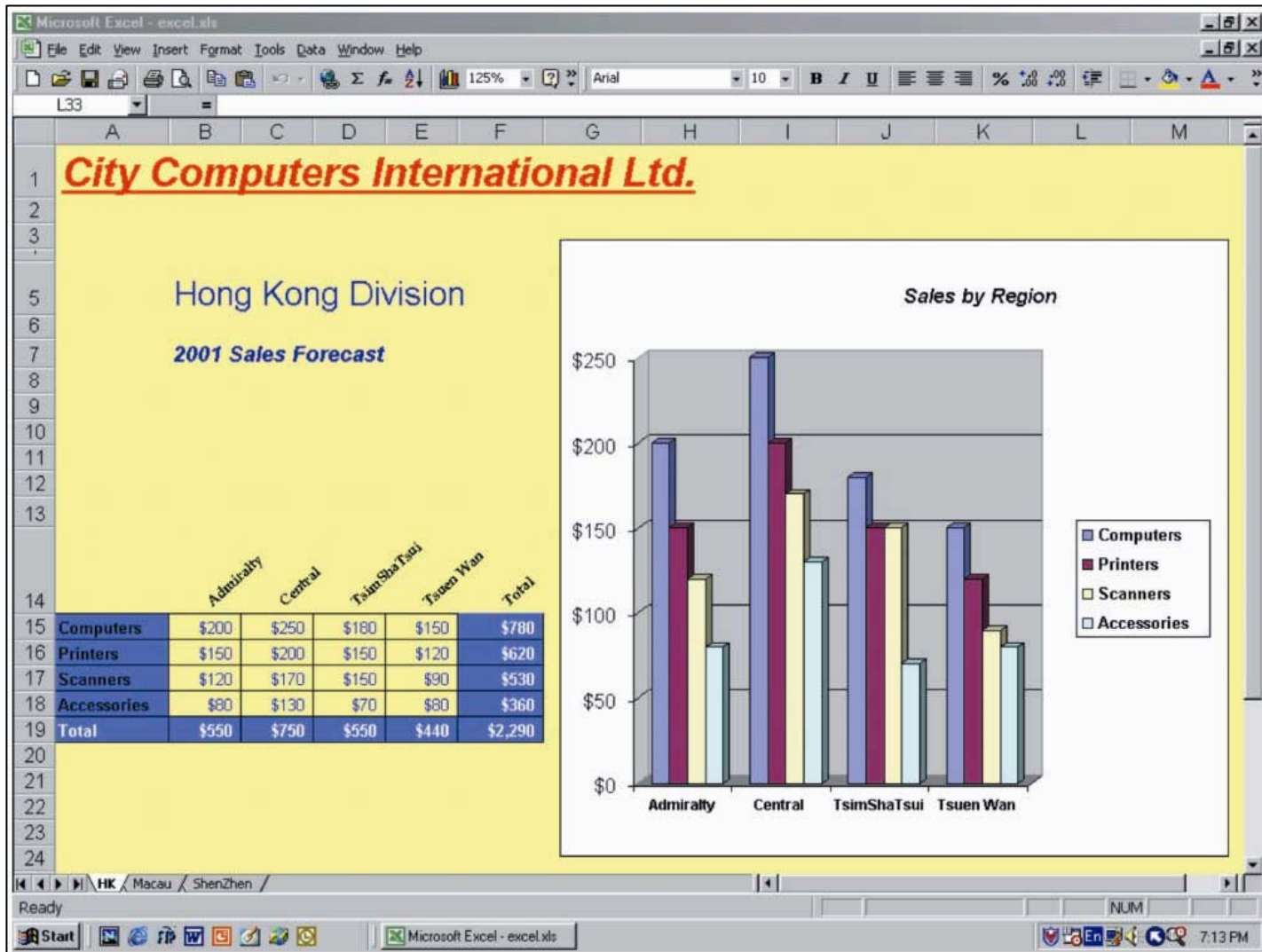
- These systems access, organize, summarize, and display information for supporting *routine decision making* in the functional areas. Geared toward middle managers, MIS are characterized mainly by their ability to produce periodic reports such as a daily list of employees and the hours they work, or a monthly report of expenses as compared to a budget
- Typical uses would be in Replenishment, Pricing Analysis (Markdowns) and Sales Management
- Decisions supported are more structured
- Primary purpose to process data into information

Functional and Management Information Systems (MIS)

Examples:

- Computerized analysis helps Texas collect \$400 million Additional Taxes.
- The Dallas Mavericks: using IT for successful play and business
- State-of-the-art HRM in China.
- Mobile banking at Handelsbanken of Sweden.

