IS101 Principles of Information Systems

Unit Introduction
An Introduction to Information Systems

Lecturer: Dr Maya Krayneva

Textbook: Stair, R., & Reynolds, G. (2016). Principles of information systems (13th ed.). Cengage Learning.

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Welcome and introductions

Contact me:

- Maya Krayneva
- Email: mkrayneva@sheridan.edu.au
- Wednesdays: meeting with students

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The story of me

Draw “the story of me” without using any words.

Image source:
https://micador.com.au/products/F037412

Expectations

COME TO CLASS – OR LET ME KNOW IF YOU CAN'T

BE PREPARED

BE OPEN-MINDED

BE READY TO LEARN AND PARTICIPATE

ASK AND KEEP ON ASKING

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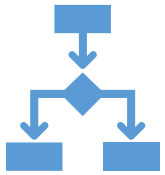
Unit Outline

Graduate Attributes



Learning Outcomes

Assessments

Weekly overview

Sheridan Graduate Attributes

Sheridan graduates will be …

- Lovers of truth
- Seekers of wisdom
- Innovative thinkers
- Effective communicators
- Independent learners
- Servant leaders

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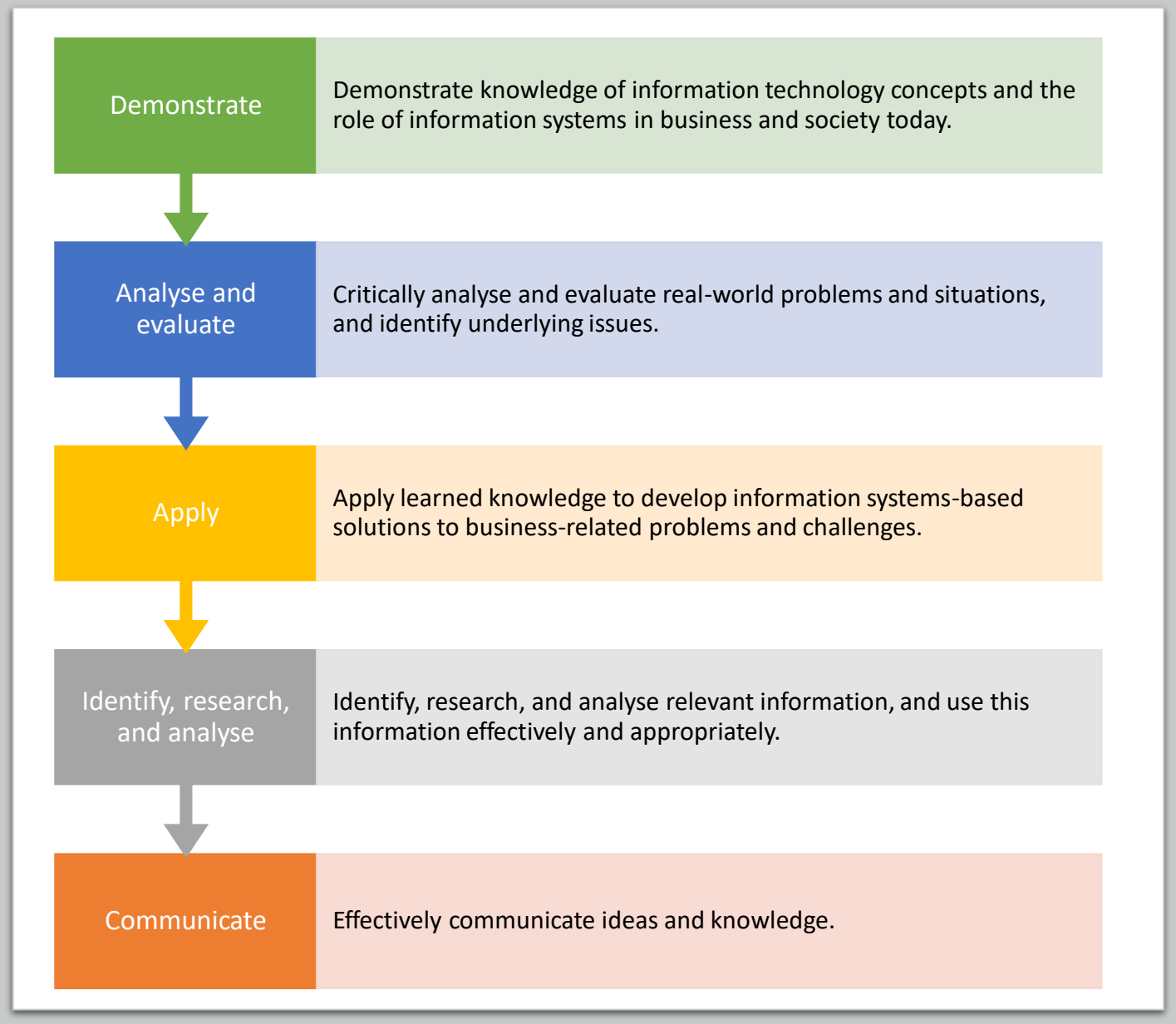
Principles of Information Systems Learning Outcomes



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Assessment Schedule

- You must submit all assessments in order to satisfy the unit requirements.

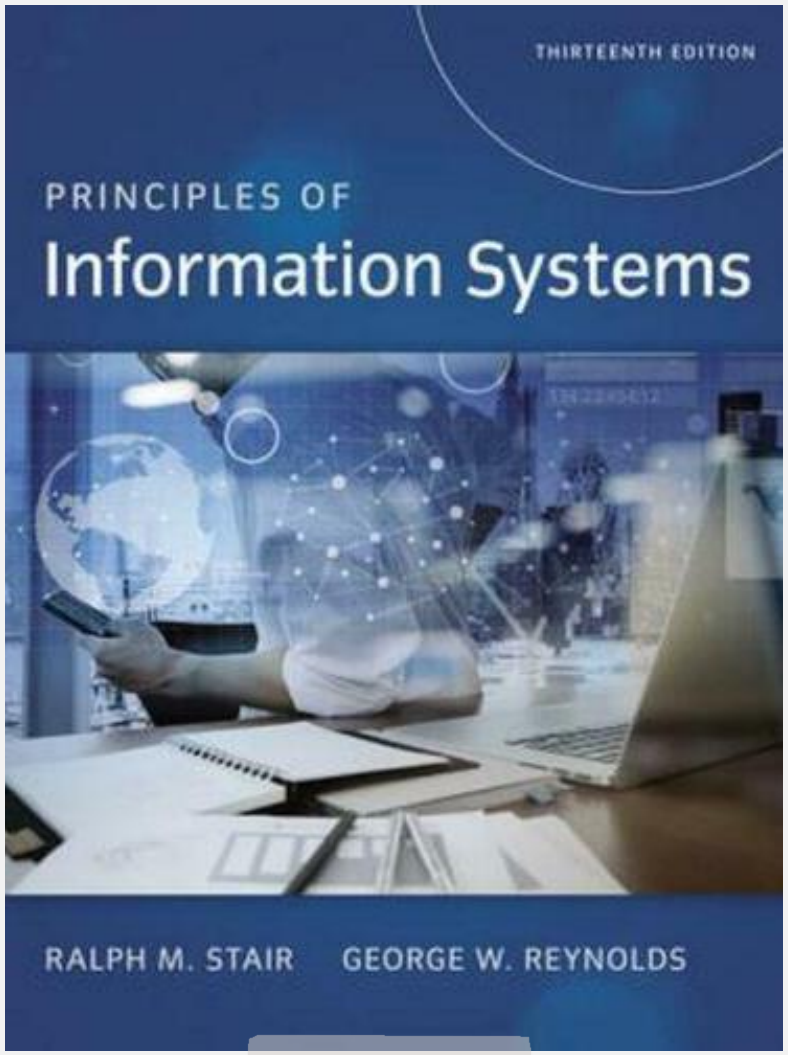
Assessment Type	Value	Due Date	Learning Outcomes (LOs) Assessed	Graduate Attributes (GAs) Addressed
Mid-trimester test	30%	Week 7	A, D	1, 2, 5
Problem-solving assignment	20%	Week 10	B, C, E	3, 4
Final exam	50%	Week 15	A, D	1, 2, 5

Overview

SEMINAR	TOPICS	PRESCRIBED READINGS	ASSESSMENTS
1	An Introduction to Information Systems		
2	Information Systems in Organizations	Chapter 1 and 2	
3	Hardware and Software	Chapter 3 and 4	
4	Organizing Data and Information	Chapter 5	
5	**In-Trimester Study Week**		
6	Networks and Cloud Computing	Chapter 6	
7	Review and Mid-trimester Test	Chapters 1-6	Mid-trimester test, 30%

Overview (continued)

SEMINAR	TOPICS	PRESCRIBED READINGS	ASSESSMENTS
8	Electronic and Mobile Commerce	Chapter 7	
9	Enterprise Systems and Business Intelligence	Chapters 8 and 9	
10	Knowledge Management and Specialized Information Systems	Chapter 10	Problem-solving assignment, 20%
11	Strategic Planning and Project Management Systems Acquisition and Development	Chapters 11 and 12	
12	Information Systems in Business and Society	Chapter 13 and 14	
13	Review	Chapters 1-14	
14	Pre-Exam Study Week		
15	Exam week		



