Chapter 7
Research Driven Decision Support Systems

Value of the Marketing Information System

- Companies need information to make decisions and solve problems.
- Managers must be able to manage and interpret information accurately.
- Information interpretation begins with:
  - understanding of where the information comes from,
  - how the information is obtained,
  - relevancy of the information to the business situation being examined.

Marketing Decision Support System

- Computer based system intended for use by particular marketing personnel at any functional level for the purpose of solving semi-structured problems.
- Output occurs in the form of:
  - special reports,
  - mathematical simulations, or
  - tracking devices.
Characteristics of a Marketing Decision Support System

- Designed for specific research problems to support marketing people.
- Focuses on a specific decision and provides information for that decision.
- Primary purpose is to identify and evaluate solutions to marketing problems.
- Focuses on narrow or semi-structured problems.
- Emphasis is two-fold: information and solutions.

Marketing Decision Support System (Ex. 7.1)

- Environmental Information
- Transactional Data
- Competitive Intelligence
- Database System
- Computer
- Software System
- Simulations
- Report Generation
- Physical Distribution

Information Requirements for a MDSS

- Most information in a MDSS is secondary data.
- The MDSS is designed to solve and provide solutions to problems as they actually exist in the marketplace.
- Most important forms of information used to design a MDSS are:
  - environmental information, and
  - transactional data.
Environmental Information

Information Contained in a MDSS that Companies Should Evaluate Suppliers On Include:

- Dollar Volume by Season and Year
- Annual Growth/ Shrinkage of Dollar Volume
- Accuracy of Shipping and Billing
- Timeliness of Deliveries
- Price Terms and Allowances
- Returns and Procedures

Distribution Partners

Information Contained in a MDSS that Companies Should Evaluate Service Wholesalers On Include:

- Levels of Inventory Carried by Wholesalers
- On Time Delivery Schedules
- Level of Minimum Ordering Required
- Transportation Costs
- Repairs, Allowances & Adjustments Granted
- Level of Service Provided by Wholesalers

Competitive Intelligence

- Reading Trade Publications, Books & Newspapers
- Talking to Customers, Suppliers, Wholesalers
- Obtained from Outside Information Suppliers
- Procedure for Collecting Daily Operational Information Pertinent to the Company and Market Served.
Bush, Ortinau, and Hair, 1st Edition
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**Transactional Data**

- **Barcoding**: Pattern of varied width bars and spaces which represent a code of numbers and letters. Optical reading of barcodes, e.g. UPC or SCM.
- **Optical Scanners**: Continuous, automated system designed to analyze inventory levels, etc.
- **Automatic Replenishment System (ARS)**: Designed to speed the flow of information and product from producer to distributor to retailer.
- **Electronic Data Interchange (EDI)**: Located at point of sale and resembles a miniature automated bank teller machine.

**Information Processing and the MDSS**

- The computer and software system of the MDSS should adhere to these guidelines:
  - Report design should reflect the needs for the user, not the analyst.
  - Software system must have the capability to provide reports within minutes for the user.
  - System must have the ability to sort and provide highly specific report data.
  - It must be easy to read, use and manipulate.
  - Review custom versus prewritten systems.

**Information Processing and the MDSS**

- Two General Software Systems Exist for MDSS
  - **Statistical Software Systems**: I.e. SAS and SPSS
  - **Managerial Function Software Systems**: I.e. Forecasting System, Product/Brand Management, and Promotional Budget System
Types of MDSS Models

<table>
<thead>
<tr>
<th>Model Type</th>
<th>Description</th>
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<tbody>
<tr>
<td>Static</td>
<td>Does not consider time as a major variable, deals with a point in time</td>
</tr>
<tr>
<td>Dynamic</td>
<td>Time is added to model, behavior over time</td>
</tr>
<tr>
<td>Probability</td>
<td>Chance that some event is likely to occur</td>
</tr>
<tr>
<td>Deterministic</td>
<td>Does not include probabilities</td>
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<tr>
<td>Optimizing</td>
<td>One that selects the best solution among alternatives</td>
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<tr>
<td>Suboptimizing</td>
<td>One that will project an outcome on its own</td>
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</tbody>
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Geographic Simulation System (GSS)

- It Uses a Spatial Modeling Technique Along with Data Drawn From the MDSS.
- Analyze Market Areas and Learn Where Certain Defined, Demographics Overlap.
- Can be Used to Create “What If” Scenarios.
- Future of GSS Will be in Availability and Expanded Use of Satellite Imagery.

The MDSS and Expert Systems

- Expert Systems are computer systems that function in the same manner as a human expert.
  - Based on assumption that an expert’s knowledge can be captured in a database and made available to others.
- MDSS consists of routines; Expert Systems offer opportunities to make decisions that exceed manager’s capabilities.
Expert Systems and the Marketing Researcher

Expert Systems Are Used Mainly for Developing Strategic and Tactical Models.

**Tactical Models**
- Pricing models
- Sales territory assignments
- Media selection models
- Store location models

**Strategic Models**
- New product evaluation models
- Product deletion models

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Summary of Learning Objectives

- Understand the purpose of a Marketing Decision Support System.
- Describe the various information requirements used to design a Marketing Decision Support System.
- Understand the role of transactional data in the decision support system.
- Explain the relationship between information processing and the Marketing Decision Support System.
- Understand the various models used in a Marketing Decision Support System.
- Provide examples of output from a Marketing Decision Support System.
- Discuss the relationship between a Decision Support System and an Expert System.