

Analyzing Business Decision Processes

Focus First on Identifying Business Decision Processes and then on Designing DSS



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Decision Processes

- Decision making is the most important part of a manager's job
- When does a decision process begin and end?
- Design begins with understanding an existing decision process
- Decision making is a dynamic process
- Decisions are made by managers at all levels

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Managerial Decisions

- Strategic Planning
 - Related to allocating resources, controlling organizational performance, establishing broad policies, and evaluating investment or merger proposals
- Management Control
 - Associated with the acquisition and use of resources by operating units, buyer/supplier behavior, introduction of new products, R&D expenditures

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Managerial Decisions

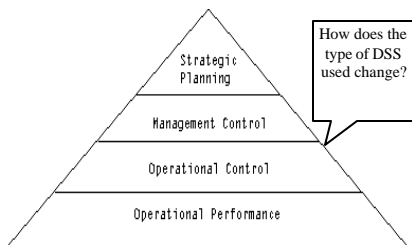
- Operational Control
 - Related to the effectiveness of organizational actions, monitoring quality, and assessing needs
- Operational Performance
 - Day-to-Day decisions made in functional units by managers to implement decisions, functional tactics, and operational activities

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Categories of Organizational Decisions



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Types of Problems



- Structured
 - Described in numbers or numerical objectives
 - Specific computational techniques may be available
- Unstructured
 - Objectives are hard to quantify
 - Usually not possible to model the situation
 - Require more creativity and subjective judgement

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Decision Situation Categories

- Routine/Recurring
 - Programmed
 - Repetitive
 - Ex: Placing an inventory order
- Non-Routine
 - Infrequent
 - Non-programmed

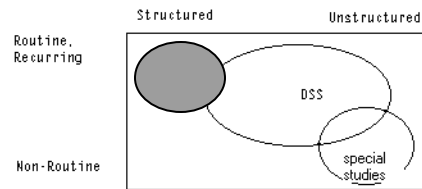


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Matching DSS to Situations



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Computerized Support

- DSS should be used when managers are in decision situations characterized by one or more of the following:
 - Complexity
 - Risk and Uncertainty
 - Multiple Stakeholders
 - Large amount of information (company data)
 - Rapid change in information



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Decision Making Context and Elements of a Decision Situation

- Potential for & limitations for DSS
 - Goals in situation
 - Relevant alternatives & how identified
 - Process of ranking alternatives
 - Decision environment – internal & external
 - Decision-makers
 - » Supervisors, middle and senior managers
 - » requester, hands-on or renaissance DM
 - » **People are influenced by how information is presented**

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Decision-Makers: Who will make the decision?

- Scope of the decision determines what level of management should make the decision
 - The broader the scope, the higher level of management needs to be involved
- Managers have limitations
 - Use simplistic strategies to decide
 - Request excessive information and do not use it
 - Base decision on how it will make them look

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Decision Making Process

- 3 Stages in a sequential decision making process (Simon 1965)
 - Intelligence - finding occasions for making a decision
 - Design - finding, inventing, developing, and analyzing alternative courses of action
 - Choice - selecting a course of action
 - Implementation??

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What is a system?

- An interrelated set of components intended to achieve a predefined purpose
- Boundary of the decision support system
- Identify subsystems
- Linking decision processes to computerized systems

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IBM Credit Corporation Business Decision Process

Hammer and Champy (1993)

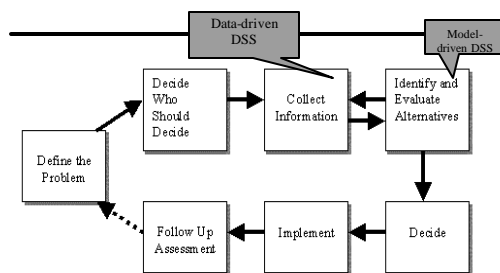
- **Step 1.** A salesperson called in a request for financing.
- **Step 2.** Entered request in a computer; checked credit status.
- **Step 3.** Business practices department used a different computer system to modify a standard loan agreement.
- **Step 4.** Pricer keyed all information in a PC spreadsheet and determined the appropriate interest rate.
- **Step 5.** The clerical group converted paper documents into a quote letter and delivered to sales rep using FedEx.
- Deal structurere and 4 hour decision cycle

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General Decision Process Model



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“Good” Decision Making

- Good decisions are those that resolve the problem
- Not all decisions have positive outcomes
- No manager makes all the right decisions
 - Factors that are unforeseeable or over which the decision maker has no control assure some wrong decisions

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Defining Success of a Decision

- Success is a function of its quality and of how a decision is implemented
- Decision quality is judged by a decision's
 - Compatibility with existing constraints
 - Its timeliness
 - Its incorporation of the optimal amount of information
- A successful implementation
 - Avoids conflict of interest
 - Makes sure the decision is understood by everyone
 - Benefits outweigh the risks
- DSS can impact success

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Impediments to Decision Success

- Tradition and Bias
 - “We have always done it that way.”
- Lack of Knowledge
 - DSS and expert systems can reduce this
- Improper Use of Decision Aids
 - DSS can hinder “good” decision-making

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Reengineering vs. Redesigning

- Radical vs. incremental change
- Impact on performance?
- BPR characteristics – simple processes, focus on results

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Redesigning Decision Processes

- Corporations do not always need business process reengineering, decision processes can be incrementally improved using technology and DSS



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Redesigning Decision Processes

- Begin by defining the business decision process.
- DSS should help a manager obtain enough information to make a high quality decision



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DSS Design Issues

- Incorporating soft data and encouraging managers to collect qualitative data?
- Enhancing confidence?
- Reinforcing a manager's values?
- Focus on making rational decisions vs. supporting rationalizing



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Conclusions

- Can DSS improve the frequency of successful decisions?
- Cautious in DSS design and avoid reinforcing limitations of DM
- Fear of managers about automating decision processes

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Questions

- Can decision-making be improved? How do we know a computerized decision aid is needed?
- If we install a DSS, how will we know we have helped a decision maker?
- When should computerized decision support be considered?

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