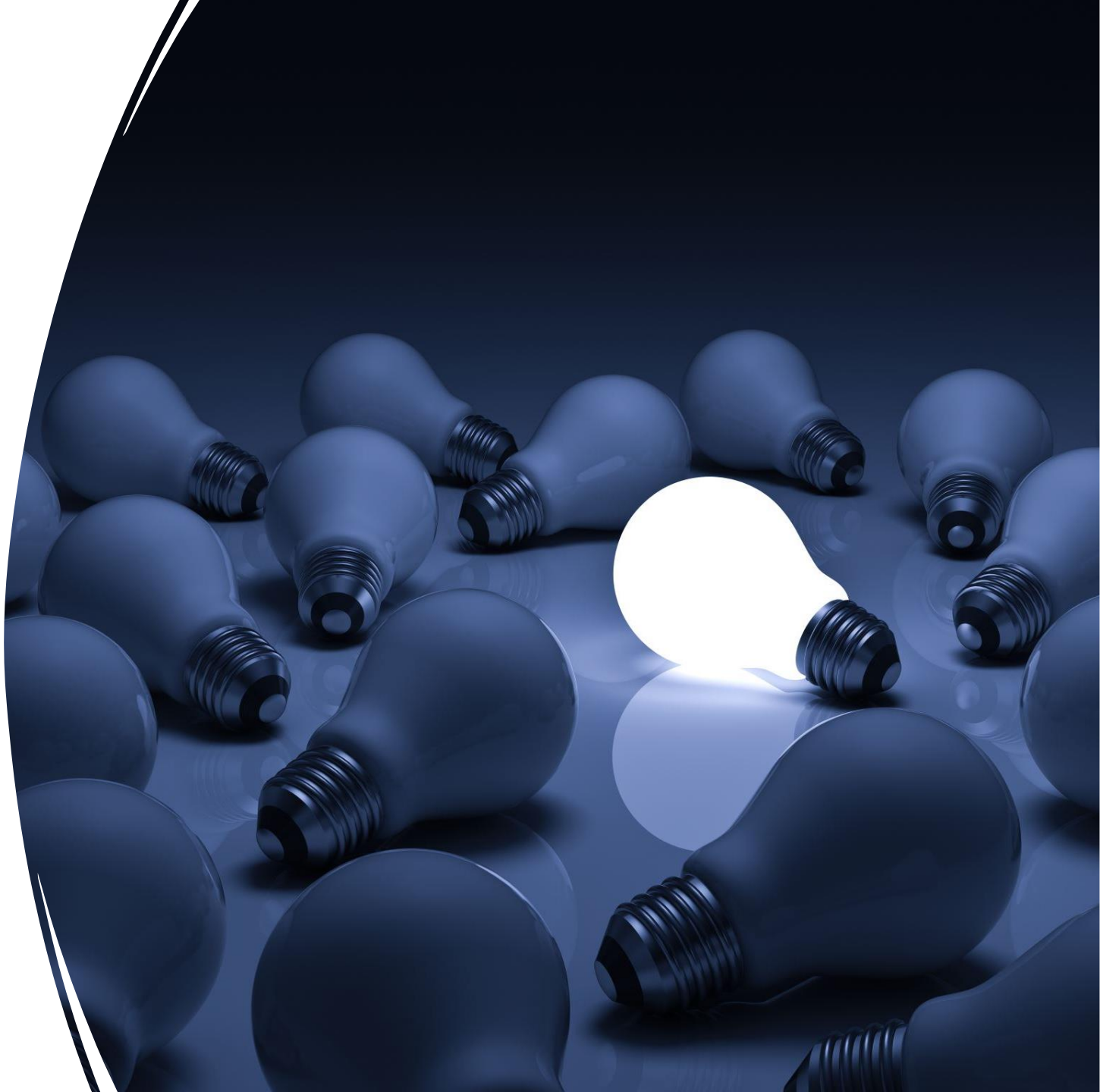
Chapter 1: An Introduction to Information Systems

Principles of information systems

Thirteen Edition

- What would you like to do?
- What kind of business would you like to have?
- What are your desires, passions and inner inspirations?

→ Describe your business.



KEY CONCEPTS in INFORMATION SYSTEMS

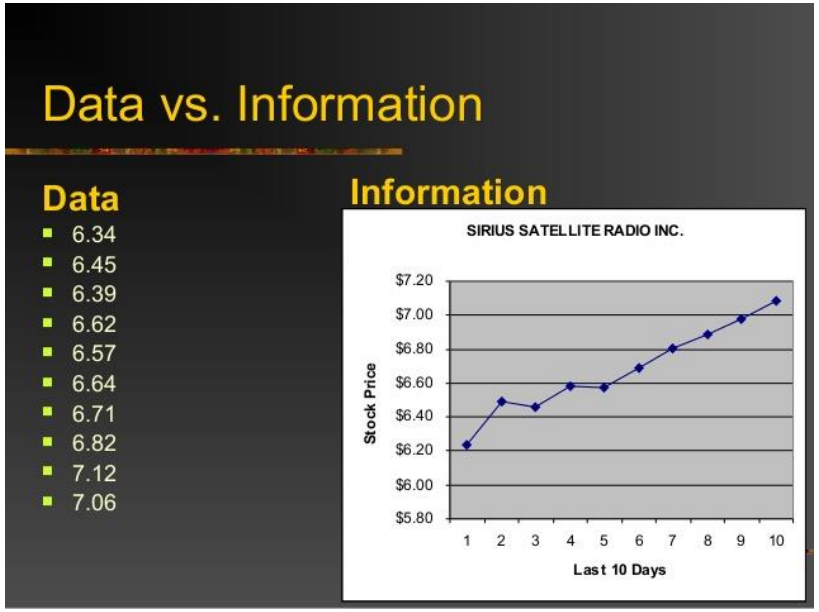
(**bolded** text in the following slides)

- **Data** and types of data

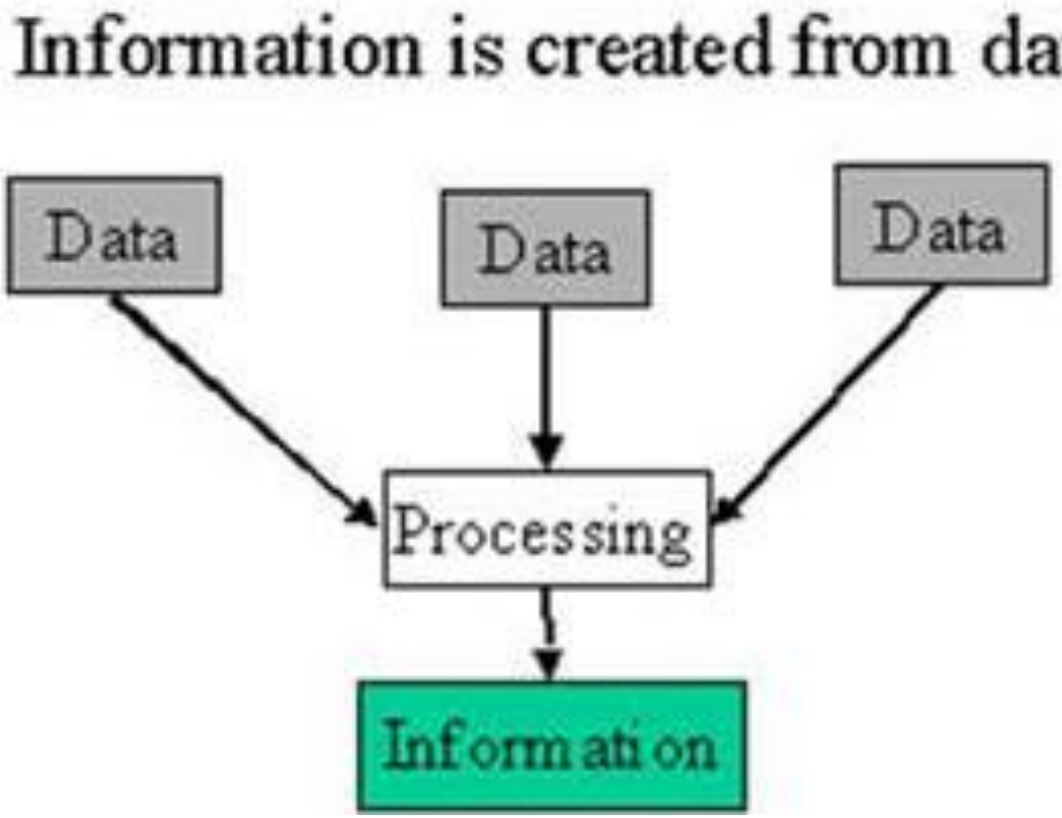
TABLE 1.1 Types of data

Data	Represented By
Alphanumeric data	Numbers, letters, and other characters
Audio data	Sounds, noises, or tones
Image data	Graphic images and pictures
Video data	Moving images or pictures

