Types of Information Systems:

By:

Dr. John K. Tarus

School of Information Sciences

INF 411/CMM 213: MANAGEMENT OF ICT

Types of Information Systems:

- Typical businesses and organizations have the following types of Information Systems, each system supporting a different organizational level.

- ✓ Transaction processing systems (TPS)

- ✓ Management information systems (MIS)

- ✓ Decision support systems (DSS)

- ✓ Executive support system (ESS)

- ✓ Expert systems (ES)

- ✓ Office automation systems (OAS)

- ✓ Knowledge management systems (KMSs)

- ✓ Enterprise Computing Systems

Types of Information Systems:
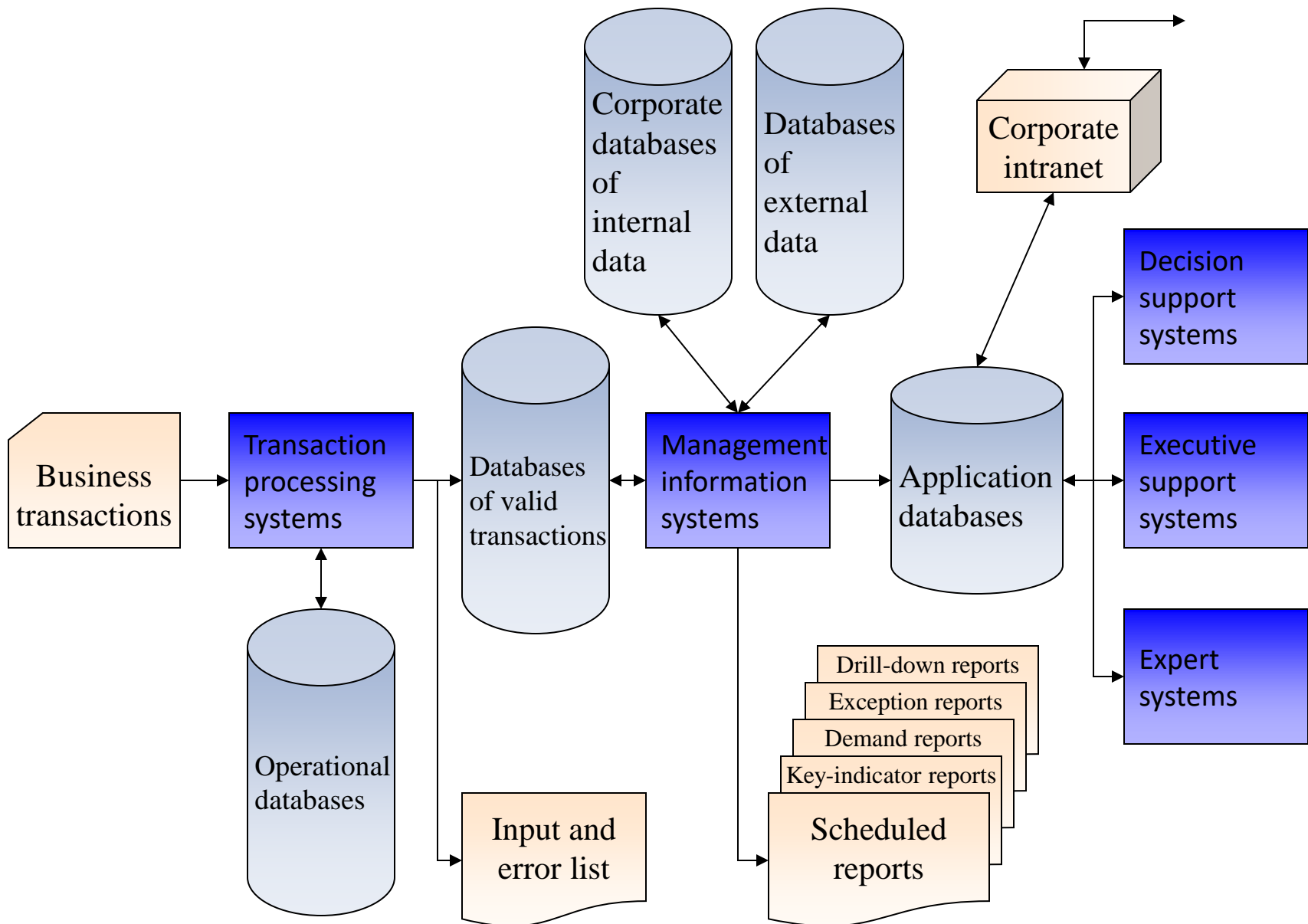
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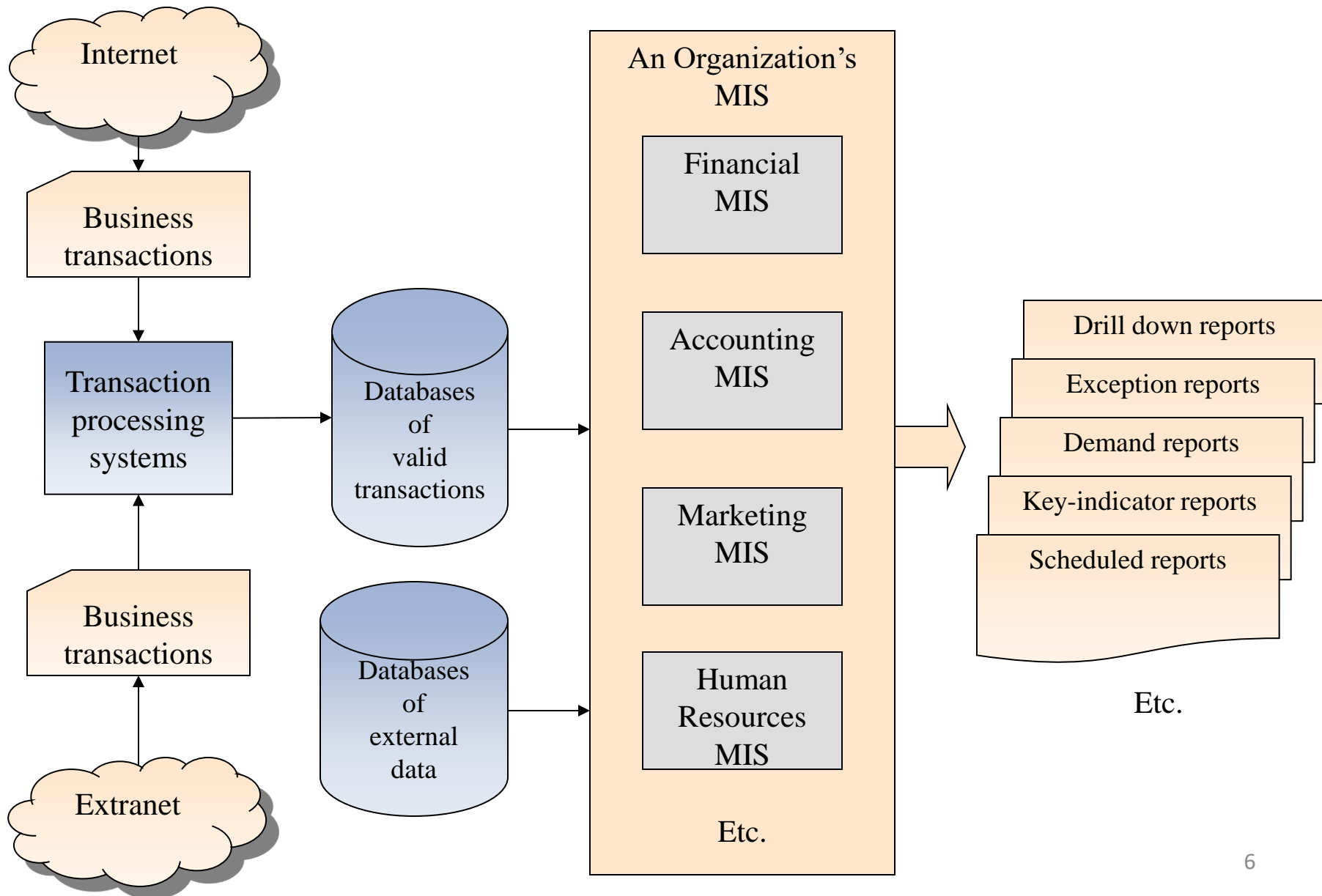
Transaction processing system (TPS):

- 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, Warehouse operations etc.

