

Midterm Topic Outline

ACS 1803-050 Fall 2019

1. Management Information Systems

1.1 Introduction to MIS (Lecture Outline 1)

1.1.1. Data

1.1.2. The Value of Information Systems

1.1.3. Input-Processing-Output-Feedback

1.1.4. Management Information Systems

- Hardware
- Software
- Database
- Telecommunications
- People
- Process

2. Databases

2.1. Data Management (Lecture Outline 2.1)

2.1.1. The Hierarchy of Data

- Bit
- Byte
- Character
- Field
- Record
- File
- Database

2.1.2 Entities, attributes and Keys

- Entities
- Attributes
- Keys

2.1.3. Database Administrator (DBA)

2.1.4. The Enterprise Database Approach

- Database Approach
- Program Database vs Enterprise Database

- Advantages of the Database Approach
- Disadvantages of the Database Approach
- Database Design
 - a. Data Model
 - b. Types of database associations
 - c. Entity Relationship Diagram (ERD)
 - d. Types of Keys
 - i. Primary key
 - ii. Compound Primary key
 - iii. Secondary key
 - iv. Foreign Key
 - e. The relational model
 - f. Database Normalization

2.2. File Processing (Lecture Outline 2.1.2)

2.2.1. Types of File Organization

- Sequential
- Indexed Sequential
- Direct /Random Access

2.3. Data Modelling and Database Characteristics (Lecture Outline 2.2)

2.3.1. REA Model

2.3.2. Database Schema

2.3.3. Database Management System

- Levels of a DBMS
- Parts of a DBMS
 - a. Data Dictionary
 - b. Query
 - c. Reports

2.4. Implementing the Concepts - Database Implementation

2.4.1. Data Requirements Analysis

2.4.2. Setting up data on a table

2.4.3. Normalizing a database

- Identifying keys

2.4.4. Establishing relationships

- Foreign Keys

- 2.4.5 Two forms of Database output (Report vs. Query)
- 2.5. Using MS Access as a DBMS
 - 2.5.1. Main features of MS Access
 - 2.5.2. Advantages of Using MS Access for DB Implementation
 - 2.5.3. Disadvantages of Using Access
- 2.6. Data Warehouse, Data Mart, Data Mining
 - 2.6.1. Data Warehouse
 - 2.6.2. Data Mart
 - 2.6.3. Data Mining
 - Data mining Applications
 - a. Branding and product positioning
 - b. Customer Churn
 - c. Direct Marketing
 - d. Fraud Detection
 - e. Market Segmentation
 - f. Trend Analysis

3. Information Systems Frameworks (Lecture Outline 3)

- 3.1 The Nature of managerial Work
 - 3.1.1. Planning
 - Scheduling
 - Budgeting
 - Resource Allocation
 - 3.1.2. Control
 - Management by Exception
 - 3.1.3. Organizational Management Pyramid
 - Operational
 - Tactical
 - Strategic
- 3.2. Information Systems Frameworks
 - 3.2.1. Levels of the Organization
 - Operational
 - Managerial

- Executive
- 3.2.2. Basic Systems Architecture Model
- 3.2.3. Levels of Information Systems
 - Operational Systems (Transaction processing Systems)
 - Tactical Systems (Management Information Systems)
 - a. Types of Reports
 - i. Exception Reports
 - ii. Summary Reports
 - iii. Ad-hoc Reports
 - iv. Drill-down Reports
 - Strategic Systems (Executive Information Systems)

4. Functional Area Information Systems

4.1. Functional Areas in the Organization (Lecture Outline 4)

4.2. Accounting Information Systems (Lecture Outline 4.1)

4.2.1. Basic Accounting Terminology

- Types of accounts
- Balance Sheet
- Income Statement
- Journalizing

4.2.2. Baseline Accounting and Business Transactions Cycles (Lecture Outline 4.2)

- Building a Process Map
- Building a Data Flow Diagram
- Business Process Modelling Notation
 - a. Example – Create Invoices
 - b. Example – Receive Customer Payments
 - c. Example – Make Deposit
 - d. Example – Create Purchase Order
 - e. Example – Receive Items
 - f. Example - Enter Items
 - g. Example – Pay Bills

- 4.3. Financial Information Systems (Lecture Outline 5.1)
 - 4.3.1. Budgeting Systems
 - 4.3.2. Cash Management Systems
 - 4.3.3. Capital Management Systems
 - 4.3.4. Investment Management Systems

- 4.4. Human Resources Information Systems (Lecture Outline 5.2)
 - 4.4.1. Employee Information System
 - 4.4.2. Attendance Recording Systems
 - 4.4.3. Employee Scheduling Systems
 - 4.4.5. Performance Management Systems
 - 4.4.5. Position Control Systems
 - 4.4.6. Recruiting Systems
 - 4.4.7. Compensation and Benefits Systems
 - 4.4.8. Long Term Workforce Planning Systems
 - 4.4.9. Labour Negotiation Support Systems

- 4.5. Marketing Information Systems (Lecture Outline 5.3)
 - 4.5.1. Contact Management Systems.
 - 4.5.2. Telemarketing Systems
 - 4.5.3. Direct Mail Advertising Systems
 - 4.5.4. Delivery Tracking and Routing Systems
 - 4.5.5. Sales Management/ Forecasting Systems
 - 4.5.6. Market Research Systems
 - 4.5.7. Customer relationship Management Systems (CRM)

- 4.6. Production/ Operations Systems (Lecture Outline 5.4)
 - 4.6.1. Manufacturing Resource Planning (MRP) Systems
 - Bill of Materials (BoM)
 - Capacity Requirements Planning (CRP)
 - Production Planning & Control (PPC)
 - 4.6.2. Operational and Tactical Systems
 - 4.6.3. Strategic Manufacturing Systems
 - 4.6.4. Supply Chain Management (SCM) Systems
 - 4.6.5. Just-in-Time (JIT) Manufacturing

4.6.6. Evolution of MRP2 to ERP