- **Information** and quality of information



Process: data → information



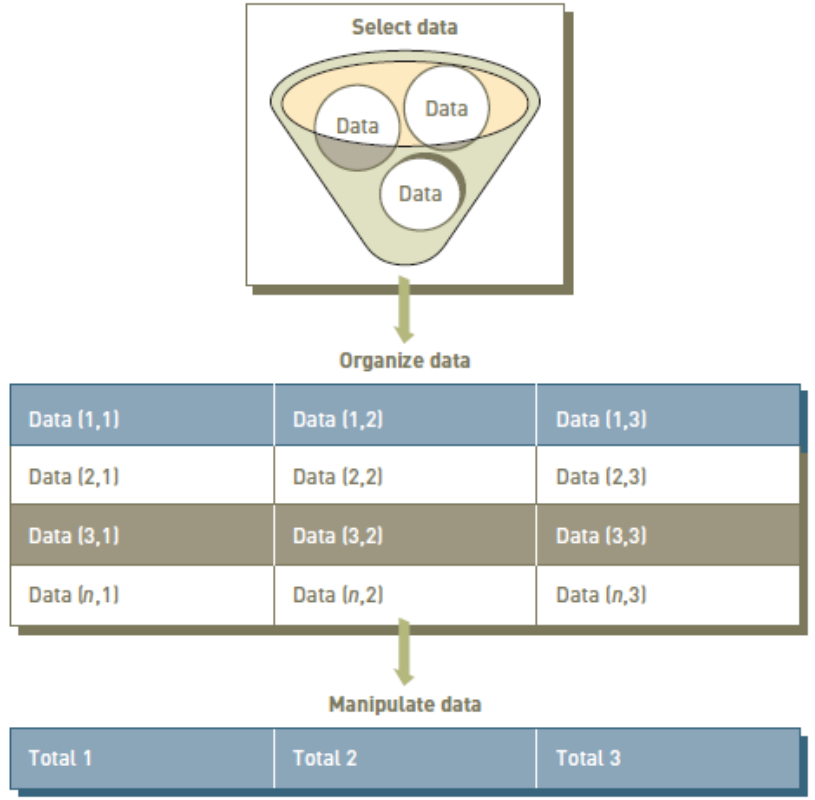
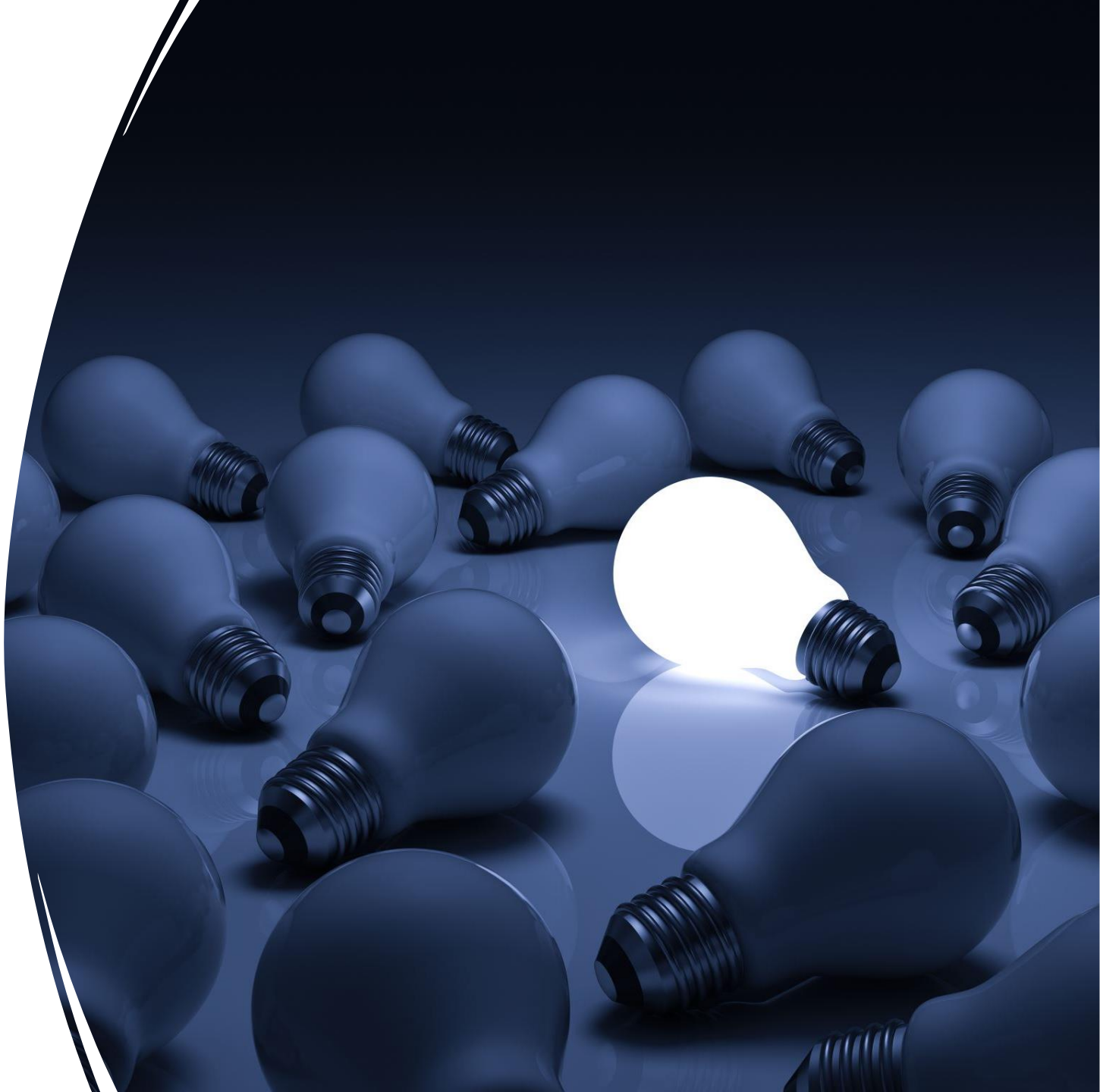
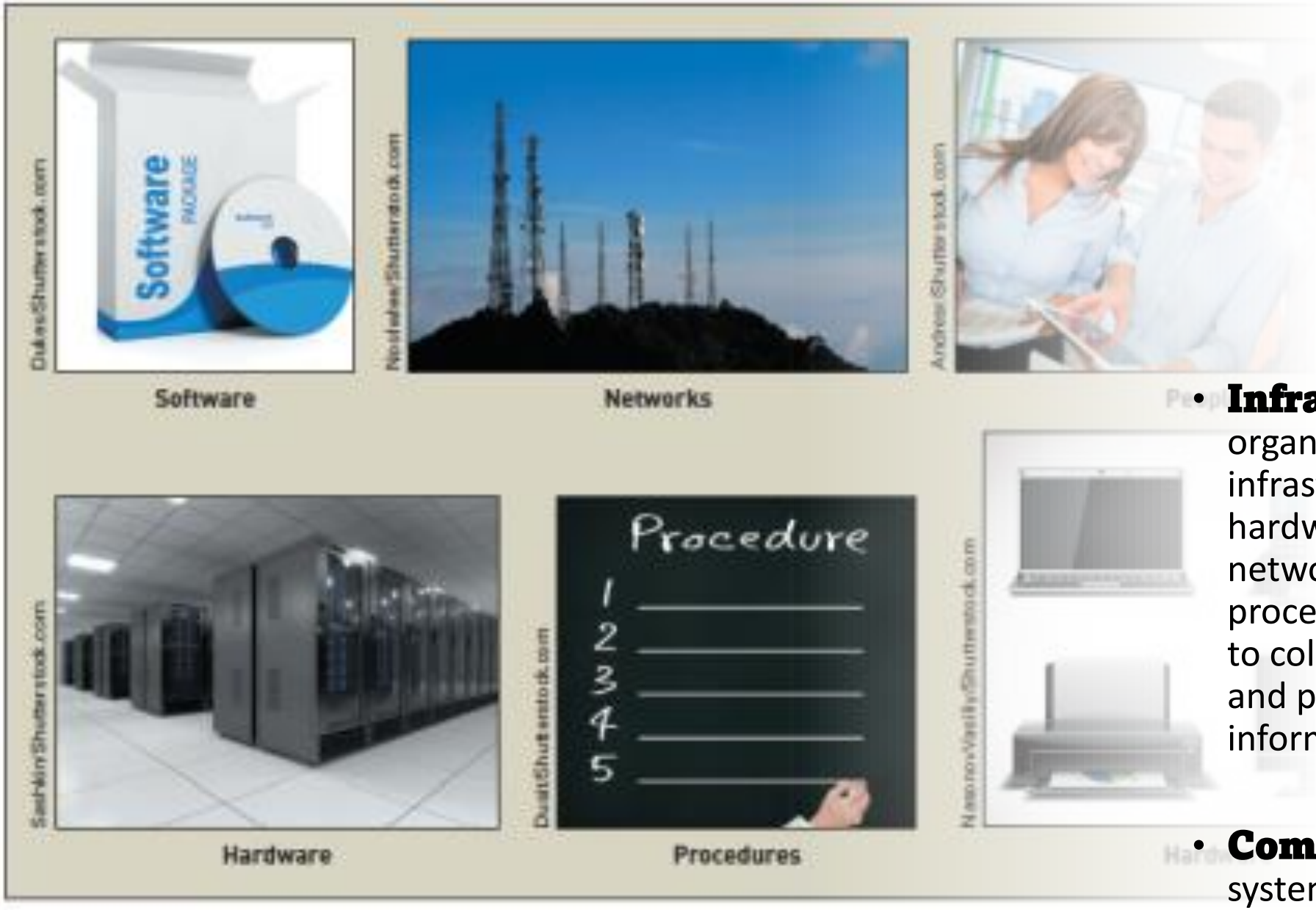


FIGURE 1.1
Process of transforming data into information
Transforming data into information starts by selecting data, then organizing it, and finally manipulating the data.

