Reading 1:
A Taxonomy of Decision Support Systems

What is a taxonomy of DSS?

A Taxonomy of DSS

- **Examples of system-labeling schemes**
  - decision perspective
    - **operational control, management control, strategic planning**
  - modeling approach
    - **simulation, optimization**

Categories of DSSs

- **What is used to classify DSSs?**
  - The generic operation it performs
- **7 DSS types**
  - File drawer systems
  - Data analysis systems
  - Analysis information systems
  - Accounting models
  - Representational models
  - Optimization models
  - Suggestion models

1. File Drawer Systems

- **computerized version of manual filing systems**

- **allow immediate access to data items, help reach decisions**

- **example: inventory control system used in manufacturing HW--> access the location & status of all available parts**

2. Data Analysis Systems

- **allow manipulation of data by means of operators**
  - summarization, calculation
- **tailored & generalized analysis systems**
- **example: bank's analysis system --> generates monthly report variances for budget control**

3. Analysis Information Systems

- **provide access to a series of databases and small models**

- **example: sales analysis system --> product planning used detail sales data, information about customers, and industry forecasts**

4. Accounting Models

- **calculate consequences of planned actions on the basis of accounting definitions**

- **example: voyage profitability estimators --> calculate cost and charter prices**

5. Representational Models

- **estimate consequences of actions on basis of models that reflect uncertainty**

- **example: aggregate market response model --> to track the marketplace & effects of competitive actions**

6. Optimization Models

- **generate the optimal solution consistent with a set of constraints**
- **used in studying situations described mathematically**
- **example: a linear programming model**

7. Suggestion Models

- **perform work leading to a specific suggested decision**

- **example: system performs calculations needed in adjusting the rates on group insurance policies**

Discussion

- **Why the taxonomy is useful?**
- **Possible, categories may not fit every system**

Other Categories & Classes of DSSs

A variety of methods attempt to categorize DSSs:

- Data-centric and model-centric
- Formal and ad hoc systems
- Directed versus nondirected DSSs
- Procedural and nonprocedural systems
- Hypertext systems
- Spreadsheet systems
- Individual and group DSSs

Data-Centric and Model-Centric DSSs

The classification scheme collapses down to two support orientations.

DSS Type	DSS Activity	DSS Support Orientation
File Drawer Systems	Data Retrieval	Data-Centric
Data Analysis Systems		
Analysis Information Systems	Data Analysis	
Accounting Models	Simulation	Model-Centric
Representational Models		
Optimization Models	Suggestion	
Suggestion Models		