Functional and Management Information Systems (MIS)



Enterprise Information System

- An enterprise system is an interrelated set of information systems (technologies) working together for the purpose of facilitating:
 - Planning,
 - Control,
 - Coordination, and
 - Decision making

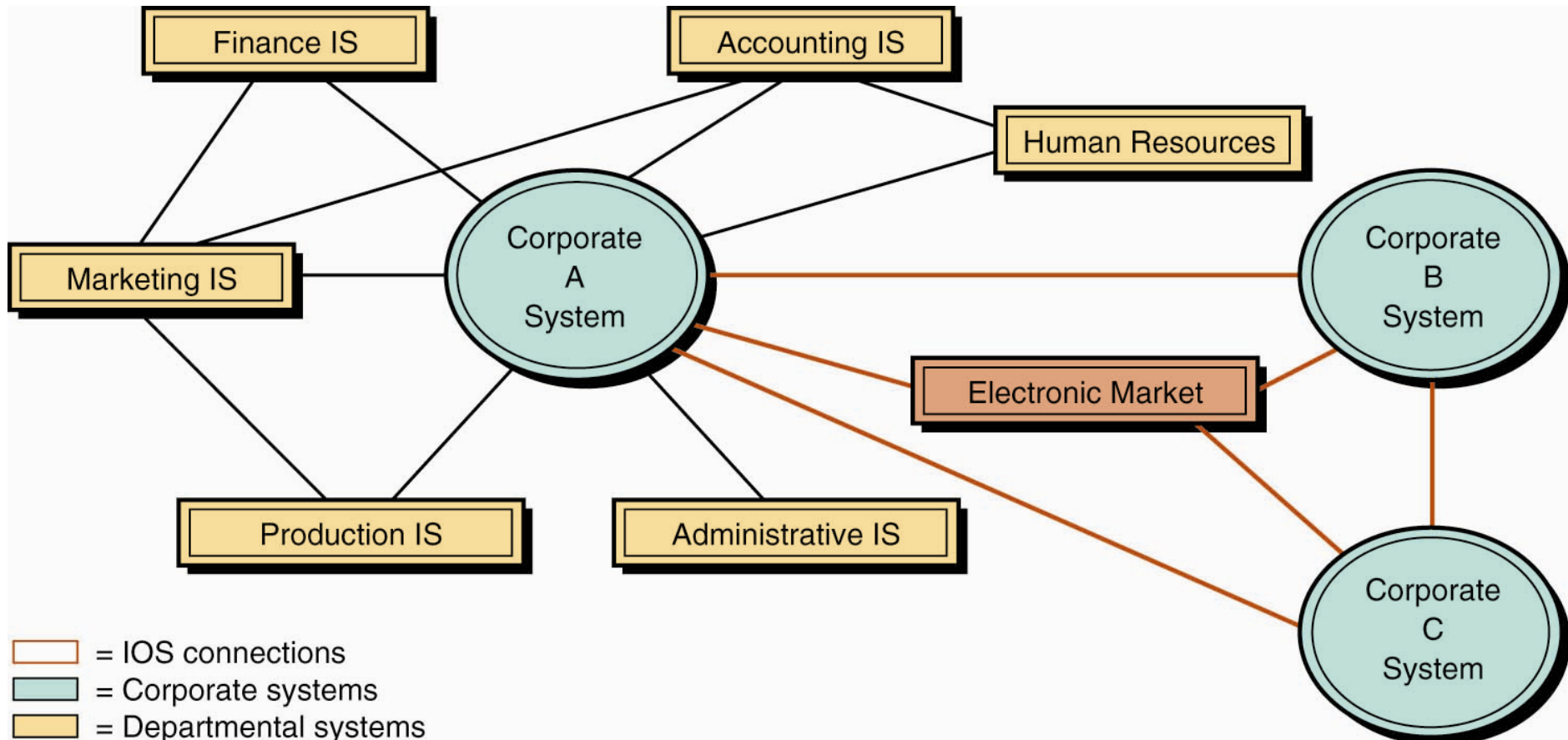
In businesses and other organizations to aid in achieving the vision and mission of the organization

Inter-Organizational Systems (IOS)

- IOS are systems that connect two or more organizations. These systems are common among business partners and play a major role in e-commerce as well as in **supply chain management support**
- The first type of IT system that was developed in the 1980s to improve communications with business partners was **electronic data interchange (EDI)**, which involved computer-to-computer direct communication of standard business documents (such as purchase orders and order confirmations) between business partners. These systems became the basis for *electronic markets*, which later developed into *electronic commerce*.
- *Web-based systems (many using XML)* deliver business applications via the Internet. Using browsers and the Internet, people in different organizations communicate, collaborate, access vast amounts of information, and run most of the organization's tasks and processes.

Information System - Classification By Function (Department)

An information system (IS) support each department in a corporation.