- They are designed to process routine transactions efficiently and accurately.

- They process a large volume of routine, recurring transactions.

- TPS systems are used to deal with such tasks as employee record keeping, payroll, customer billing, hotel reservation etc.

- It serves the operational level of the organization.

- Data collected from this operation supports the MIS and DSS systems employed by Middle Level Management.

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Management information system (MIS):

- Management Information Systems help managers make effective decisions to support ongoing operations within an organization.

- It is an information system which process data and converts it into information.

- A MIS depend on TPS for their data inputs.

- It summarizes and reports on the company's basic operations.

- Mostly for middle-level managers.

- It has some functional business areas: Marketing, Production, Human resources, Finance Accounting etc.

- MIS usually serve managers interest in weekly, monthly and yearly results not day to day activities.

Management information system (MIS):

Internet

Business transactions

Transaction processing systems

Business transactions

Extranet

Databases of valid transactions

Databases of external data

An Organization's MIS

Financial MIS

Accounting MIS

Marketing MIS

Human Resources MIS

Etc.

Drill down reports

Exception reports

Demand reports

Key-indicator reports

Scheduled reports

Etc.

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Decision support system (DSS):

- DSS are specifically designed to help management make decisions in situations where there is uncertainty about the possible outcomes of those decisions.

- Used when problem is complex and information needed to determine appropriate action is difficult to obtain.

- The DSS is an information system that assist managers in making better decisions by using historical and current data from internal Information Systems and external sources.

- They help managers with the necessary information to make intelligent decisions.

- Decision support systems are designed primarily to serve management control level and strategic planning level managers.

- DSS combines massive amounts of data with sophisticated analytical models and tools to provide a much better source of information to use in the decision making process.

- DSS have more analytical power than other systems.

- It is an interactive system in which user can change assumptions, ask new questions and include new data.

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Executive support system (ESS):

- Also called Executive Information System (EIS).

- Executive support system (ESS) provide a variety of internal and external information to top managers in a highly summarized and convenient form.

- An ESS is designed to cater for the information needs of Chief Executive Officers (CEOs).

- They help an executive spot a problem, an opportunity, or a trend.

- They filter, compress and track critical data, emphasizing the reduction of time and effort required to obtain information useful to executives.

- ESS employs the most advanced graphic software and can deliver graphs and data from many sources immediately to a senior executive's office or to a board room.

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Expert system (ES):

- Expert systems are meant to mimic humans in making decisions in a specific field.

- They give the computer ability to make suggestions and function like an expert in a particular field.

- It is a knowledge based information system that uses its knowledge about a specific, complex application area to act as an expert.

- These systems incorporate expertise in order to aid managers in diagnosing problems or in problem solving.

- This system is one of the knowledge based information systems.

- Expert systems find application in diverse areas, ranging from medical, engineering, agriculture, business etc.

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Office automation system (OAS):

- Office automation refers to the application of computer and communication technology to office functions.

- Help to improve the productivity of employees who need to process data and information.

- These systems include a wide range of support facilities, which include word processing, electronic mail, data storage, data and voice communication etc.

- They support typical office work, e.g. letter writing, mailing, messaging, conferencing etc.

- Wide range of software systems exist to improve the productivity of employees working in an office e.g. Microsoft Office.

