Seminar: Week 2
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LECTURE OBJECTIVES

- Define the term system
- Describe how organisations are classified as systems
- Describe Monash university as a system
- Discuss impacts on the Monash system
- Define and describe information systems and their supporting role in organisational systems
- Describe different information systems
  - transaction processing systems
  - Management support systems

WHAT IS A SYSTEM

- A SET OF INTERACTING COMPONENTS THAT OPERATE TOGETHER TO ACCOMPLISH A PURPOSE (ALTER, 2002)
- A GROUP OF INTERRELATED COMPONENTS WORKING TOGETHER TOWARD A COMMON GOAL BY ACCEPTING INPUTS AND PRODUCING OUTPUTS IN AN ORGANISED TRANSFORMATION PROCESS (O’BRIEN, 1999)

COULD YOU CLASSIFY MONASH UNIVERSITY AS A SYSTEM??

DESCRIBE HOW THIS SYSTEM OPERATES

AN EFFECTIVE SYSTEM

Students/enrolments → Learning → Graduating

INPUTS
- Enrolment

PROCESSING
- Passing assessments

OUTPUTS
- Employment

Feedback Controls
IMPACTS ON SYSTEMS

WHAT IMPACTS ON THE UNIVERSITY SYSTEM TO CAUSE CHANGES TO THE WAY MONASH OPERATES??

SYSTEM CONCEPTS

- Environment: Feedback Signals, Control by Management
- Input of Raw Materials
- Manufacturing Process
- Output of Finished Products
- Other Systems: Control Signals, Feedback Signals

INFORMATION SYSTEMS (IS)

- A set of people, procedures, and resources that collects, transforms and circulates information in an organisation
- This information aids and supports:
  - Planning - business operations
  - Decision making for managers
  - Coordination and controls activities
  - Provides strategic advantage

INFORMATION SYSTEMS MODEL

- People Resources: End Users and IT Specialists
- Input of Data Resources
- Processing Data into Information
- Control of System Performance
- Output of Information Products
- Software Resources: Programs & Procedures
- Data Resources: Data Knowledge Bases
- System Boundary
- Hardware: Machines and Media
- Storage of Data Resources

INFORMATION SYSTEMS

- Perform high speed, high-volume numerical computations
- Provide fast, accurate and inexpensive communication within and between organisations
- Store huge amounts of information in an easy to access yet small space
- Allow quick and inexpensive access to vast amounts of information worldwide
- Increase the effectiveness and efficiency of people working in groups in one place or in several locations
- Automate both semiautomatic business processes and manually performed tasks
- Support unique applications
WHY DO BUSINESSES USE INFORMATION SYSTEMS (Computerised)

- Greatly increase a business’s efficiency
- Greatly increase a business’s effectiveness
- Gain a business advantage over competitors or cut down a disadvantage
- Increase profitability
- Increase productivity
- Decrease overheads

Activities involved in building computer-based information systems are:
- Identify business information problems
- Analyse and describe information needs
- Design solutions to meet information needs
- Acquire/build new systems
- Implement new systems

Building Information Systems

INFORMATION SYSTEMS

- Information aids in decision making by managers
- Support information needs within organisations
- Information reduces uncertainty and risk for managers
- Improve efficiency and effectiveness of information processing activities
- Control the flow of information into and out of the organisation
- Design to incorporate best practices
- Provides real-time information

INFORMATION SYSTEMS

Types of information system

- Executive Information Systems
- Knowledge management systems
- Transaction processing systems
- Management support systems
- Other Automation Systems
- Group Support Systems

Organisational members served

- Executive, Directors, Senior managers
- Managers, professional, middle managers, supervisors
- Office staff, professionals, supervisors

TRANSACTION PROCESSING SYSTEMS

- Manual or computer based information system
- Focus on processing the data generated by business transactions and operations
- Data stored on databases
  - Provides input data for many applications involving other support systems
- Provides information useful for Management support systems (MSS)
  - Useful for: Planning, monitoring, controlling
- Supports the core operations of an organisation:
  - Monitoring, collection, storage, processing and dissemination of the organisation’s basic business transactions

Other Management support systems (Martin et al., 2005)

- Artificial Intelligence
  - The art of building computer systems that incorporate the decision making capabilities and logic of a human expert(s)
  - Expert systems
- Group Support systems
  - Electronic Meeting systems
- Specialised groupware
- Geographic Information Systems
  - Capture store, manipulate, display and analyse data spatially referenced to the earth (p219)
CONCLUSION

• All businesses rely on some form of information system(s) (large or small) to support the running of their organisation.
• The type of information system whether a transaction processing system or a management support system is designed to generate information about the operations of the organisation and to aid in the day to day, month to month and year to year decision making thus supporting strategic top level decisions.

REFERENCES