INFORMATION SYSTEMS THEORY

LECTURE 1: INFORMATION SYSTEMS FUNDAMENTALS

LECTURE OBJECTIVES

❖ To gain an understanding of Information Systems (IS) Theory

❖ Understanding what is meant by Information Systems

❖ Understand the Information Systems Relevance as a discipline

❖ Understand Information Systems careers

❖ To be able to describe different types of Information Systems

INFORMATION SYSTEMS THEORY

❖ It provides the theoretical underpinning of the subject.

❖ It provides the basis for everything we do in Information Systems.

❖ In other words, it is the foundation upon which the discipline is built.

- IS Theory lays a conceptual foundation for all information systems in terms of:

  ✓ Why do we need information systems;

  ✓ How do we solve problems in an IS context; and

  ✓ Which information systems are necessary.

INFORMATION SYSTEMS THEORY

Information Systems Theory also provides the theoretical grounding to:

Solve Problems

When a system is understood as a holistic entity, we begin to solve a problem larger than the individual components of which it consists.

Understand a Context

An input in one context may take on a completely different form than that which is present in another system.

It is important to first understand the context in which the system exists.

Classify Systems

You should have the required knowledge to understand what category a system belongs to and why.

WHAT IS INFORMATION SYSTEMS?

❖ Information systems is defined differently by different scholars:

- ✓ Information systems are **interrelated components** working together **to collect, process, store, and disseminate information** in order to support decision making, coordination, control, analysis, and visualization in an organization.

- ✓ Information systems are combinations of hardware, software, and telecommunications networks that people build and use to collect, create, and distribute useful data, typically in organizational settings.

- ✓ Intersection of technology and society (with other disciplines).

- ✓ The application of technology to societal needs or problems.

THE RELEVANCE OF INFORMATION SYSTEMS

❖ In organisations, each department has distinct information needs, alternatively, each discipline has its own distinct needs for information.

❖ **For example:**

- ✓ **Sales department** – requires sales reports
- ✓ **Accounting department** – requires updated financial statements
- ✓ **Marketing department** – requires a customer relationship management system to manage prospects and to interact with customers
- ✓ **Pharmacy** – requires patient medication information
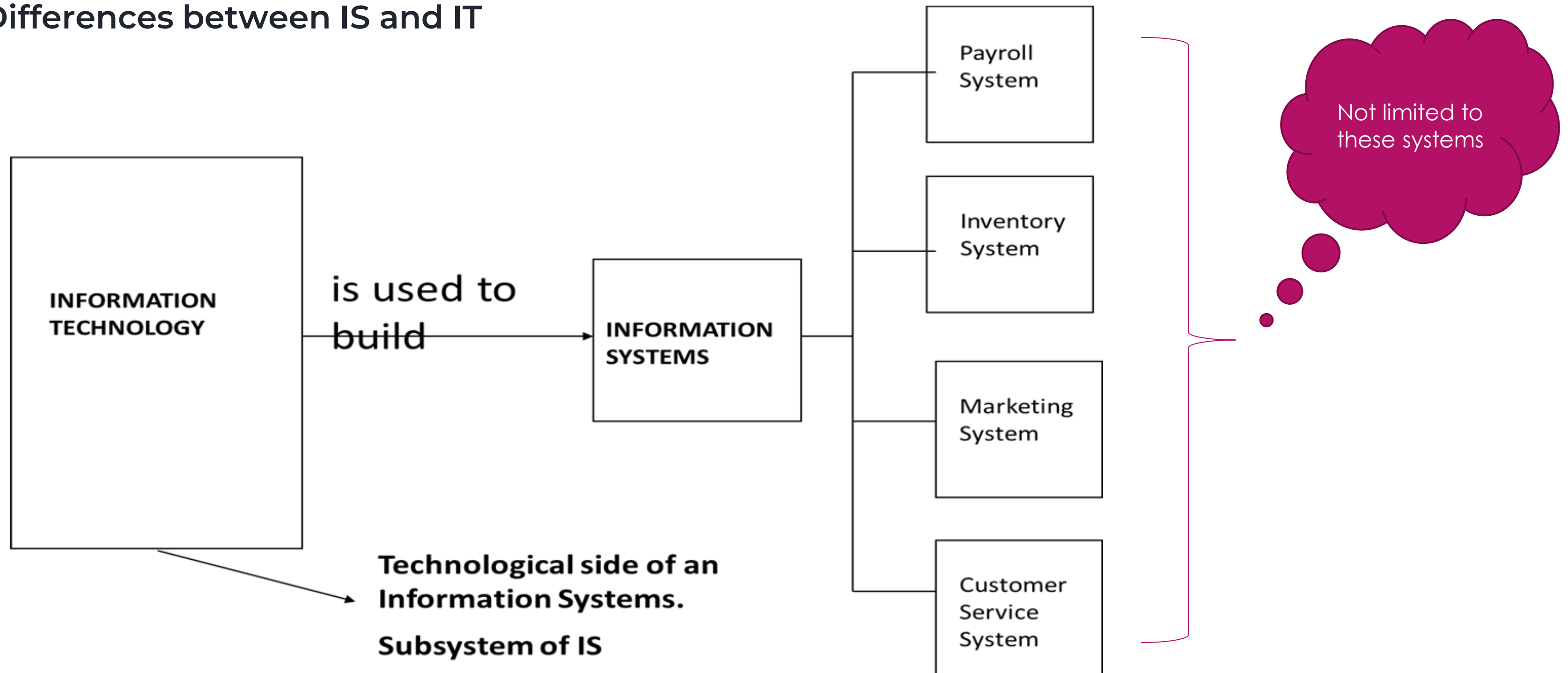- ✓ Etc.,