For your business:

1. Describe Information System (IS) you need.
2. Specify and illustrate its data, processing, and information.





- **Infrastructure**: An organization's technology infrastructure includes all the hardware, software, databases, networks, people, and procedures that are configured to collect, manipulate, store, and process data into information

- **Components** of information systems

FIGURE 1.2

Components of a computer-based information system

Hardware, software, networks, people, and procedures are part of a business's technology infrastructure.

Types of IS

TABLE 1.3 Examples and characteristics of each type of information system

	Personal IS	Group IS	Enterprise IS
Examples	Personal productivity software, decision-support system	Email, instant messaging, project management software	Transaction processing systems, enterprise systems, interorganizational systems
Benefits	Improved productivity	Increased collaboration	Increased standardization and ability to monitor work
Organizational complements (including well-trained workers, better teamwork, redesigned processes, and new decision rights)	• Does not bring complements with it • Partial benefits can be achieved without all complements being in place	• At least some complements must be in place when IS "goes live" • Allows users to implement and modify complements over time	• Full complements must be in place when IS "goes live"
Manager's role	• Ensure that employees understand and connect to the change • Encourage use • Challenge workers to find new uses	• Demonstrate how technology can be used • Set norms for participation	• Identify and put into place the full set of organizational complements prior to adoption • Intervene forcefully and continually to ensure adoption

- **Hardware** and **Software**
- **Database** and **Data warehouse**
- **Extract – Transform – Load (ETL)** (definition, p. 14)

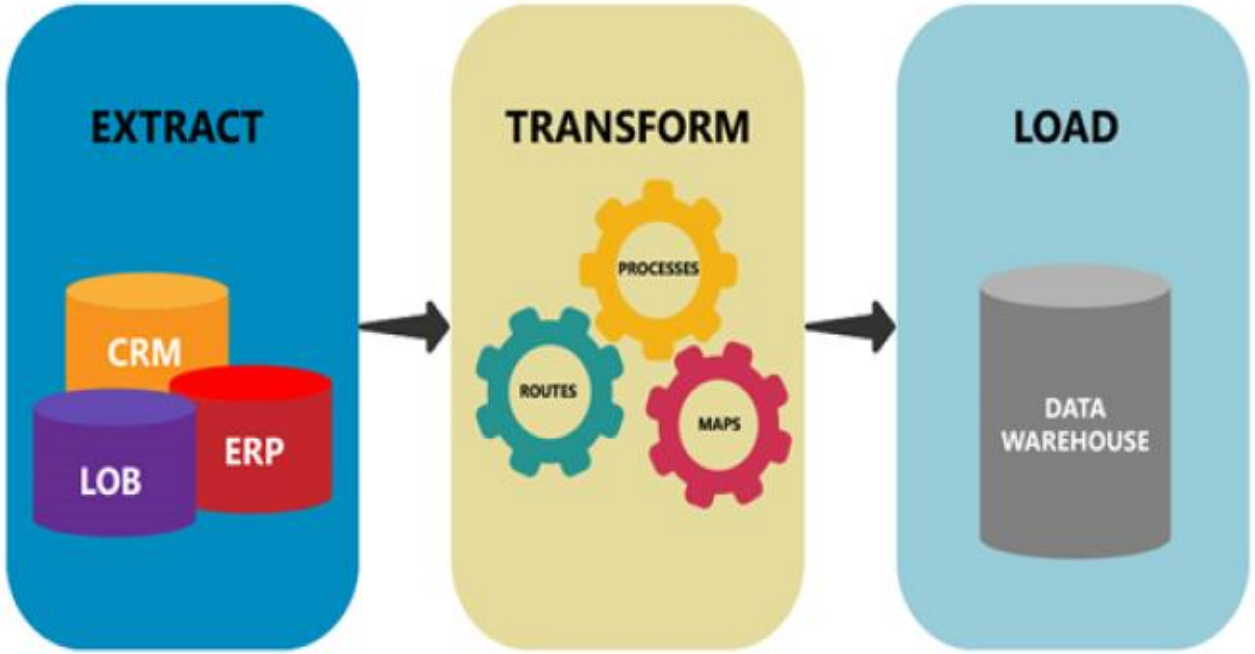
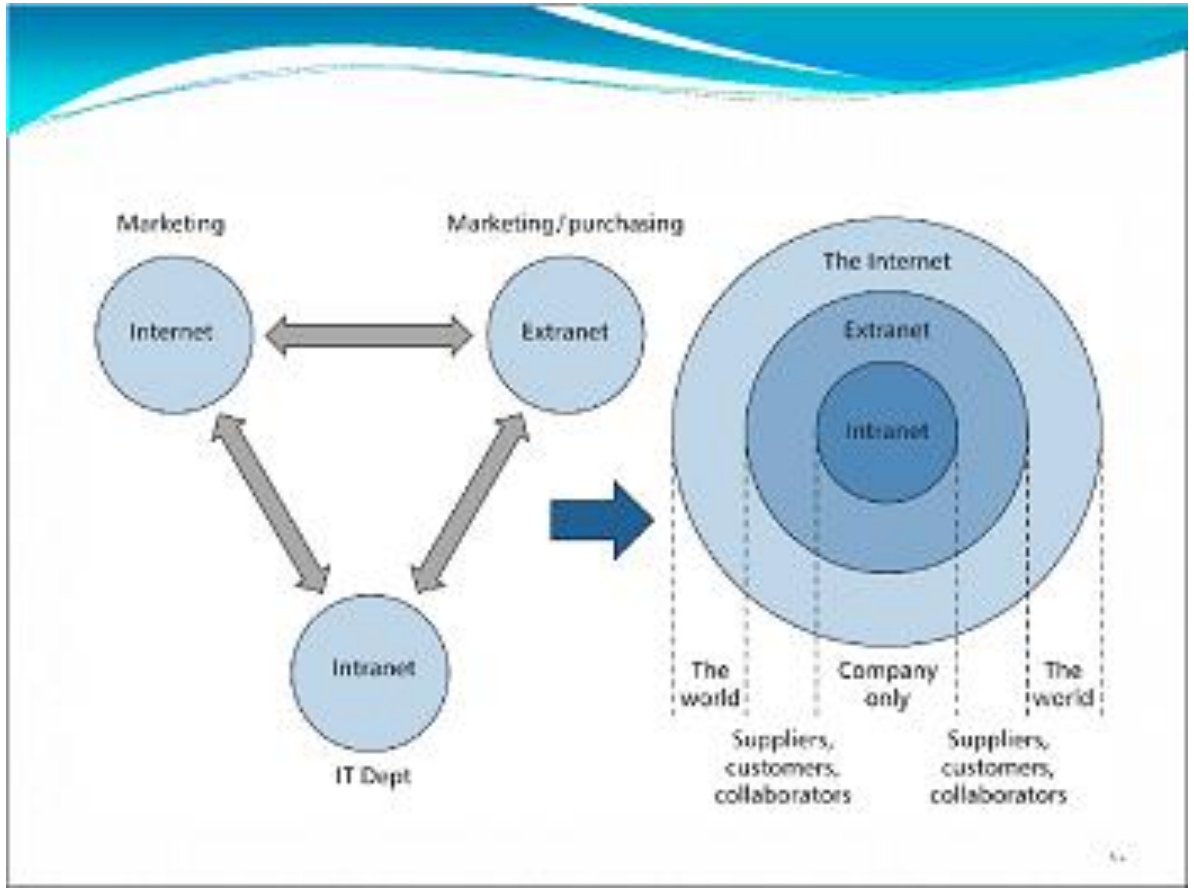


