Understanding the Business Value of Systems and Managing Change

Unstructured Nature of Important Decisions

- Many important decisions, especially in the areas of strategic planning and knowledge are not structured and require judgment and examination of many complex factors.
- Solutions cannot be provided by computerized Information System solely.
- System builders need to determine exactly what aspects, if any, of a solution can be computerized and exactly how systems can support the process of arriving a decision.

Diversity of Managerial Roles

- Up to now, Information System have supported only a few of the roles managers play in organization.
- Information System builders need to determine whether new technologies such as the Internet can create Information System to help managers in their interpersonal and decisional roles that previously not backed up by formal systems.
- In addition to helping managers plan, organize, and coordinate, it is vital that systems help managers get things done through interpersonal communication, by implementing personal agendas, and by establishing networks throughout the organization.

What Manager Do ?

- Making decision about new products and services
- Arranging birthday parties
- Writing reports
- Attending meetings
- Giving inspirational speeches to employees
- …..

The Evolution Of Management Theory

- The history of management theory can be broken into three main historical periods:
  - ◆ **The Classical Period** (188-1927) is dominated by the technical-rational view, often held by engineers and "rationalistic" thinkers in scientific management.
  - ◆ **The Contemporary Period** (1930-1962) is dominated by sociologists and organizational behavior experts who emphasize individual and collective behavior.
  - ◆ **The Postmodern Period** (1965-present) is dominated by economists, sociologists, management theorists, and others who emphasize the knowledge basis of organizations.

Three Schools of Management

- Theoretical schools and literatures have organized around these three observations:
  - ◆ The literature that describes the role of technical competence was call the "technical-rational" school;
  - ◆ The literature that emphasizes organizational adaptability to internal and external environments is usually called the "behavioral" school;
  - ◆ The literature that emphasizes the role of knowledge and managerial sense-making we call the "cognitive" school.

Management Theory Evolves

- Technical-Rational
- Behavioral
- Cognitive

Management Theory Evolves

- Technical-Rational
  - ◆ Emphasizes the precision with which a task can be done, the organization of tasks into jobs, and jobs into production systems
    - ♦ Planning
    - ♦ Organizing
    - ♦ Coordination
    - ♦ Deciding
    - ♦ Controlling

Management Theory Evolves

- Behavioral
  - ◆ Emphasizes how well the organization can adapt to its external and internal environment
    - ♦ High volume, high-speed work
    - ♦ Variety, fragmentation, brevity
    - ♦ Issue preference: current, ad hoc, specific
    - ♦ Complex web of interactions, contacts
    - ♦ Strong preference for verbal media
    - ♦ Control of the agenda

Management Theory Evolves

- Cognitive
  - ◆ Emphasizes how well the organization learns and applies know how and knowledge, and how well managers provide meaning to new situations
    - ♦ Managerial Sense-making
    - ♦ The knowledge-based view of the firm

Managerial Sense-making

- Define the situation for both employees and the firm.
- Increase firm value, effectiveness, and efficiency.
- Create knowledge structures that transform stream of events into tractable "problem", and become the foundation for organizational programs and polices.
- Problem solving and decision making
- Information processing
- Create information-processing structures, program and routines, which scan external & internal environments in accordance with managers' knowledge structure.

The knowledge-based view of the firm

- The success of the organization depends on the organization's ability to gather, produce, maintain, and disseminate knowledge.

What is Knowledge?

- The central productive and strategic asset of the firm.
- A complex concept including information, social relations and skills.
- Can be explicit and tacit (implicit).
- Organizations and people can learn.
- Can be embedded in machines.
- The function of the firm is to create value through the integration of specialized knowledge.
- The strategy of the firm is to develop "core competencies".

Managerial Roles

- Managerial Roles is the expectations of the activities that managers should perform in an organization.
- Mintzberg classified managerial activities into 10 roles that fall into 3 categories:
  - ◆ Interpersonal roles
    - ♦ Act as figureheads and leaders
  - ◆ Informational roles
    - ♦ Receive and disseminate critical information, nerve centers
  - ◆ Decisional roles
    - ♦ Initiate activities, handle disturbances, allocate resources, and negotiate conflicts

How managers get things done?

- Kotter (1982) uses the behavioral approach to modern management to describe how managers work. Kotter argues that effective managers are involved in 3 critical activities:
  - ◆ General managers spend significant time establishing personal agenda and goals, both short and long term.
  - ◆ Effective managers spend much time building an interpersonal network composed of people virtually all levels of the organization
  - ◆ Managers use their networks to execute personal agenda.