INFORMATION SYSTEMS FUNDAMENTALS

Often enough Information Systems (IS) is confused with Information Technology (IT)

Differences between IS and IT

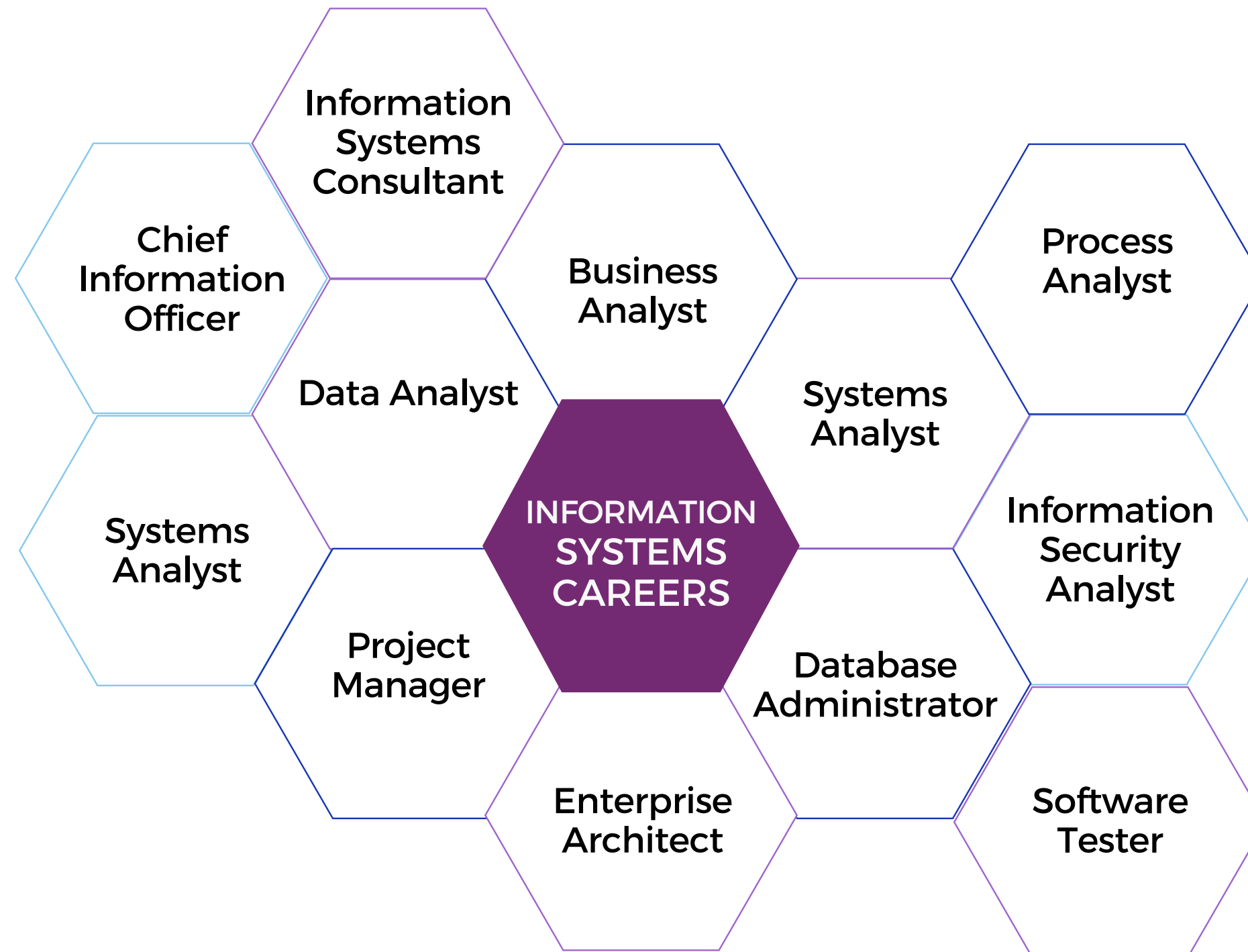| INFORMATION SYSTEMS	INFORMATION TECHNOLOGY
Falls under the umbrella of Computer Science	Falls under the umbrella of Information Systems
Deals with software and applications that respond to user/business needs.	Deals with technology involved in the systems