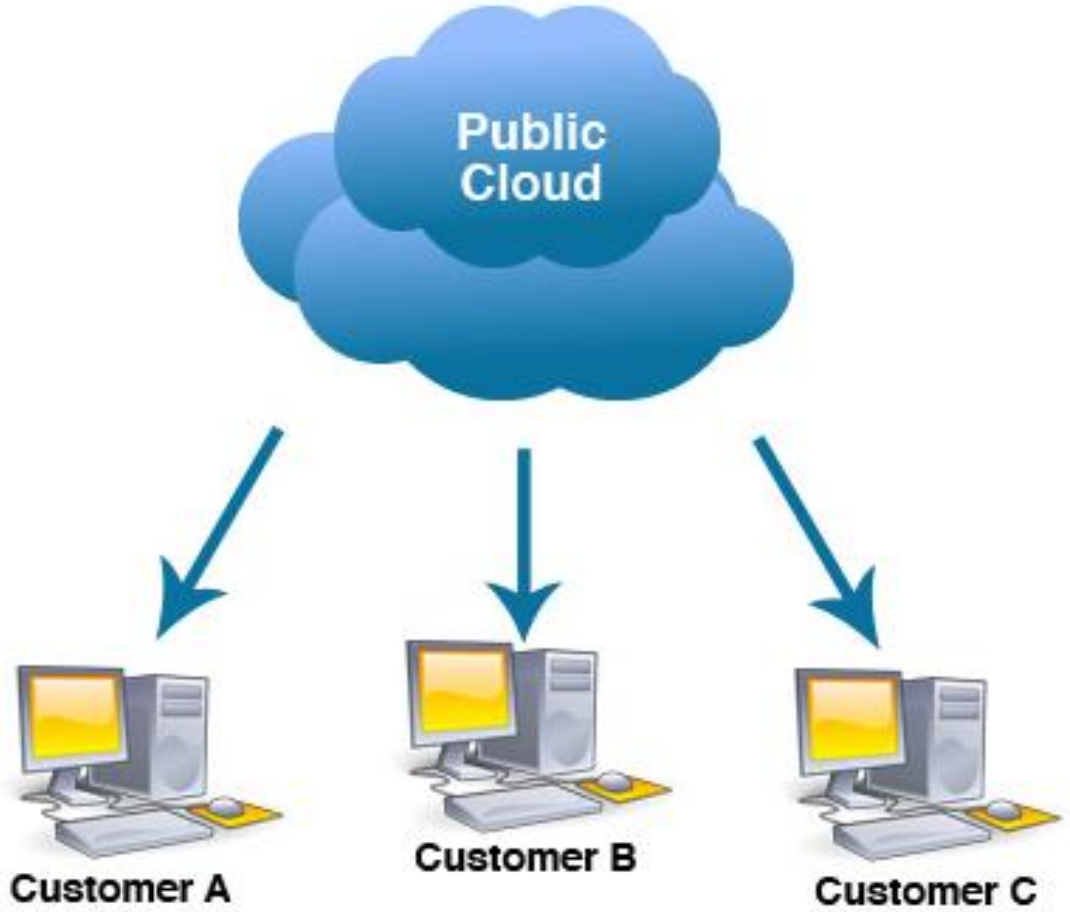
Figure 1 ETL - Extract, Transform and Load process

- **Internet, Intranet, Extranet**



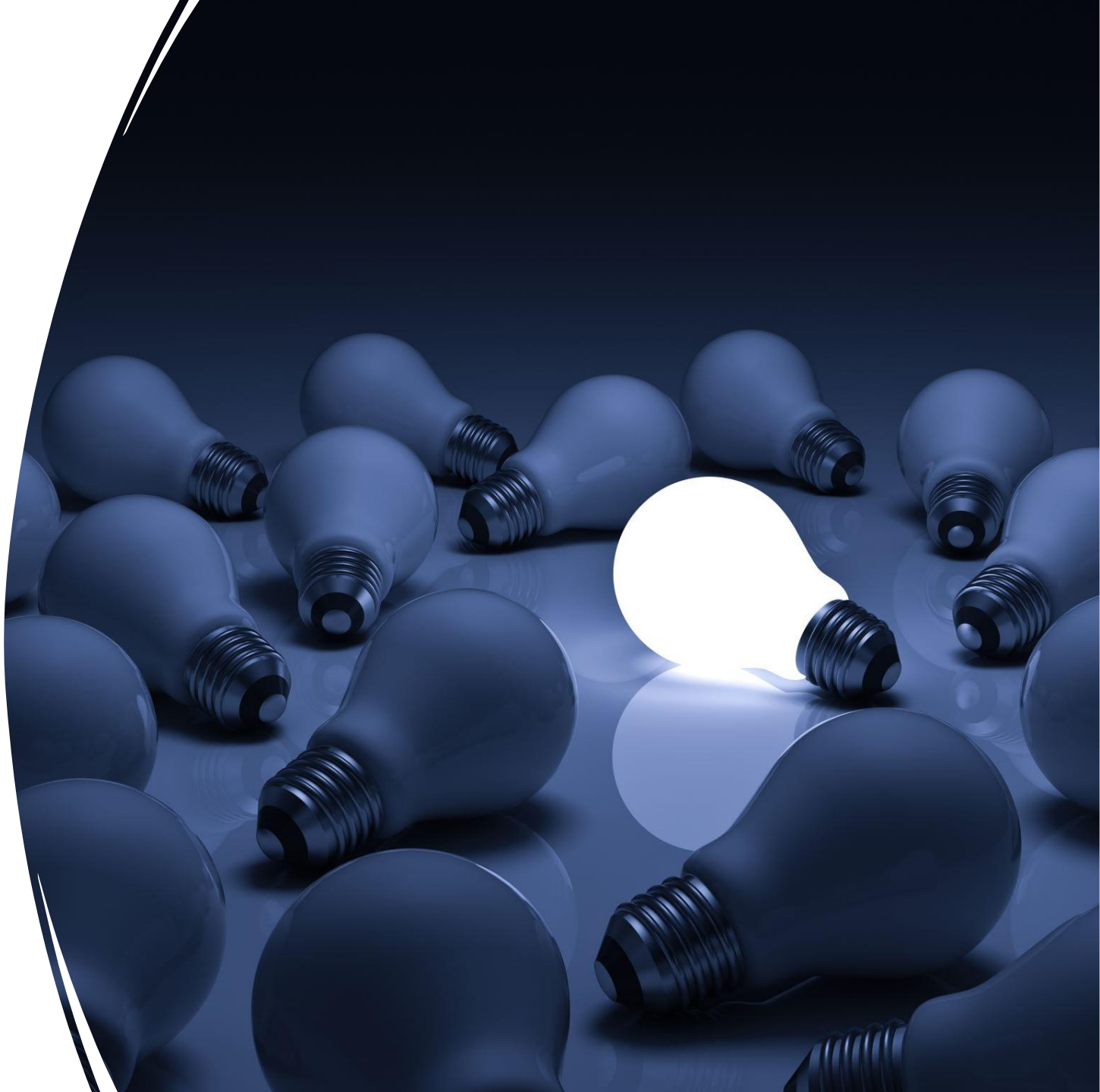
Public Cloud Computing :

service providers & cloud users (tenants)



For your business:

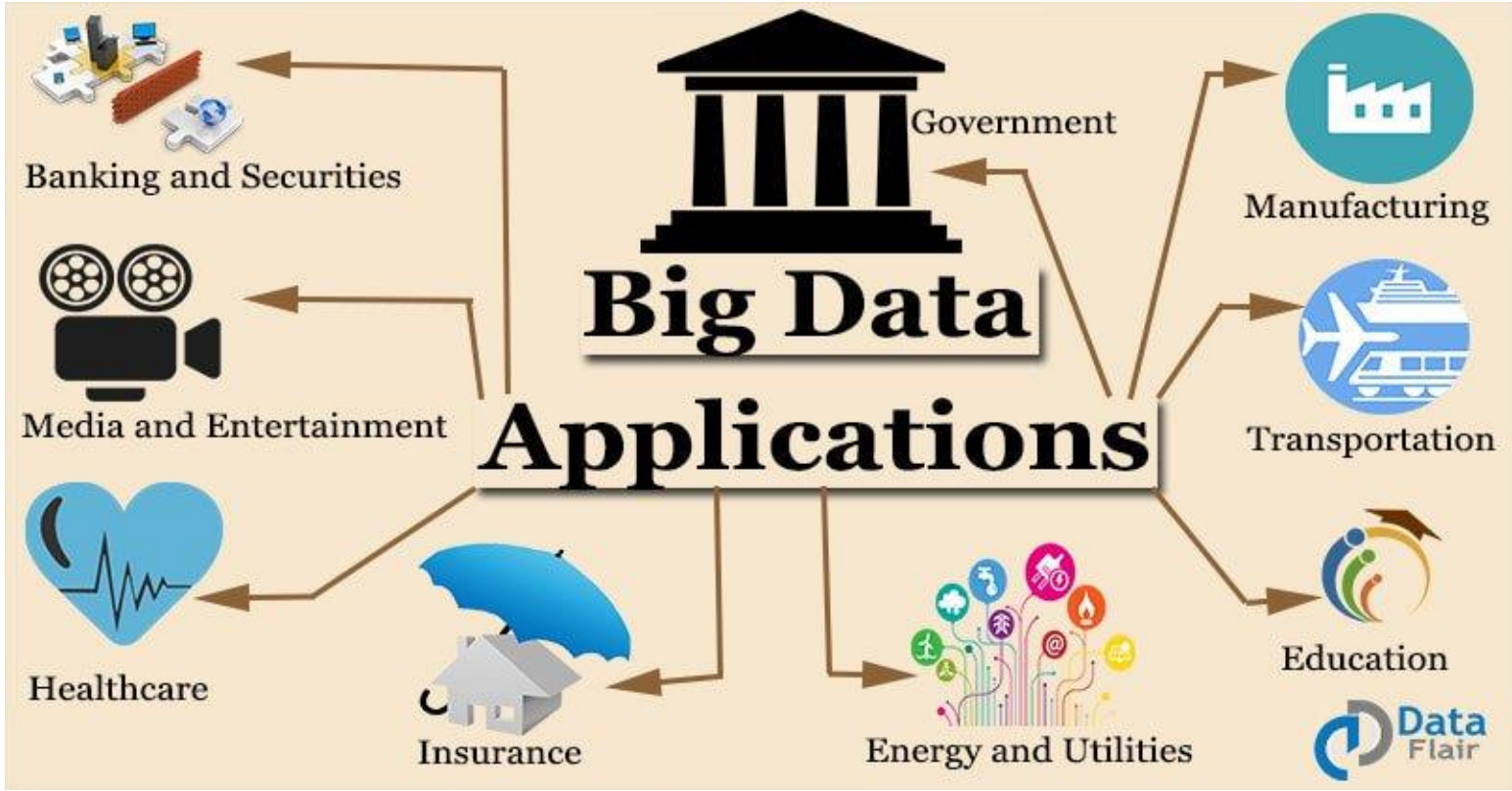
3. Specify the Infrastructure you need.
4. Is your IS going to be Personal, Group or Enterprise, or a combination?
5. Are you considering using a database for data storage?
6. Are you considering using Internet, Intranet and Extranet or a combination?



