

MGC1010: Introduction to Management

Week 6: Decisions, Decisions, Decisions...

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OVERVIEW OF TODAY'S LECTURE

■ Information

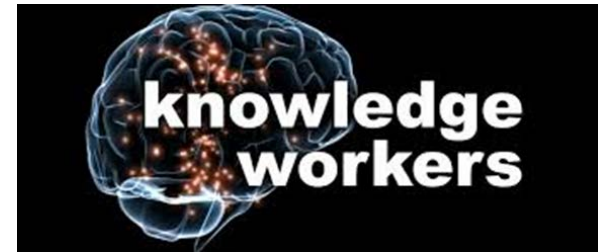
- How is information technology changing the workplace?
- What are the current directions in information systems?
- How is information used for decision-making?

■ Decision-Making

- How do managers make decisions?
- Why are knowledge management and organisational learning important?

INFORMATION TECHNOLOGY AND THE WORKPLACE

- A knowledge worker is a worker who transforms knowledge or information into a product or service.
- Intellectual capital is the collective brain power or shared knowledge of a workforce.
- Information technology (IT): the combination of computer hardware, software, networks and databases supporting information use.

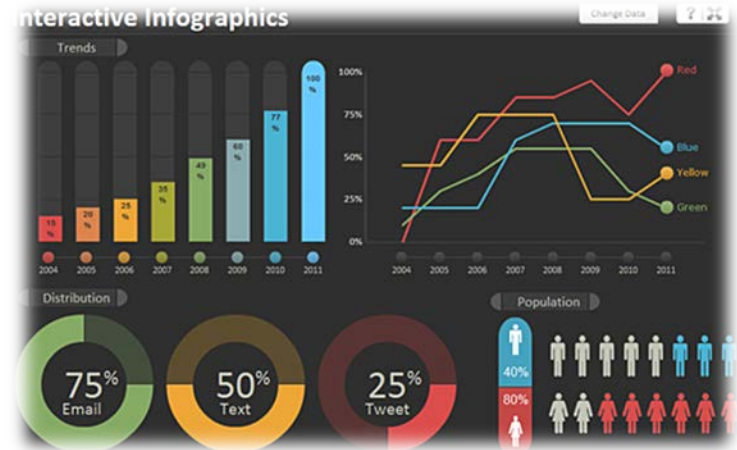


INFORMATION AND INFORMATION SYSTEMS

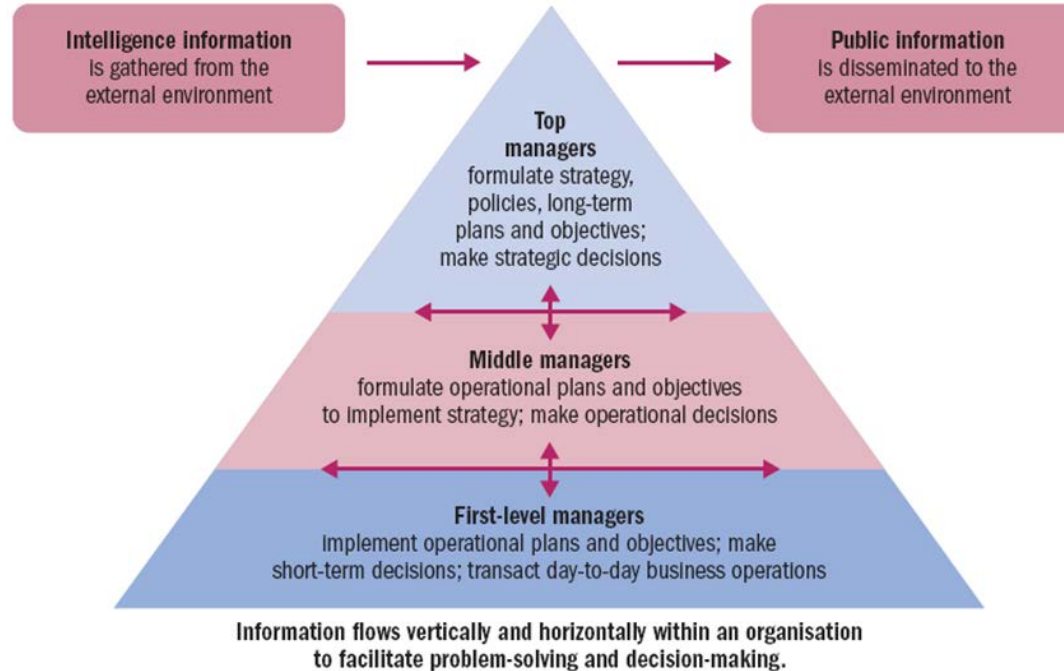
- **Data:** Any quantifiable measured values, observations or statistical counts that, when collated, become useful for decision-making.
- **Information systems:** use information technology to collect, organise and distribute data for use in decision-making.