More on supporting operations, management and decision making	Emphasis in installing, maintaining and improving systems, networks and databases

Differences between IS and IT

INFORMATION SYSTEMS CAREERS
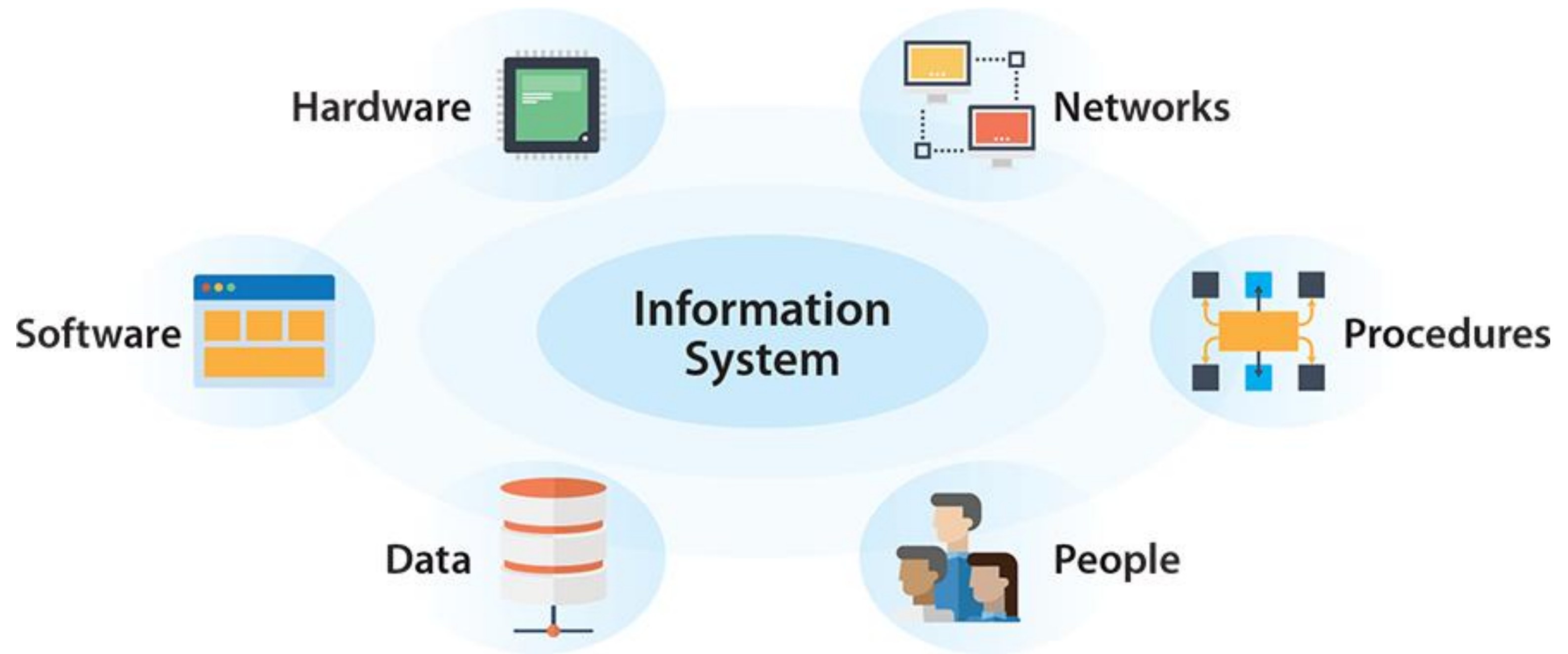
Information systems careers focus on the design, development, support, and/or management of systems