Business Information Systems

Business Intelligence

Knowledge Management Systems



E-commerce

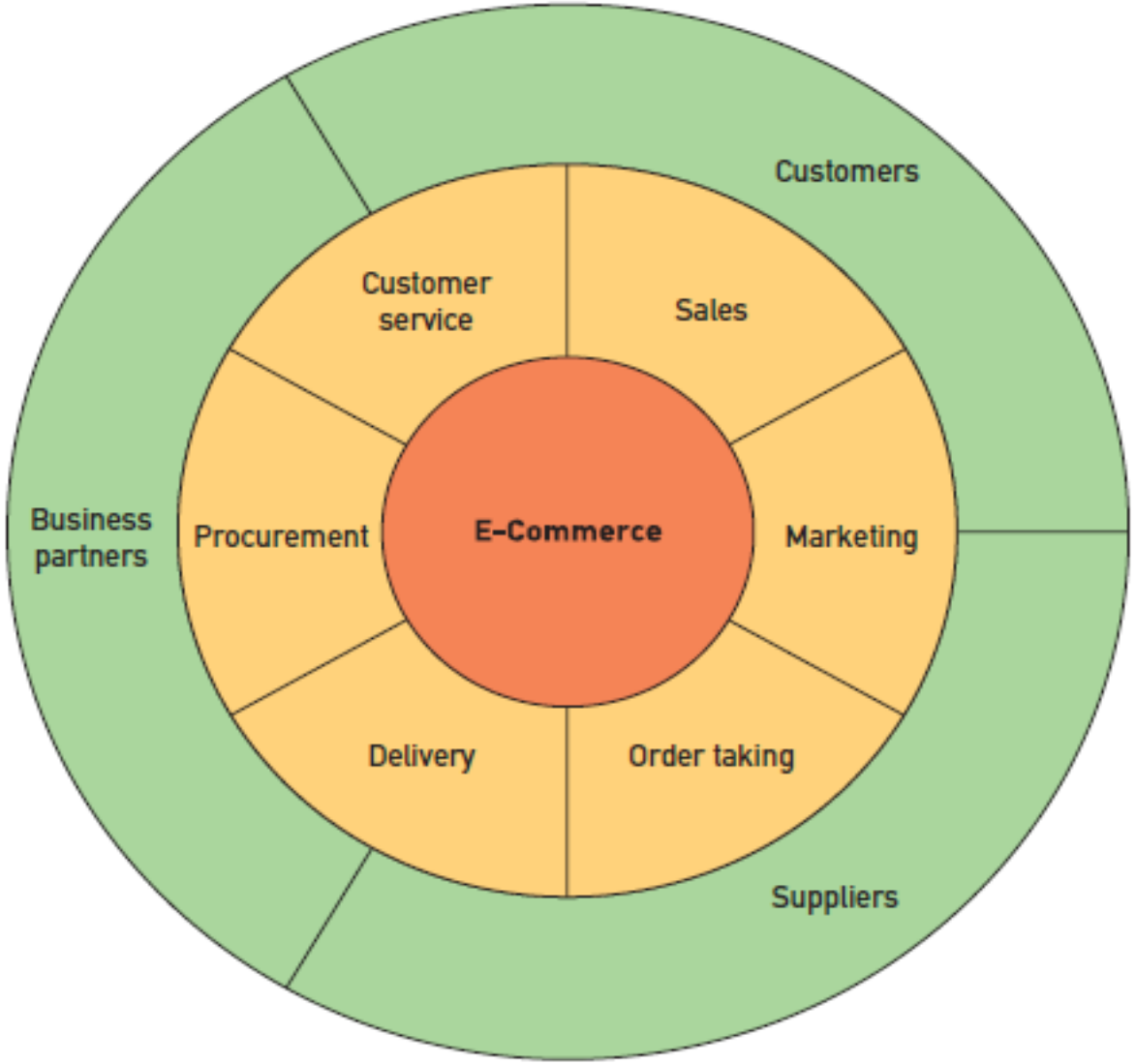


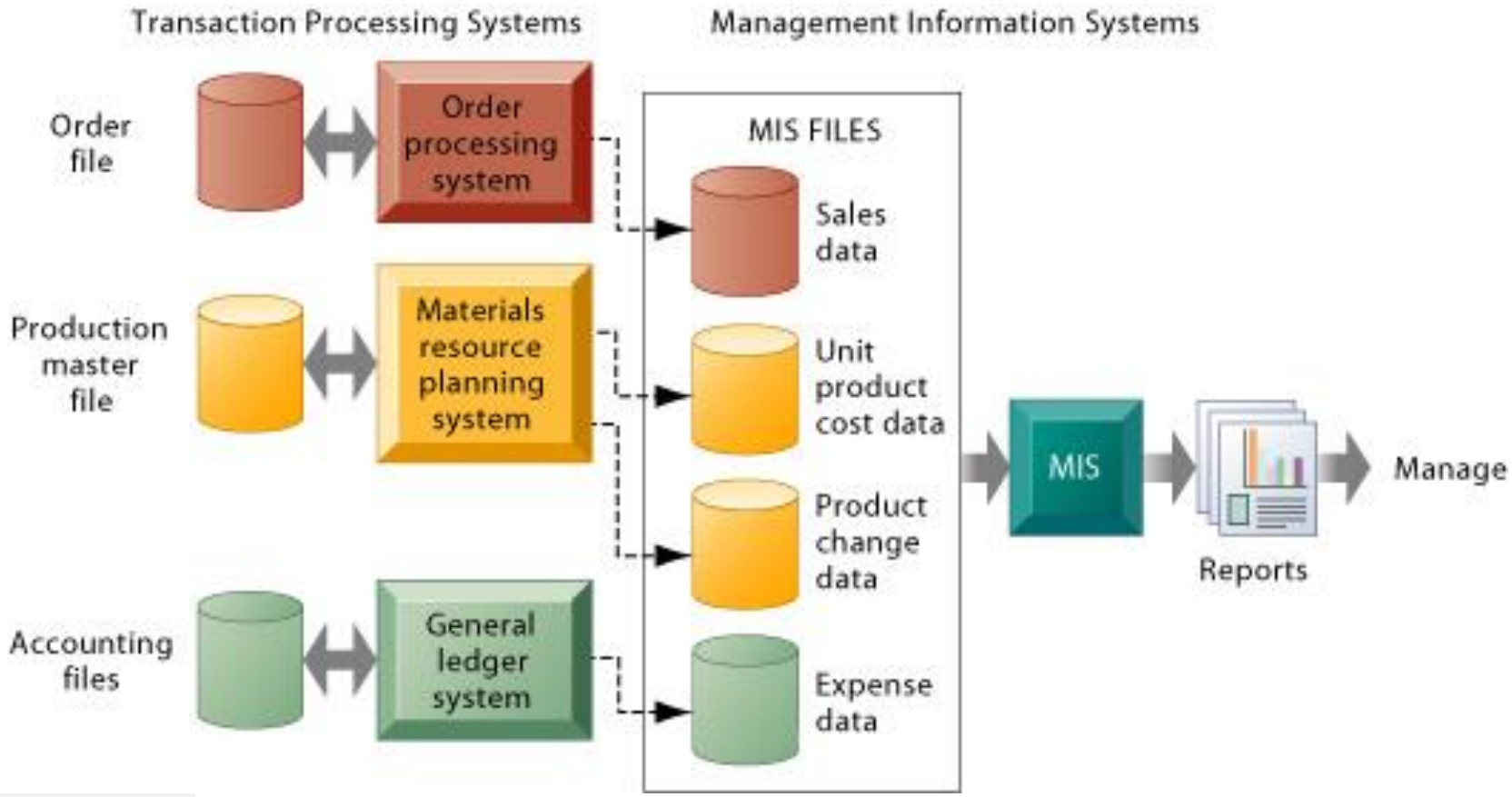
FIGURE 1.8

The scope of e-commerce

E-commerce covers a wide range o business activities.