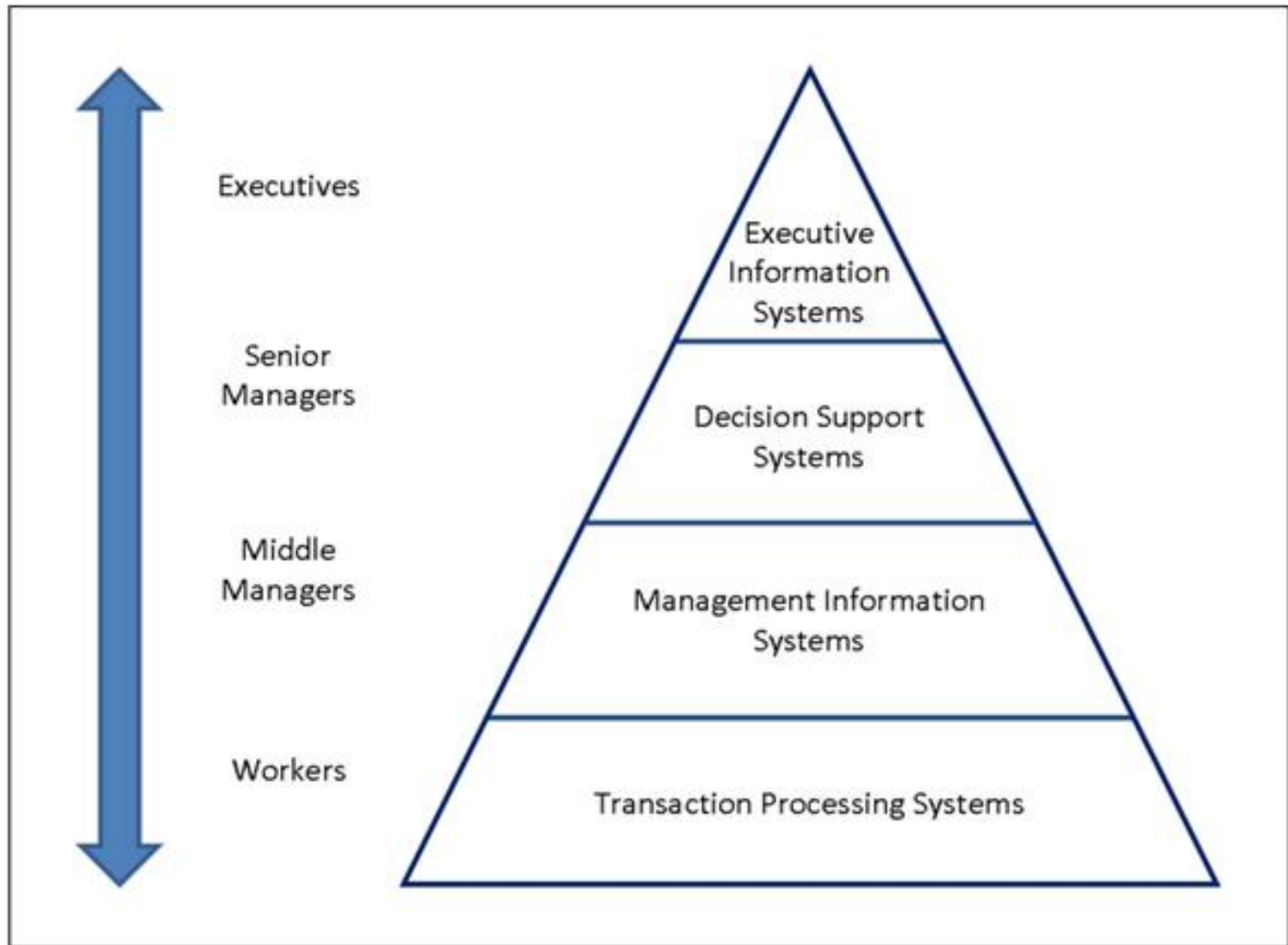# Types of Information Systems:

Knowledge management systems (KMSs):

- System that supports the creation, capture, and storage of knowledge in the organization.

- KMS help businesses create and share knowledge.

- They are typically used in a business where employees create new knowledge and expertise - which can then be shared by other people in the organization to create further commercial opportunities.

Enterprise Computing Systems:

- Information systems that support company-wide operations and data management requirements e.g enterprise resource planning (ERP) systems that provide cost-effective support for users and managers throughout the company.

Types of Information Systems:

END

Thank You

Q & A ?