Unit II

Focuses for Information Systems

- **Knowledge** — the raw material used to create useful information. [I thought that was data!]
- **Process** — the activities (including management) that carry out the mission of the business.
- **Communication** — how the system interfaces with its users and other information systems.

KNOWLEDGE Building Blocks

- Improving business knowledge is a fundamental goal of an information system.
- Business knowledge is derived from data and information.
- Data is refined to produce information that results as knowledge.
- Knowledge is that strength which enables a company to achieve its mission or vision.

Views of KNOWLEDGE

- System owners' view
  - Interested not in raw data but in information that adds new business knowledge and information that help managers make intelligent decisions.
  - Business entities and business rules.
- System users' view
  - View data as something recorded on forms, stored in file cabinets, recorded in books and binders, organized into spreadsheets, or stored in computer files and databases.
  - Tend to focus on the business issues as they pertain to the data.
  - **Data requirement** – a representation of users' data in terms of entities, attributes, relationships, and rules independent of data technology.
- System designers' view
  - Data structures, database schemas, fields, indexes, and constraints of particular database management system (DBMS).
- System builders' view
  - SQL
  - DBMS or other data technologies

PROCESS Building Blocks

- Improving the business and service process is the fundamental goal of an information system.
- Process represents the work in a system.
- Process deliver the desired functionality of an information system.
- People may perform the same processes and computers/machine perform others.

Views of PROCESS

- System owners' view
  - Concerned with high-level processes called **business functions.**
  - **Business function** – a group of related processes that support the business. Functions can be decomposed into other sub functions and eventually into processes that do specific tasks.
  - A **cross-functional information system** – a system that supports relevant business processes from several business functions without regard to traditional organizational boundaries such as divisions, departments, centers, and offices.
    E.g.: ERP Systems

Business function

A business function is also defined as any set of activities performed by the department that is initiated by an event, transform information, materials or business commitments, and procedures an output (e.g. order fulfillment, invoicing, cash management, manufactured batch, customer response tracking, regulatory submissions, etc).

Views of PROCESS

System users' view

- Concerned with work that must be performed to provide the appropriate responses to business events.
- **Business processes** – activities that respond to business events.
  E.g., Registration: Late add or drop.
- **Process requirements** – a user's expectation of the processing requirements for a business process and its information systems.
- **Policy** – a set of rules that govern a business process.: Approvals
- **Procedure** – a step-by-step set of instructions and logic for accomplishing a business process. Is it documented real well? E.g.: Late Add?
- **Work flow** – the flow of transactions through business processes to ensure appropriate checks and approvals are implemented.
  Wouldn't it be nice if we could digitally sign documents and route them electronically, guided by the system, and send Email notifications when "it's your turn", and when "it's complete"?

Views of PROCESS

- System designers' view
  - Concerned with which processes to automate and how to automate them
  - Constrained by limitations of application development technologies being used
  - **Software specifications** – the technical design of business processes to be automated or supported by computer programs to be written by system builders.
- System builders' view
  - Concerned with programming logic that implements automated processes
  - **Application program** – a language-based, machine-readable representation of what a software process is supposed to do, or how a software process is supposed to accomplish its task.
  - **Prototyping** – a technique for quickly building a functioning, but incomplete model of the information system using rapid application development tools.

COMMUNICATION Building Blocks

- It is the final building block of information system.
- A common goal of most organization is to improve the business communications and collaboration between employees and other constitutes.
- The communication should promote team work and coordinate of activities.
- The communication should interface effectively and efficiently with other business information systems.

Views of COMMUNICATION

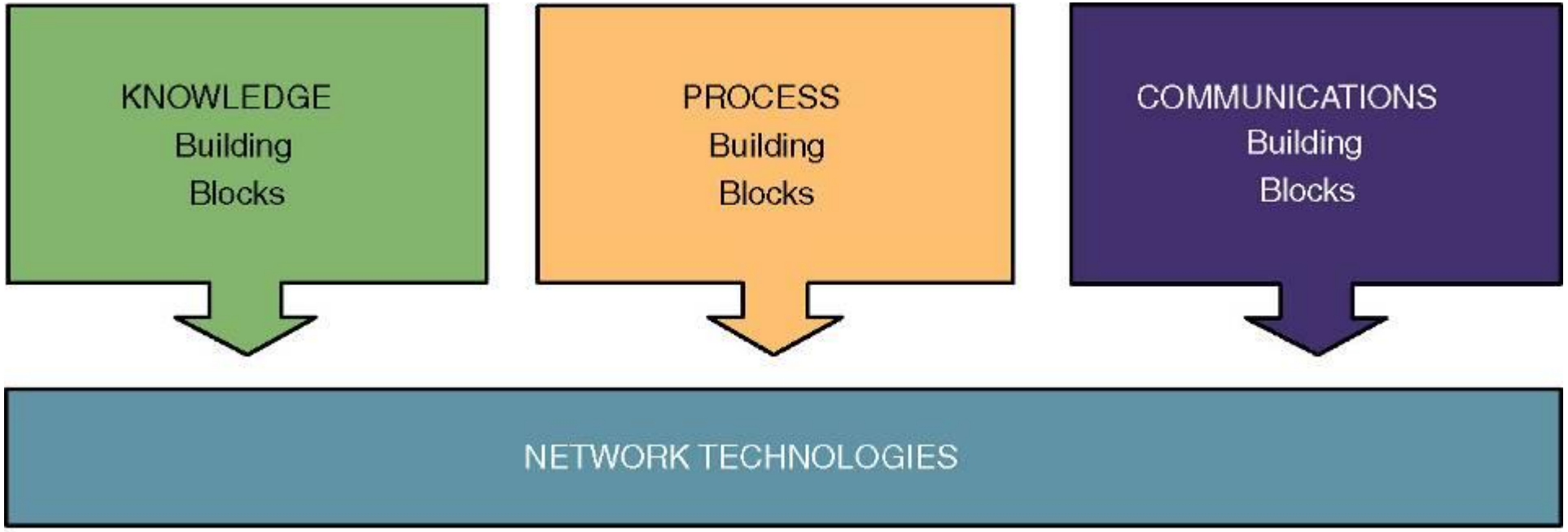
- System owners' view
  - Concerned with communications scope of an information system.
    - Who (which business units, employees, customers, and partners) must interact with the system?
    - Where are these business units, employees, customers, and partners located?
    - What other information systems will the system have to interface with?
- System users' view
  - Concerned with the information system's inputs and outputs.

Views of COMMUNICATION

- System designers' view
  - Concerned with the technical design of both the user and the system-to-system communication interfaces.
  - **Interface specifications** – technical designs that document how system users are to interact with a system and how a system interacts with other systems.
  - **User dialogue** – a specification of how the user moves from window to window or page to page, interacting with the application programs to perform useful work.

- System builders' view
  - Concerned with the construction, installation, testing and implementation of user and system-to-system interface solutions.
  - **Middleware** – utility software that allows application software and systems software that utilize differing technologies to interoperate.

Network Technologies and the IS Building Blocks



Network Technologies and the IS Building Blocks

- Network is the system of inter connected computers and devices to share data information and resources with each other.
- Today's information systems are built on networks.
- Network Technology allows properly designed information system to separate the knowledge, process and communication building blocks.
- It forces these building blocks to communicate across the network.
- Network technology can be database technology, software technology, interface technology.
- This technology supports to perform operations easily and fast.
- Network technology tends to use the information system in minimum cost.
- Network technology supports to use information system worldwide without any extra labor and cost.
- Remote accessing system also can be used for the use and process of data.