Transaction Processing Systems

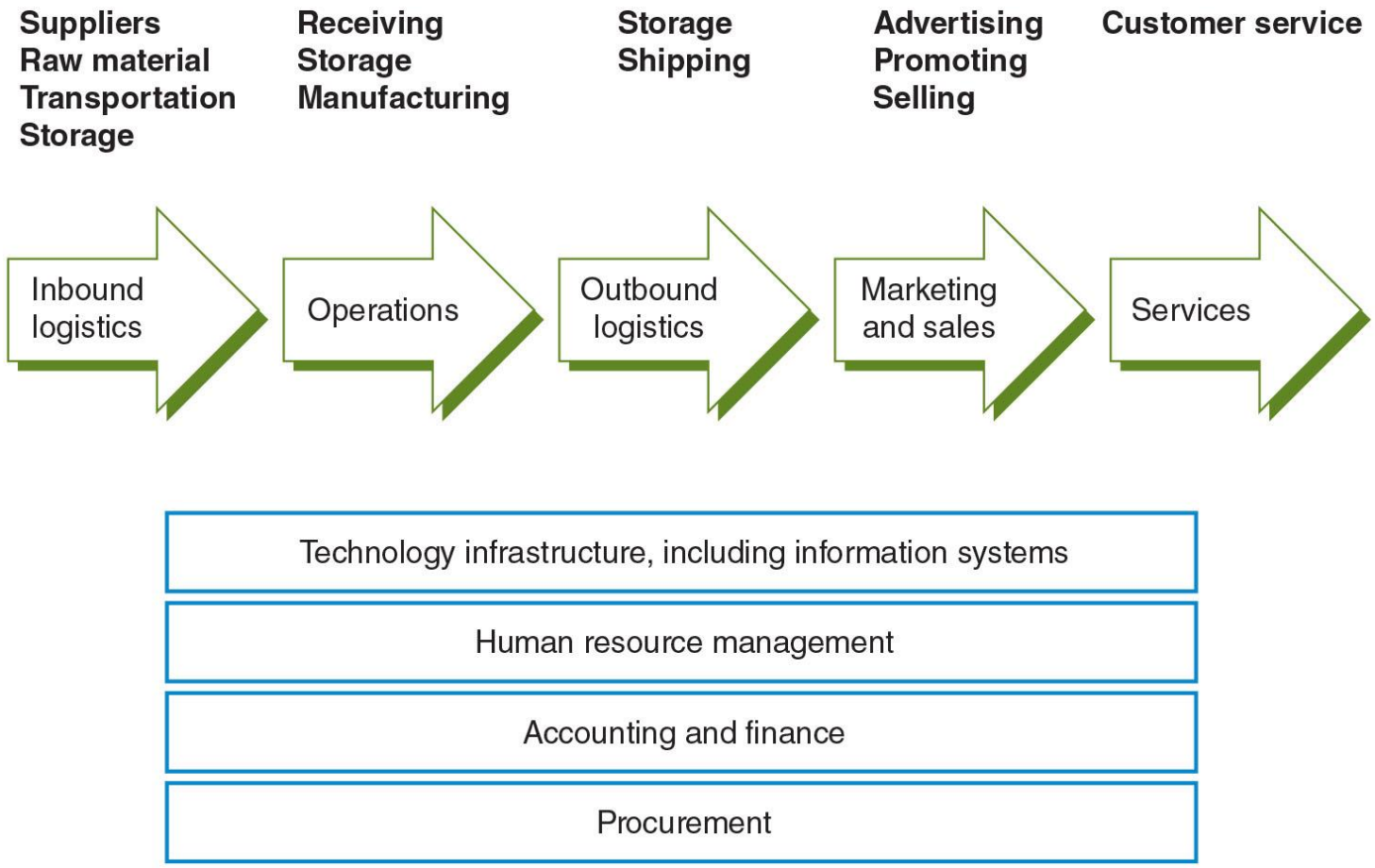
Management Information Systems



Enterprise Resource Planning (ERP) System

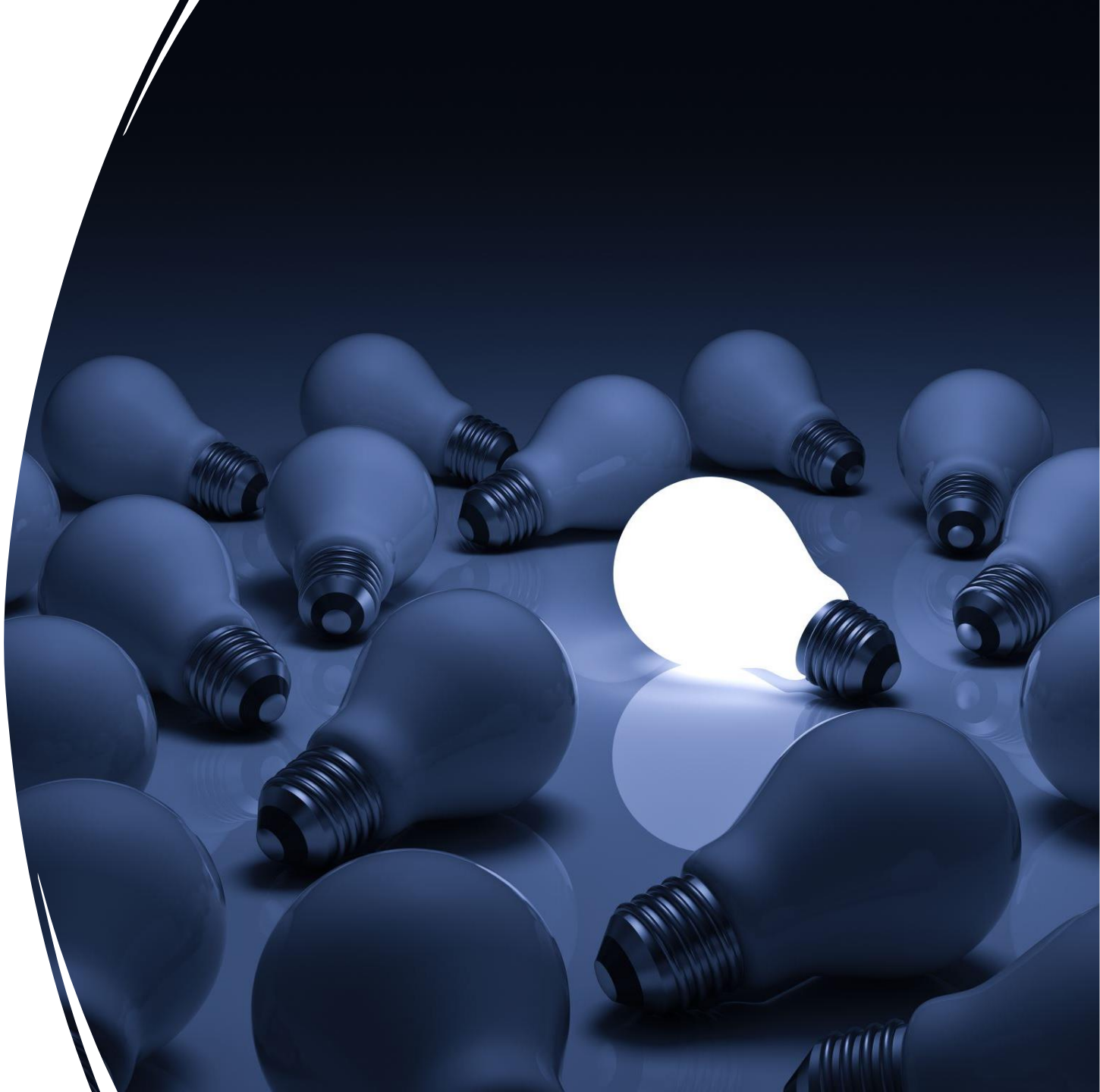
Manufacturing Supply Chain:

primary and support activities concerned with **creating or delivering** a **product or service**.