Five essential characteristics of useful information:

1. Timeliness
2. Quality
3. Completeness
4. Relevance
5. Understandability

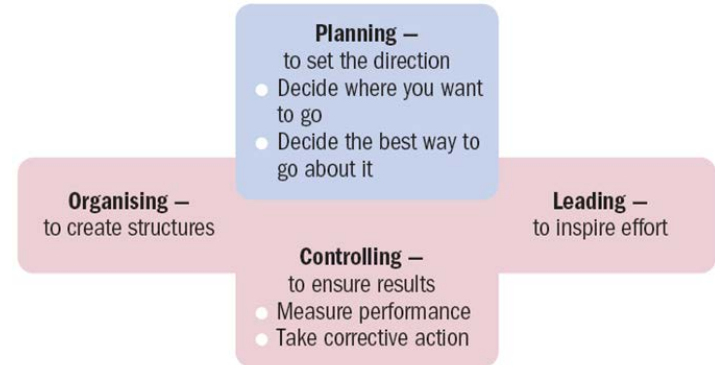


INFORMATION NEEDS OF AN ORGANISATION

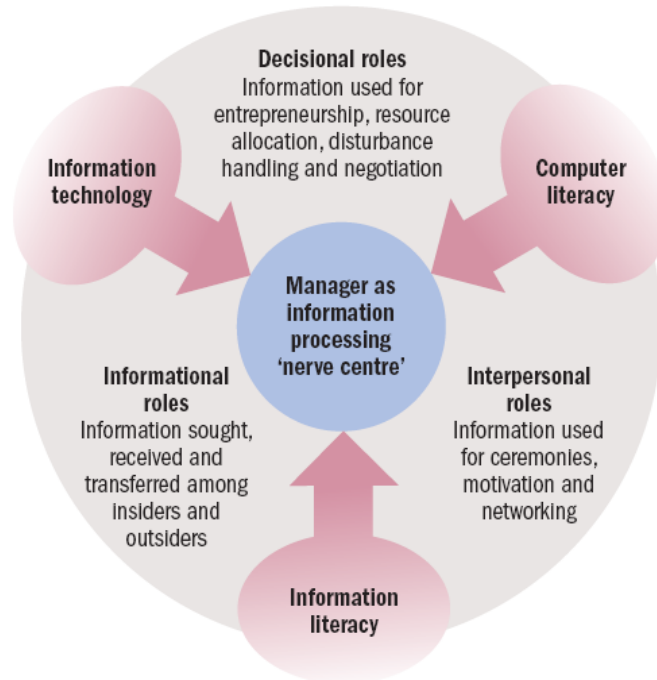


DEVELOPMENTS IN INFORMATION SYSTEMS

- A management information system (MIS) is a computer system that stores and distributes information on how to successfully manage an organisation. It is usually regarded as a subset of the internal controls of a business.
- There are many advantages associated with the appropriate and careful use of MIS for Managers



INFORMATION SYSTEMS AND THE MANAGER



BIG DATA – THE NEW COMPETITIVE ADVANTAGE

- Torrent of data flooding our world, and the sheer volume of data generated, stored, and mined for insights, has become economically relevant to business



<http://iveybusinessjournal.com/publication/why-big-data-is-the-new-competitive-advantage/>

5 Ways to Leverage Big Data

(McGuire et al., 2012)

1. Unlocking significant value & efficiencies by making information transparent
2. Creation and storage of transactional data (i.e. product inventories, sick days) can expose variability and boost performance
3. Narrower segmentation of customers → tailored service
4. Improved decision making process, minimising risks, and unearthing insights
5. Using data to develop next-gen products & services

HOW DOES BIG DATA HELP?

