Lesson 1: Foundations of Information Systems

What is an Information System?

A set of connected parts that collect, process, store, and share information

Helps people make decisions and control business activities

More than just computers - including people, processes, and organization

Key Functions:

Input: Gets raw data

Processing: Turns data into useful information

Output: Gives processed information to users

Feedback: Uses output to improve the system

Why Businesses Need Information Systems:

Operational excellence - Work more efficiently

New Products/Services - Create innovative offerings

Customer and supplier intimacy - Serve customers better

Improved decision making - Use real data instead of guessing

Competitive advantage - Stay ahead of competitors

Survival - Keep up with industry changes

Three Key Dimensions/ Information Systems Are More Than Computers:

Organization - Business structure and culture

Management - People who make decisions

Technology - Hardware, software, networks

Three Key complementary assets:

Organization, Management, and Social

Lesson 2: Functional Perspective

Business Processes

Step-by-step activities to create products or services

Can be within one department or across multiple departments

Functional Business Processes:

Manufacturing and production, Sales and marketing, Finance and accounting, Human resources

Systems From a Functional Perspective:

Sales and Marketing Systems

Manufacturing and Production Systems

Finance and Accounting Systems

Human Resources Systems

Types of Information Systems by Management Level:

Transaction Processing Systems (TPS)

Handle daily routine tasks

Example: Payroll system, sales records

Used by operational staff

Management Information Systems (MIS)

Create reports for middle managers

Use data from TPS

Answer routine questions

Decision Support Systems (DSS)

Help with complex, non-routine decisions

Used by middle management

Example: Financial planning tools

Executive Support Systems (ESS)

Support top management decisions

Use dashboards and summary reports

Help with strategic planning

Enterprise Applications

1. Enterprise systems

2. Supply chain management

3. Customer Relationship Management

4. Knowledge management

Collaboration Systems

Help people work together

Include email, social networks, video meetings, wikis

Important for teamwork and innovation

Lesson 3: Organizations and Strategy

Features of Organization?

Routines (SOPs) and Business Processes: Standard ways of doing things

Organizational Politics: different positions with different specialties, concerns, and perspectives.

Organizational Culture: define their goals and products.

Environment: External factors affecting the business

Organization Structure

five basic parts: Technostructure, Strategic Apex, Middle Line, Support Staff, Operating Core

Organizational Structures (Mintzberg's Types):

Simple Structure - Small, led by one person

Machine Bureaucracy - Large, formal, standardized

Divisional bureaucracy - Multiple semi-independent units

Professional bureaucracy - Knowledge-based (hospitals, universities)

Adhocracy - Flexible, project-based teams

How IT Affects Organizations:

Economic Impact: reduce Transaction cost, Agency costs, change how work is done

Behavioral Impact: Changes decision-making and management

Flattens Organizations: Fewer management levels needed

Competitive Strategy (Porter's Model)

Five forces that affect business success:

Traditional Competitors - Other companies in your market

New Entrants - New companies entering your market

Substitute Products - Alternative solutions customers might choose

Bargaining power of customer - How much control customers have

Bargaining power of suppliers- How much control suppliers have