- Information Systems Consultant
- Chief Information Officer
- Business Analyst
- Process Analyst
- Data Analyst
- Systems Analyst
- Systems Analyst
- INFORMATION SYSTEMS CAREERS
- Information Security Analyst
- Project Manager
- Database Administrator
- Enterprise Architect
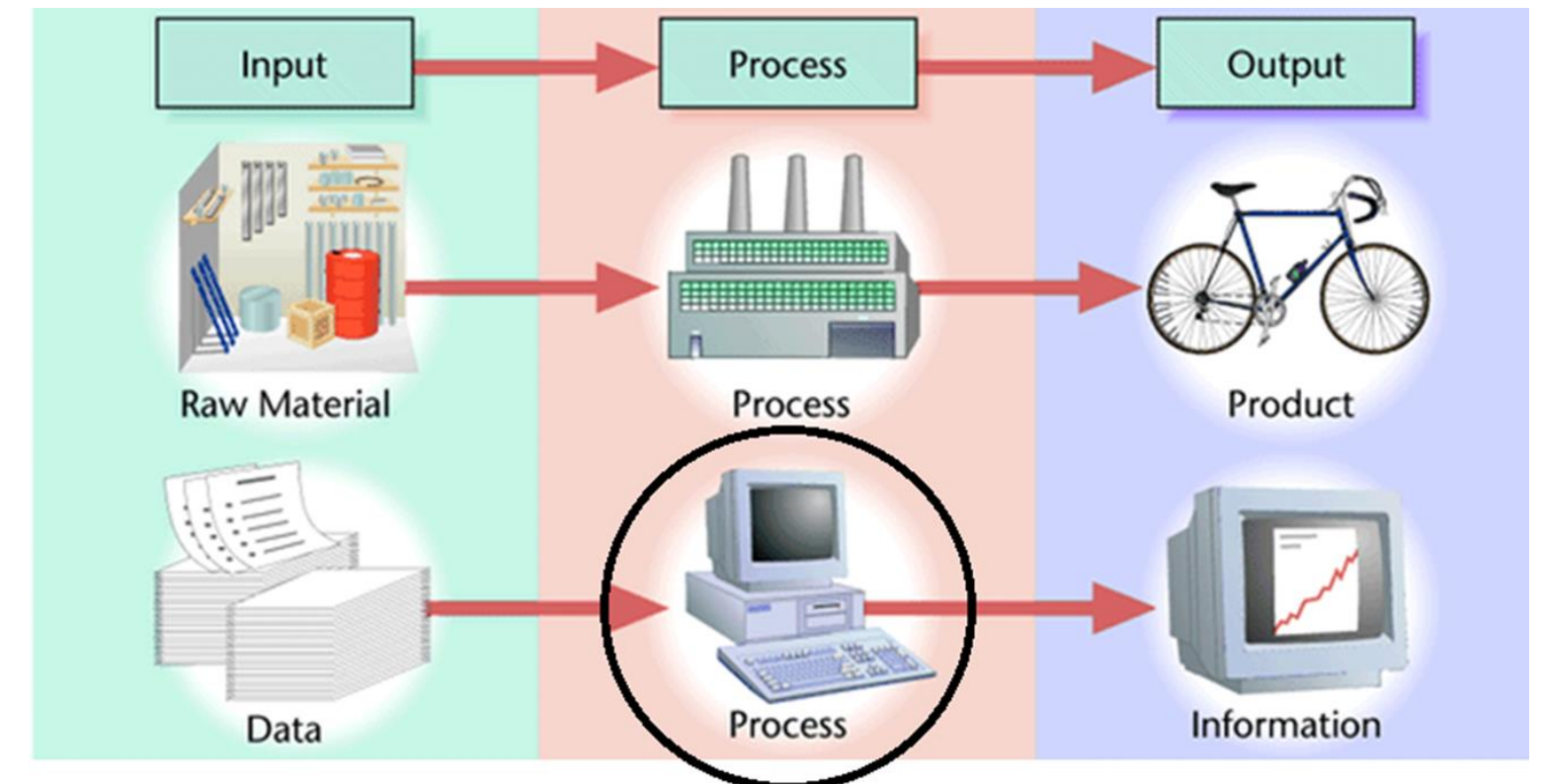- Software Tester