Global information system

- Processes data that is linked to location. Technically, GIS is geographic information systems which includes:
 - Mapping software and its application with remote sensing,
 - Land surveying,
 - Aerial photography,
 - Mathematics,
 - Photogrammetry,
 - Geography,

Very Large and Special Systems

- Often Global
- Includes many sub systems
- May be industry specific.

Main Types of IT Support Systems

- MIS
- OAS
- Communication and Collaboration Systems
- DTP
- DMS (Document Management)
- DSS
- GSS (Group Support)
- ES (Expert Systems)
- KWS
- Neural Networks – Data mining

Main Types of IT Support Systems

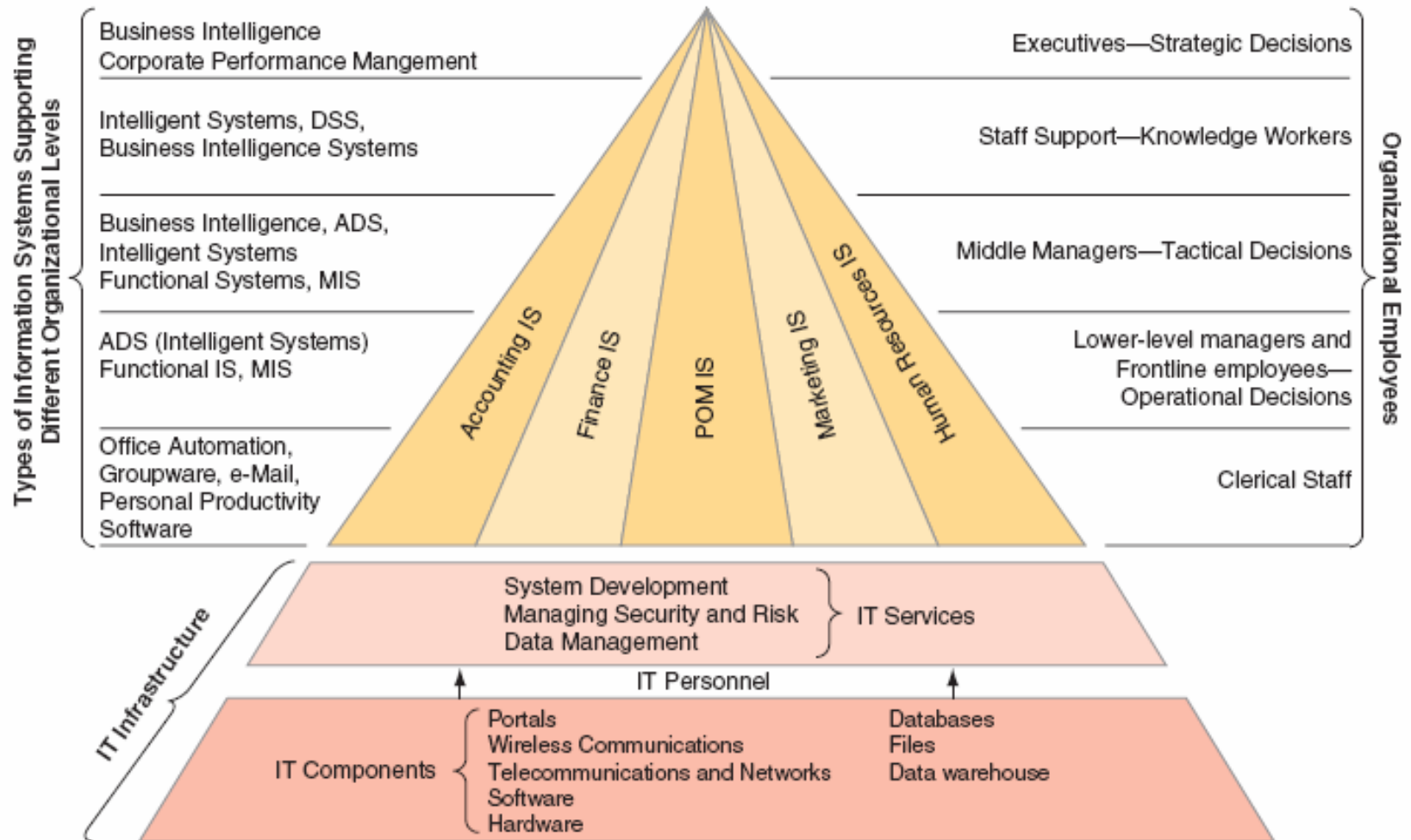
- Business Intelligence
- Mobile Computing Systems
- ADS (Automated Decision Support)
- ESS

How IT Supports People and Organizational Activities



- Operational Activities
- Managerial Activities
- Strategic Activities
- Who performs what activities
- How are they supported by IT?

