Decision Support and Executive Information Systems

Advanced Information Systems
- Expert Systems
- >>Decision Support Systems
- >>Executive Information Systems

Part Ia: DSS's

DSS Definition
- "Decision support systems are interactive information systems that assist a decision maker in approaching ill-structured problems by offering analytical models and access to databases." (Zwass 1992)
- Q's
  - What are "ill-structured problems?"
  - What are analytical models?
  - What's wrong with this definition?
Problem Structure

Structured
- Standard procedures
- e.g., order validation

Semi-structured
- Complex problem, but some routine procedures
- e.g., forecasting

Unstructured
- New; no procedures
- e.g., experimentation with new technology

DSS

Analytical Models

- Models are simplifications of reality
- Physical models
  - Water flow represents monetary flows
- Analytical models
  - Mathematical/symbolic
  - Manipulatable

Who Uses DSS?

Those skilled in the development and application of models

Managers?
- not likely

Analytical staff
- Yes!

Range of Uses of DSS

- Data access
- Data analysis
- Simple models
- Complex models
- Experiential models
DSS and EIS

Components of DSS

- Data Base
  - Access to company records and external databases; documents

- Model Base
  - Set of mathematical models to be used by analyst
  - e.g., linear regression model

- User Interface
  - Manages the presentation and flow of information for the user

DSS Components Explained

Part Ib: Group Decision Support Systems

GDSS Defined

- Designed to support group communication and decision making
GDSS Interactions

- Info sharing
- Idea generation and exchange
- Exploration of alternative solutions
- Utilize data, models
- Allow for prioritization and voting

Range of Uses of GDSS

<table>
<thead>
<tr>
<th></th>
<th>Same Time</th>
<th>Different Time</th>
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<tbody>
<tr>
<td>Different Place</td>
<td>Dept. to Dept.</td>
<td>Inter-department on-going project</td>
</tr>
<tr>
<td>Same Place</td>
<td>Dept. meeting</td>
<td>On-going dept. project</td>
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Components of GDSS

Hardware/Software features

- Common display
- Access to data and models
- Email
- Teleconferencing
- Logging capabilities
- Anonymous voting
Part II: Executive Information Systems

EIS defined

- Designed to assist management in:
  - (i) detecting problems
  - (ii) identifying opportunities through the presentation of relevant data.
- Primary user is the senior executive

Components of EIS

- Access to internal and external databases
- Capable of tabular and graphical views of data
- Drill-down and drill-up capabilities
- Easy control and navigation
Part III: EXAMPLES

Examples

- DSS-Frasee advertising analysis
- GDSS-Rm 208

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