For your business:

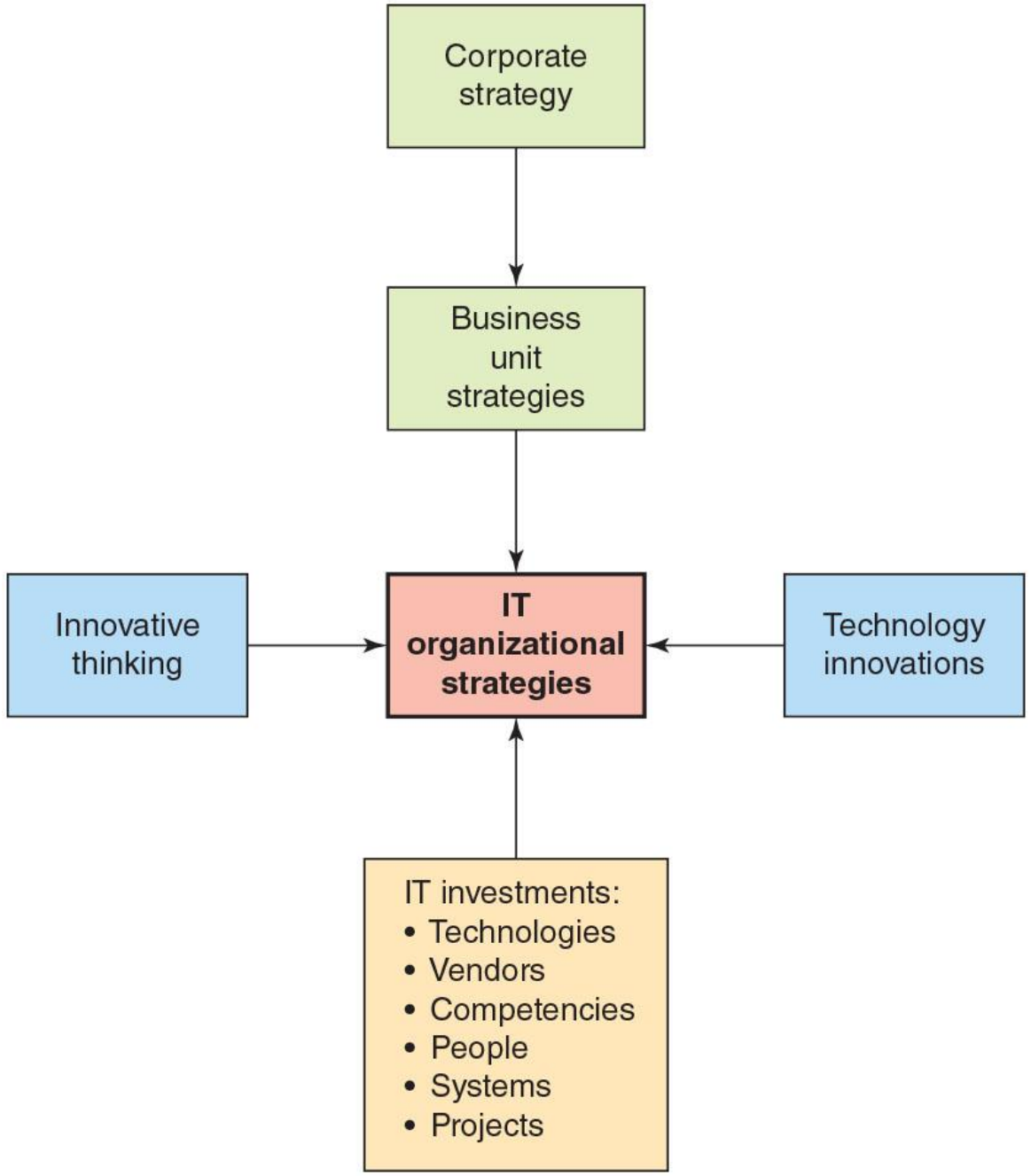
7. Who are your customers, suppliers and business partners?
8. How does TPS and MIS look like in your case?
9. What ERP system you aim to focus on?



PLANNING, ACQUIRING AND BUILDING BUSINESS INFORMATION SYSTEMS

Project

Drivers that set Information Technology (IT) organizational strategy and determine IT investments



Choices

TABLE 1.8 Alternatives for meeting users' information system needs

Strategy	Pros	Cons
Buy off-the-shelf software	+ A software solution can be acquired and deployed relatively quickly. + An organization can "test drive" software before acquiring it.	– Unmodified, the software may not be a good match to an organization's needs. – Maintenance and support costs can become excessive.
Build custom application	+ Customized software is more likely to be a good match to an organization's needs. + A custom application provides the potential to achieve competitive advantage.	– The cost to build a system can be quite high compared to the cost of purchasing of off-the-shelf software. – Customizing software can mean it will be months or even years before the software solution is ready to deploy.
Choose a software service provider	+ Users do not need to purchase and install additional hardware or software. + The service provider handles necessary hardware and software maintenance and upgrades.	– Complex pricing arrangements and hidden costs may reduce expected cost savings. – Performance issues may cause wide variations in performance over time.

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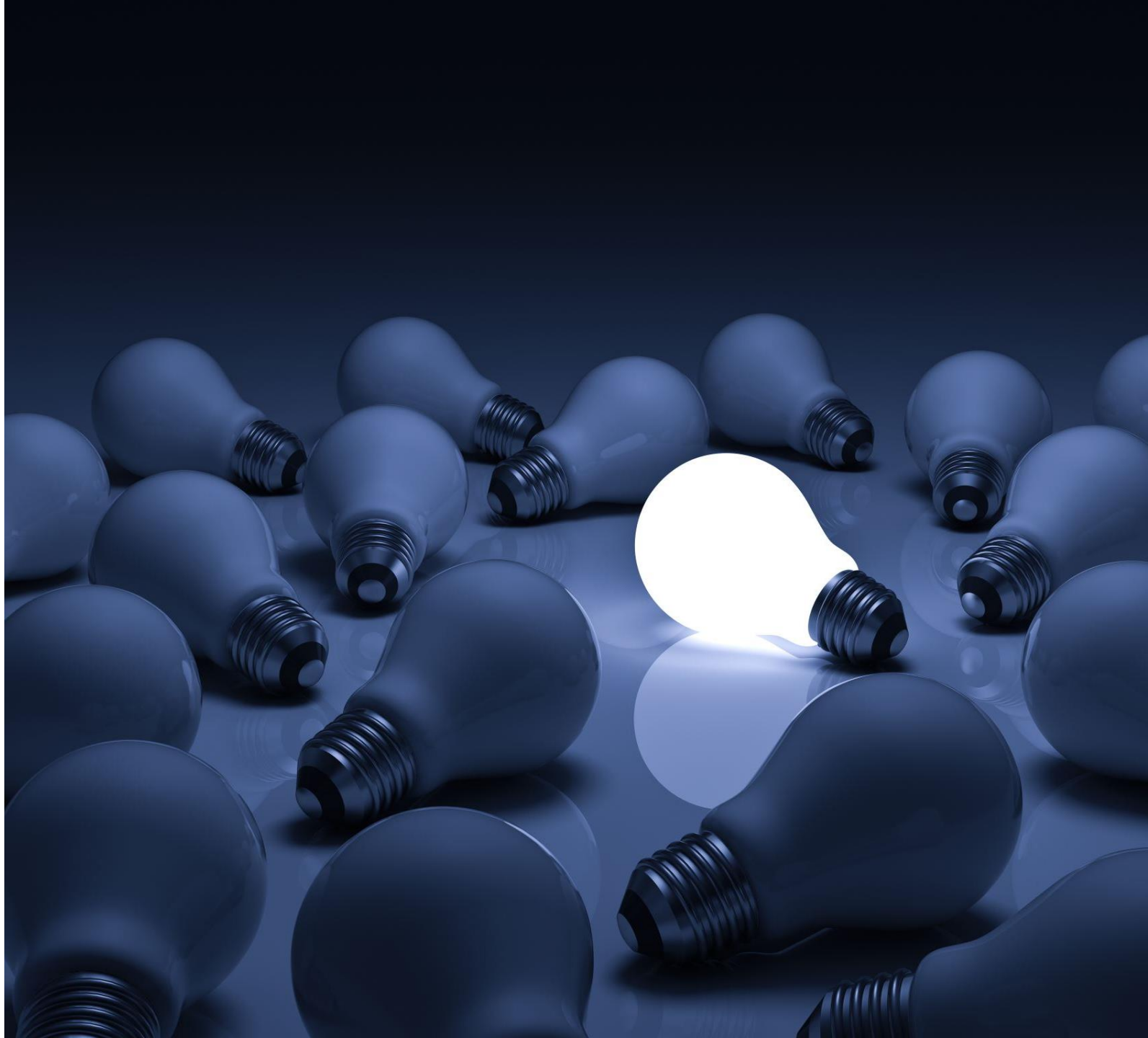
Your (imaginary) business is
Your project to use
for Problem-solving assignment



Group exercises

Form groups and let every group focus on resolving one case

- QueVision systems (p.10 – 11)
- NARCOMS systems (p.18)
- Penn National Gaming business analytics (p.26)
- Strategic Plan Review (p.29)
- Robo-Advice system (p.33)

Homework

READ TEXTBOOK CHAPTER 2

CONTINUE THINKING ABOUT YOUR POSSIBLE BUSINESS