MIS Overview

UNDERSTANDING MIS

Major Trends (context)
- Globalization
- Transformation of Industrial Economies

Globalization
- Global markets
  - "All the world's a stage!"
- Global competition transcends national borders
- Global production and outsourcing
- Global work groups
- Global delivery

Transformation of Economies
- Revolutions in state
  - Agrarian Revolution (past-1890)
  - Industrial Revolution (1890-1920)
  - Information Revolution (1920-1990)
  - Knowledge Revolution (1990-2020)
MIS Overview

Why MIS?

- A management information system is a "coping" response to environmental turbulence and complexity
- It provides means for an organization to adapt to its environment
- ...what then is an MIS? What is its structure? Function?
- Hinges on our definition of ...INFORMATION....

II: What is Information?

What is information?
What is data?
What is knowledge?
What is wisdom?

If the following symbol means something to you, raise your hand:
**Requirements for Information**

- Observations
- Symbolic encoding/decoding language
- Observer
- Goal Seeking Behavior

**Observations**

- Sensory data
- Representative of patterns or regularities

**Symbolic language**

- Set of symbols that may be manipulated
- Correspondence between symbols and observations
- Rules for encoding and decoding known

**Observer**

- Perceives symbols and patterns
- Knows the rules that govern encoding/decoding of symbols
- Can act based on symbols received
Goal Seeking

- Decision-maker has one or more goals
- Decision-maker has one or more courses of actions
- Information serves to help choose from among alternatives

Information Defined

- Information results in changes in behavior
- "Bits that make a difference" (Bateson)
- Information is essential to business!

Stocks and Flows of Information

- Information may be analyzed in terms of stocks and flows....
  - Stocks are quantities that accumulate
  - Flows represent transfers from one place to another

Information Stocks

- Encodings of transactions, expertise, etc.
- May be stored on paper, floppy disks, hard disks, CD-ROMS
- Each means of storage has different capacities
Storage Capacities

<table>
<thead>
<tr>
<th>Storage Device</th>
<th>Capacity (kb)</th>
<th>Use</th>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheet of paper</td>
<td>3</td>
<td>read/write</td>
<td>portable</td>
</tr>
<tr>
<td>Floppy disk</td>
<td>1200</td>
<td>read/write</td>
<td>portable</td>
</tr>
<tr>
<td>Hard disk</td>
<td>250,000</td>
<td>read/write</td>
<td>not port.</td>
</tr>
<tr>
<td>CD-ROM</td>
<td>500,000</td>
<td>read</td>
<td>portable</td>
</tr>
</tbody>
</table>

Information Flows

- Information can be transferred from place to place
- Requires channels
- Channel capacity determined by channel characteristics

Channel Capacity

- Copper wire-low capacity
- Fiber optic cable - high capacity

Information Summary

- Society accumulates many types of "bits"; data, information, knowledge, and wisdom.
- Organizations (a subset) require support for their "bit-handling" capabilities.....
- Information technologies support this "bit-handling".....
What are MIS Systems?

- An MIS system is composed of a related set of elements:
  - people, data, procedures, (IT)

MIS Function

- Mgmt information systems support organizational effectiveness (i.e., "the whole"):
  - Human resource management
  - Integration and coordination
  - Goal Attainment
  - Adaptation

MIS Users

- The users of IS are:
  - Senior managers
  - Middle managers
  - Operational managers
  - Knowledge, information and data workers

MIS Summary

- The MIS function helps transform data into meaningful information for the organization
- They are populated by people and their raw materials are "bits"
- MIS systems are built on procedures
- Computers play a supporting role in MIS
Course Objectives

Learn the language of systems
Obtain hands-on with advanced IT

ANSWER KEY QUESTIONS....

WHAT Questions

• What are the relationships between organizations and IS:
  - Effects of environmental context on IT use and design
  - Effects of organizational characteristics on IT use and design
  - Impact of IT on peoples behavior
  - Impact of IT on the organization

HOW Questions

- How can businesses use IT for competitive advantage?
- How can organizations adapt to global economic systems?
- How can organizations develop an information system architecture?
- How can organizations determine the business value of IS?
- How can organizations design and implement systems in ethical fashion?

Theoretical Approaches

• Socio-technical analysis
• Structuration theory
Socio-technical systems

- Joint social and technical analysis and design

Structuration Theory (figure)

end....