Texts


- Plus texts from General Papers
Computer Management
Definitions (after Martin et al.)

- **Information technology** - Computing, telecommunications and automation technologies used to capture, store, process, communicate, present and use data and information.

- **Information system** - the collection of hardware, software, procedures, documentation, forms and people responsible for the capture, movement, management and distribution of data and information.
Computer Management
Overview of management

Role of management
- Planning
- Decision making
- Organising
- Leadership and motivation
- Control

Levels of management
- Strategic
- Tactical
- Operational
Evolution of Computer Management
Robson (1994)

Structure
- “Traditional” approach
- Database driven
- Functional project groups
- Information centre and decision support
- Externally focused

Relationship
- IS group sets the rules
- Service oriented
- Bridges and partnerships
- Influence rather than control
- Bridges between information providers and information users
Evolution of Computer Management

Influencing factors

- Organisational IS strategy
- Advances in technology
- End-user computing
- Cost
- External forces

i.e.,
- People
- Organisation
- Technology
- Cost
- Legal issues
Stages of Growth Model
Nolan and Gibson (1974)

- **Initiation** - Computers are introduced to the organisation by enthusiasts. No management interest and no long term plan.

- **Contagion** - Unmanaged growth when the technocrats provide solutions without considering organisational requirements.

- **Control** - Management take control and apply formal budgeting and planning. Structures and roles are clarified.

- **Integration** - Eases management control to encourage innovation. Re-organises the IS function and identifies user accountability. Expenditure on integration architecture.

- **Data Administration** - The importance of corporate data drives policy at this stage. Cross-functional data access.

- **Maturity** - A fully co-operating MIS triad. A balance between stability and innovation, control and chaos and between autonomy and cohesion.
Strategic Grid
McFarlan and McKenney (1982)

Degree to which IT developments will create competitive advantage.

Degree to which the firm is functionally dependent on IT today.

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Strategic Grid
McFarlan and McKenney (1982)

- **Strategic** - Firms that are heavily dependent on IT to deliver their everyday product or service, e.g., banks and insurance companies.

- **Turnaround** - Firms that are not heavily dependent on IS at present but will look to their IS function to provide them with competitive advantage in the future.

- **Factory** - IS applications are not seen as providing competitive advantage although they are heavily relied on for day-to-day operations.

- **Support** - Use administrative systems to improve efficiency and have islands of specialist systems which innovate the manufacturing process.
Computing Installations

- Mission
- Role and Position
- Stakeholders
- Organisational Structure
- Location
Mission

- The style and structure that involves how and where systems are built, run, planned for, funded and where the IS professional are located.
  - Reporting structure
  - Distributed or centralised
  - Provided in-house or outsourced
An organisational function

- The IS function is the professional discipline with the authority and responsibility for organisational Information systems.

- Responsible to Board
- Properly funded
- Employs qualified IS professionals
- Critical to organisation’s competitive survival.
Role and position of the IS function

IS. The name of an organisational function which has responsibility for the DP, IT, MIS, DSS and SMIS requirements.
Role and position of the IS function
Role of the IS function

- Formulate the organisational IT vision.
- Advise Board and senior management re strategic issues.
- Maintain an architecture that supports the rapid development of systems.
- Communicate the vision and architecture to the organisation.
- Deploy efficient and effective IT resources in the entire organisation.
Role of the IS function

- Maintain managerial control and integrity of core IT services.
- Administer organisational data.
- Support the end-user use of systems.
- Comply with all International and national legal obligations.
- Be accountable for their own continued professional development.
Stakeholders
Organisational Structure
Traditional or Classic (1)

Managing Director

- Director Production
- Director Sales/Marketing
- Director Finance
- Director Human resources

- Budgeting Manager
- Data Processing Manager
- General Accounts Manager

Systems

Operations

Reporting to Director of Finance
Organisational Structure
Traditional or Classic (1 Cont.)

- DP Manager
  - System Development Manager
    - Senior Analyst
    - Senior Programmer
      - Systems analysts
      - Systems analysts
      - Development programmers
    - Maintenance programmers
    - Shift operators
  - Operation Manager
    - Shift Supervisor
      - Control clerk
      - Validator
      - Data entry clerk
    - Data-prep. Supervisor
Organisational Structure

Traditional or Classic (2)

- Director
- Production
- Sales/Marketing
- Information Services
- Finance
- Human resources

Managing Director

Systems
Operations

Reporting to Managing Director
Organisational Structure

Functional IS

Director
Information services

Planning and Administration

Data Centre and Network

Corporate Systems

Marketing Systems

Production Systems

Support Services

Finance
Management Science
Personnel

Sales
Customer Service
Market Research

Inventory Control
Production Scheduling
Engineering

DBA
Systems Programming
Information Centre
Security

Report to headquarters but may be located outside in the user community.
Organisational Structure
Service-oriented IS organisation

- Director
  Information Services
  - Administration
  - Systems Development and Maintenance
  - Data Centre Operations
  - Planning and Technical Services
  - Data Administration
    - Information Centre
    - Telecommunications
    - R and D
Organisational Structure
Distributed IS organisation

- Director
  - Information Services
  - Administration
    - Systems Development
      - Tools, Methods and Procedures
      - Consulting
      - Functional Development
        - Division 1 Development
        - Division ....n Development
    - R and D Type title here
    - Data and Systems Planning
    - Information centre
      - Division 1 Information centre
      - Division ....n Information centre
    - Information centre
      - Division 1 Data Centre
      - Division ....n Data Centre
  - Operations and Network
IS Professionals
Roles and responsibilities

See handout
Steering committee

- An issue forum or a project advisory committee
IS resource models
Sullivan-Trainor (1989)

- **The service model** - The organisation may not yet understand what IS it requires so it relies on IS professionals to provide a service.

- **The partnership model** - Close alignment between IS and the functional lines in the user community.

- **The vendor model** - IS is considered to be a cost centre that sells its services to the user community.

- **The expansion model** - IS create a flexible architecture for common systems to accommodate the user community's growing needs.

- **The strategic advantage model** - IS and the user community working in harmony to create systems for competitive advantage.
Location
Robson (1994)

- **Centralised** - One single-access function. IS provides the service and retains control. Facilitates consistent data formats, compatibility and security.

- **Decentralised** - A number of single-access functions. A collection of mini “DP” departments.

- **Distributed** - Lots of connected functions. IS is a number of laterally linked multi-service providers.

- **Devolved** - As distributed with significant end-user control over processing and development.