COMPONENTS OF AN INFORMATION SYSTEMS

❖ An Information system is made up of five primary components:

  ✓ Hardware (machines)

  ✓ Software (programs and procedures)

  ✓ Data (data and knowledge)

  ✓ People (end-users and IS specialists)

  ✓ Networks (communication media and network support)

COMPONENTS OF AN INFORMATION SYSTEM
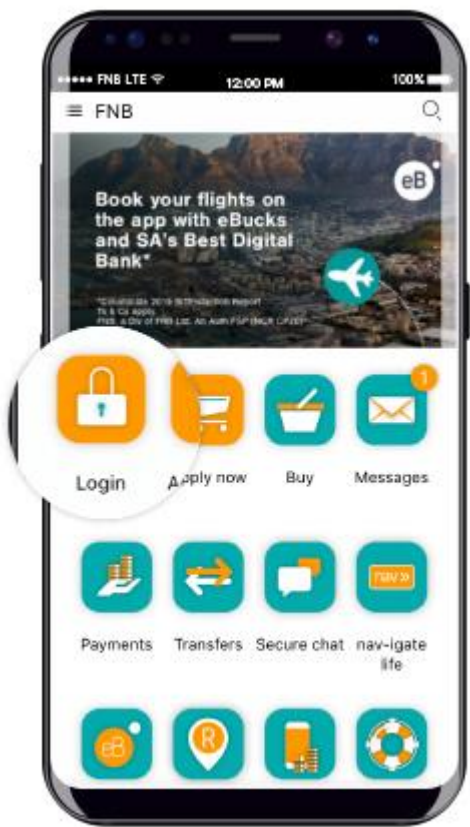
COMPONENTS OF AN INFORMATION SYSTEMS

All the IS components integrate to perform input, processing, output, feedback and control.

Etc.,

THANK YOU

NEXT LECTURE

Systems Thinking

Reading:

Ackoff, R.L., 1971. Towards a system of systems concepts. Management Science, 17(11), pp.661-671