- **Bristol-Myers Squibb**, a global pharmaceutical company, reduced the time it took to run clinical trials by **98%** by using Amazon Web Services.
- Length of clinical studies were reduced from 2.5 years on average to 1.7 years; and study costs savings of \$500, 000 per study.



<http://aws.amazon.com/solutions/case-studies/bristol-myers-squibb/>
<http://siliconangle.com/blog/2013/03/26/big-pharma-harnessing-big-data-to-speed-new-drug-development/>
<http://www.wsj.com/news/articles/SB10000872396390443890304578006252019616768>

- **Xerox Corporation** – uses big data to reduce attrition rate among call centre workers by 20% (Walker, 2012)
 - Spends on average \$5,000 on training per employee
 - Hires over 48,000 employees in call centres
 - Through big data analysis, discovered that creative types (personality) tends to stick around for more than 6 months, but inquisitive people often don't.
 - Now uses a software for hiring decisions

KNOWLEDGE MANAGEMENT AND ORGANISATIONAL LEARNING

- **Knowledge management** is the process through which organisations use intellectual capital for competitive advantage.
- The **intellectual assets** include such things as patents, intellectual property rights, trade secrets and special processes and methods, as well as the accumulated knowledge and understanding of the entire workforce.
- **Explicit knowledge** is codified and shared with others through dialogue, demonstration or media.
- A learning organisation continuously changes and improves using the lessons of experience.
- Core ingredients of learning organisations:
 1. Mental models;
 2. Personal mastery;
 3. Systems thinking;
 4. Share vision, and
 5. Team learning.

ORGANISATIONAL AMBIDEXTERITY: EXPLORATION vs. EXPLOITATION

- **Exploitation**: using and maximising current resources and capabilities efficiently
- **Exploration**: searching for, acquiring, and developing new resources and capabilities for the organisation
- **Ambidextrous organisations** strike a balance between, and are able to utilise both exploitation and exploration to meet demands and adapt to changes within the environment at the same time.



Gibson, C. B., & Birkinshaw, J. (2004). The antecedents, consequences and mediating role of organizational ambidexterity *Academy of Management Journal*, 47, 209-226

INFORMATION AND DECISION MAKING

Decisions

- A decision is a choice made from available alternatives

Decision Making

- Is the process of specifying the nature of a problem or opportunity and selecting between alternatives to solve the problem or capture the opportunity *(Hitt et al., 2007:299)*
- The process of identifying problems and opportunities and then resolving them *(Samson and Daft, 2012: 331)*



TYPES OF MANAGERIAL PROBLEMS

- Understanding the nature of the problem helps decide the problem-solving process and ensure you solve the *right* problem

Static: one-off problems that go away when effectively solved

Dynamic: problems that recur over and over

Structured: current and goal states and steps for moving between them are clearly defined and understood

Unstructured or ill-structured: lack of understanding due to nature of problem, insufficient problem solving knowledge

Simple: manageable amount of information to be processed to solve the problem

Complex: extensive amount of information to be processed to solve the problem – dynamics, delays, non-linear relationships, feedback loops

TYPES OF DECISIONS

■ *Programmed decisions*

- structured or recurring
- personal - daily routines
- organisational - standard operating procedures

■ *Non-programmed decisions*

- unstructured and occur less often
- personal - job choice
- organisational - crisis management, “crafted decisions”