Levels of Decision Making

- Strategic Decision Making
- Management Control
- Knowledge-level Decision Making
- Operational Control

Levels of Decision Making

- Strategic Decision Making
  - Determining the long-term objectives, resources, and policies of an organisation.
- Management Control
  - Monitoring how efficiently or effectively resources are utilised and how well operational units are performing.

Levels of Decision Making

- Knowledge-level Decision Making
  - Evaluating new ideas for products, services, ways to communicate new knowledge, and ways to distribute information throughout the organisation.
- Operational Control
  - Deciding how to carry out specific tasks specified by upper and middle management and establishing criteria for completion and resource allocation.

Types of Decisions

- Unstructured Decisions
  - Non-routine decisions in which the decision maker must provide judgment, evaluation, and insights into the problem definition; there is no agreed-upon procedure for making such decisions.
- Structured Decisions
  - Decisions that are repetitive, routine, and have a definite procedure for handling them.
- Semi-structured Decisions
  - Decisions where only part of the problem has a clear-cut answer provided by an accepted procedure
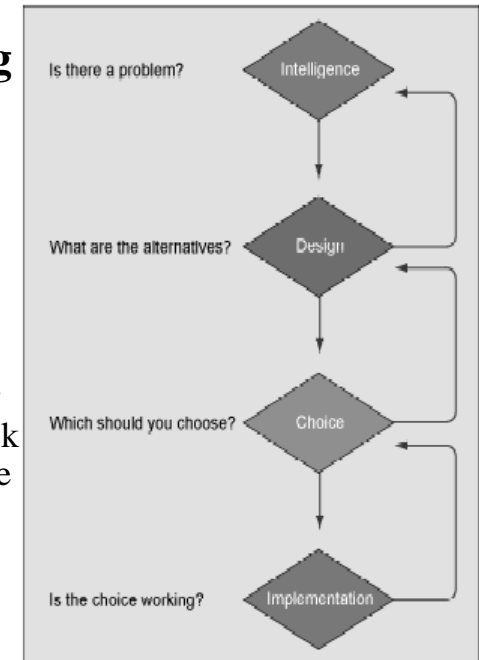
Types of Decisions

- In general, operational control personnel face fairly well-structured problems,
- Strategic planners tackle highly unstructured problems, Many problems encountered by knowledge workers are fairly unstructured as well.
- Nevertheless, each of the organization contains both structured and unstructured problems.

Simon's Four Stages of Decision Making

- Intelligence
  - ◆ Collect information, identify problem
- Design
  - ◆ Conceive alternative solution to a problem
- Choice
  - ◆ Select among the alternative solutions
- Implementation
  - ◆ Put decision into effect and provide report on the progress of solution

Decision Making

- Decisions are often arrived at after a series of iterations and evaluations at each stage in the process.
- The decision maker often must loop back through one or more of the stages before completing the process.

Individual Models of Decision Making

Name	Basic Concept	Inference Patterns
Rational Model	Comprehensive Rationality	1. Establish goals 2. Examine all alternatives 3. Choose the best alternative
Satisfying Model	Bounded Rationality	1. Establish goals 2. Examine a few alternatives 3. Choose the 1st alternative that promotes the goals
Mudding Through	Successive Comparison	1. Examine alternatives to establish a mix of goals and consequences 2. Choose policies that are marginally different from those of the past
Psychological	Cognitive Types	1. All decision-makers choose goals but they differ in terms of gathering and evaluating information 2. Systematic thinkers impose order on perceptions and evaluations 3. Intuitive thinkers are more open to unexpected info and use multiple models and perspectives when evaluating information

Organizational Models of Decision Making

Name	Basic Concept	Inference Patterns
Rational Actor	Comprehensive Rationality	1. Organization select goals 2. Examine all alternatives and consequences 3. Choose a policy that maximizes the goal or preference function
Bureaucratic	Organization Output Standard Operating Procedures	1. Goals are restricted by resources 2. SOPs are combined into programs
Political	Political Outcome	1. Decision result from political competition 2. Key players are in a game of influence, bargaining and power 3. Outcomes are determined by the beliefs, goals, skills and resources of players
Garbage Can	Non-adaptive Organizational Programs	1. Most organization are non-adaptive, temporary and disappear over time 2. Decisions result from interactions among streams of problems, potential actions, participants and chance.