People in Organizations

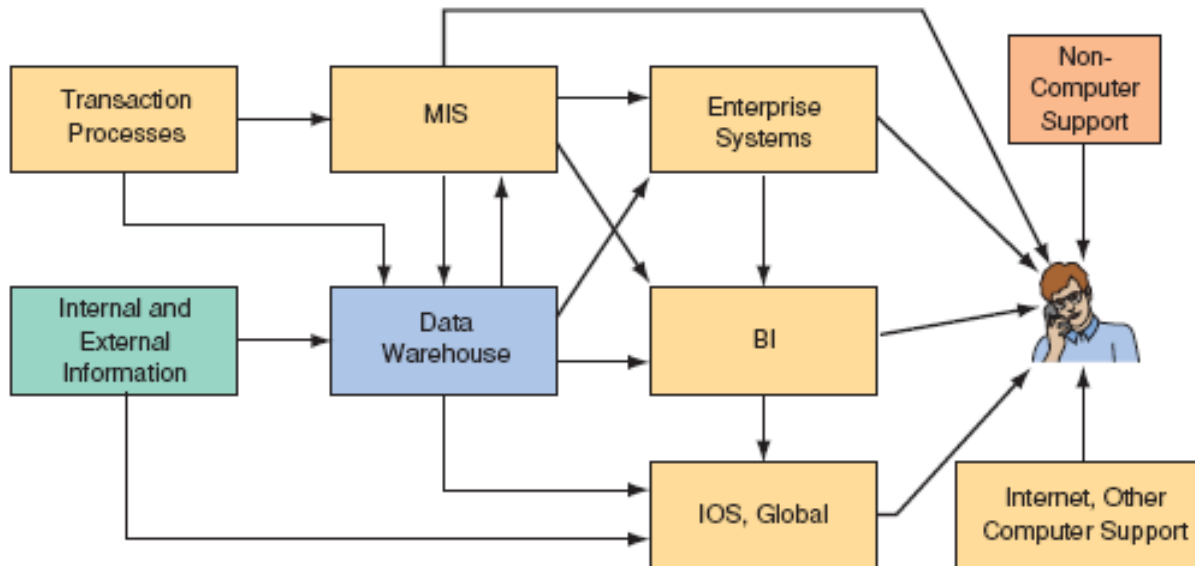


Intelligent Support Systems (ISS)

- Essentially, artificial intelligence (AI) these systems perform intelligent problem solving.
- One application of AI is expert systems. *Expert systems* (ESs) provide the stored knowledge of experts to nonexperts, so the latter can solve difficult or time-consuming problems. These advisory systems differ from TPS, which centers on data, and from MIS and DSS, which concentrates on processing information. With DSS, *users* make their decisions according to the information generated from the systems. With ES, the *system* makes recommended decisions for the users based on the built-in expertise and knowledge.

Executive Support Systems (ESS)

- ESS systems or Enterprise Information Systems (EIS) were originally implemented to support senior management. These systems have been expanded to support other managers within the enterprise
- At the senior management level they support *Strategic Activities* which deals with situations that may significantly change the manner in which business is done



Office Automation Systems (OAS)

- Electronic communication is only one aspect of what is now known as an *office automation system* (OAS). Other aspects include *word processing systems*, *document management systems*, and *desktop publishing systems*
- OAS systems are predominantly used by *clerical workers* who support managers at all levels. Among clerical workers, those who use, manipulate, or disseminate information are referred to as **data workers**

Knowledge Management Systems (KMS)

- An additional level of *staff support* now exists between top and middle management. These are professional people, such as financial and marketing analysts that act as advisors and assistants to both top and middle management. They are responsible for finding or developing new knowledge (External Content) for the organization and integrating it with existing knowledge (Internal Content)
- KMS that support these **knowledge workers** range from Internet search engines and expert systems, to Web-based computer-aided design and sophisticated data management systems

Decision Support Systems (DSS)

- These systems support complex non-routine decisions
- Primary purpose to process data into information
- DSS systems are typically employed by tactical level management whose decisions and what-if analyses are less structured
- This information system not only presents the results but also expands the information with alternatives
- Some DSS methodologies
 - Mathematical Modeling
 - Simulation
 - Queries
 - What-If (OLAP-Cubes)
 - Data mining

Expand our Scope to Include External Environments

The flow of materials, information, money, and services from raw material suppliers through factories and warehouses to the end customers is a **supply chain**.

Components of the Supply Chain

○ **Upstream supply chain**

- includes the organizations first-tier suppliers and their suppliers

○ **Internal supply chain**

- includes all the processes used by an organization in transforming the inputs of the suppliers to outputs

○ **Downstream supply chain**

- includes all the processes involved in delivering the products to final customers