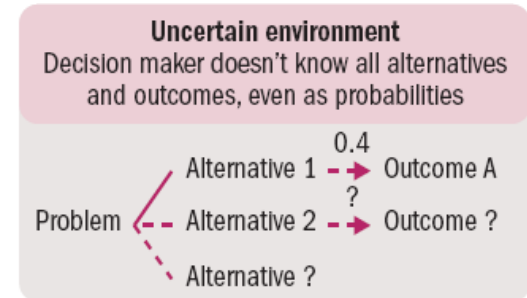
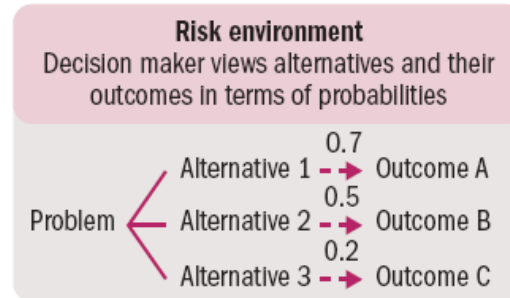
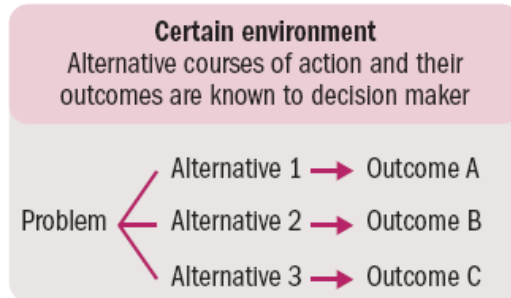
Apply solutions from past experience to a routine problem.



Apply specific solutions crafted for a unique problem.

THE ENVIRONMENT AND DECISION-MAKING CONDITIONS

- People in organisations make decisions under each of three decision conditions:
 - A certain environment offers complete information on possible action alternatives and their consequences.
 - A risk environment lacks complete information, but offers 'probabilities' of the likely outcomes for possible action alternatives.
 - An uncertain environment lacks so much information that it is difficult to assign probabilities to the likely outcomes of alternatives.



APPROACHING DECISIONS...

1. **Problem avoiders** ignore information, are inactive and do not want to make decisions and deal with problems.
 2. **Problem solvers** are willing to make decisions and solve problems, but they are reactive.
 3. **Problem seekers** actively process information and constantly look for problems to solve or opportunities to explore. True problem seekers are proactive.
- Managers also differ in their approach to decision-making depending on whether they use 'systematic' or 'intuitive' thinking.
 - **Systematic thinking** approaches problems in a rational and analytical fashion.
 - **Intuitive thinking** approaches problems in a flexible and spontaneous fashion.

THE RATIONAL DECISION-MAKING PROCESS



BEHAVIOURAL INFLUENCES: DECISION-MAKING PROCESS

- Managerial decision-making processes are sometimes political, complex, influenced by human behaviours, individual agendas and subject to public scrutiny

Classical model

Views manager as acting with complete information in a certain environment

- Clearly defined problem
- Knowledge of all possible alternatives and their consequences
- Optimising decision – choice of the ‘optimum’ alternative

Behavioural model

Views manager as having cognitive limitations and acting with incomplete information in risk and uncertain environments

- Problem not clearly defined
- Knowledge is limited on possible alternatives and their consequences
- Satisficing decision – choices of ‘satisfactory’ alternative

Judgemental heuristics approach

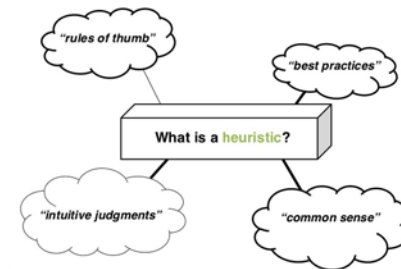
Heuristics are adopted to simplify managerial decision-making

Decisions are influenced by:

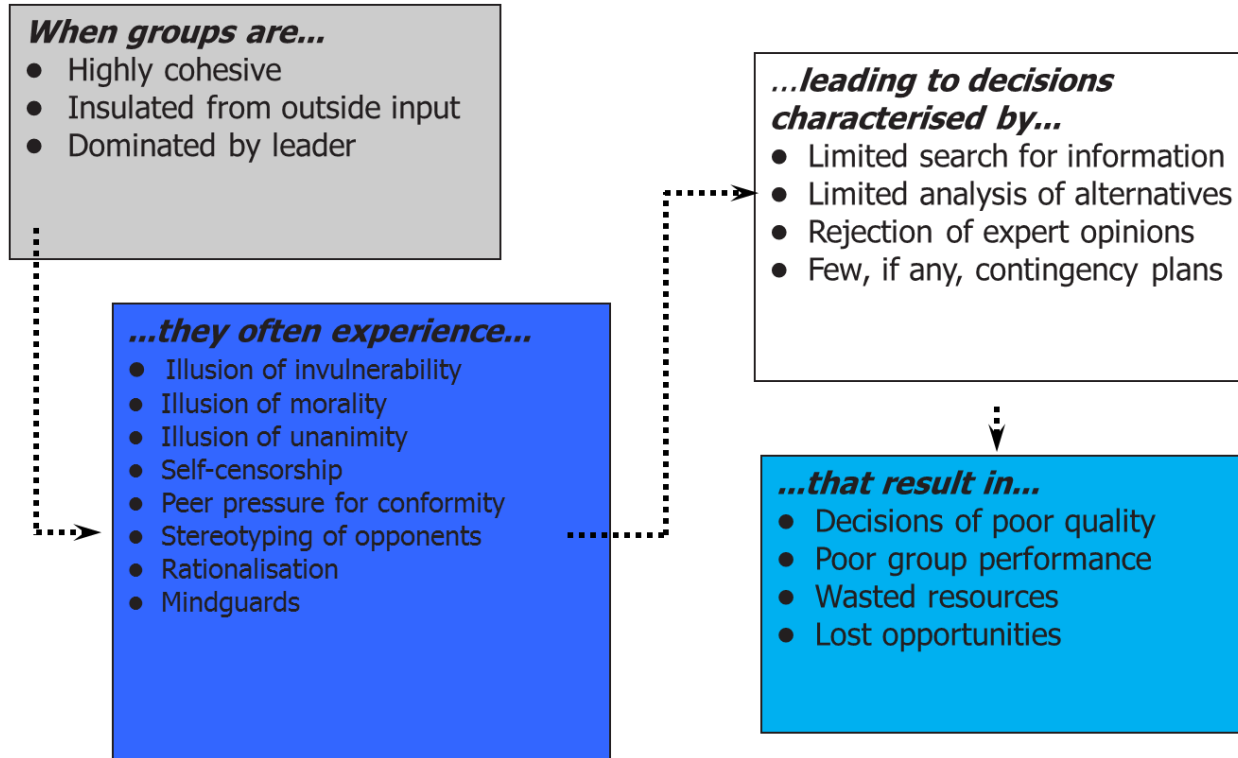
- Information readily available in memory – the availability heuristic
- Comparisons with similar circumstances – the representativeness heuristic
- Current situation – the anchoring and adjustment heuristic

BEHAVIOURAL INFLUENCES: DECISION-MAKING PROCESS

- **Heuristics:** Simplifying strategies for decision-making
- **Judgmental heuristics** are mental shortcuts that allow people to solve problems and make judgments quickly and efficiently (rules of thumb)
 - Shorten decision-making time, but can lead to biases
- **Availability heuristic:** Using information 'readily available' from memory as a basis for assessing a current event or situation.
- **Representativeness heuristic:** Assessing the likelihood of something occurring based on its similarity to a stereotyped set of occurrences.
- **Anchoring and adjustment heuristic:** Making decisions based on adjustments to a previously existing value or starting point.



CHALLENGES IN GROUP DECISION MAKING: GROUPTHINK



INDIVIDUAL AND GROUP DECISION-MAKING

- **Groupthink:** When the group pressure for consensus and demand for unanimity overwhelm the rational evaluation of options.
- **Characteristics of 'groupthink' include:**
 - Illusions of invulnerability
 - Negative stereotyping of others
 - Pressure on deviant members
 - Illusions of group morality
 - Self-censorship.



Preparation for next week...

1. Review weekly readings!
2. Start on Assessment Task 2

