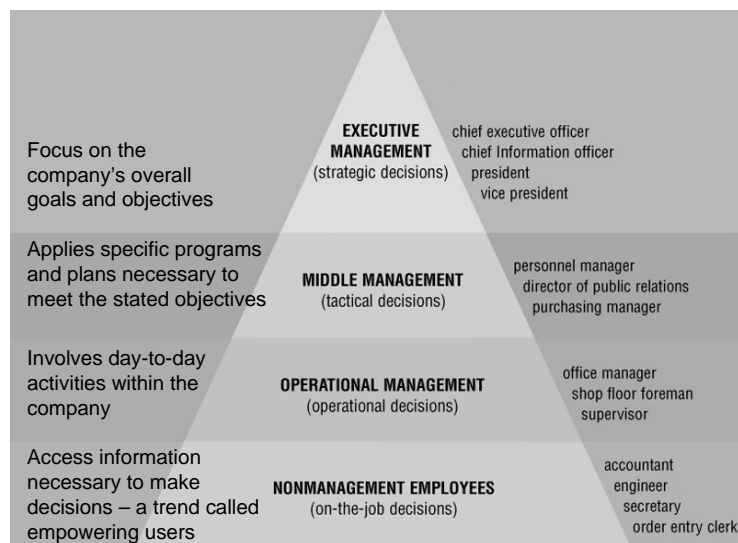


Problems in Information Systems Development

In this Lecture you will Learn:

- The main players in an Information System project
- The problems in Information System development
- The underlying causes of these problems
- How the stakeholder concept helps identify ethical issues in Information System development
- The costs of problems and ethical issues

What are the Levels of Users?



Organizational Structure

- Top Management (Executive Management)
 - ◆ Top managers develop long-range plans that define the company's overall mission and goals. Focuses on issues that affect the company's future survival and growth, including long-term IT plans. Use information systems to set the company's course and direction.
- Middle Management
 - ◆ Middle managers focus their goals on a shorter time frame. Develop plans to achieve business objectives, delegate authority and responsibility to team leaders or supervisors and provide direction, necessary resources, and feedback on performance as tasks are completed.

Organizational Structure

- Lower Management (Operational Management)
 - ◆ Oversee operational employees and carry out day-to-day operational plans. Coordinate operational tasks, make necessary decisions, and ensure that the right tools, materials, and training are available.
- Operational Employees (Non-management Employees)
 - ◆ Primarily use Transaction Processing systems to enter and receive data.

What do we mean by Problem?

- An Information System project may fail before delivery
- An Information System may fail after delivery
- The project was cancelled
- The system was withdrawn after implementation
- An Information System may be continue to be used, despite causing problems to its users, its owners or its developers

The Main Players

- Three main types of player are involved in an Information System development project:
 - ◆ End-users – Those who will benefit from the system's outputs, directly or indirectly
 - ◆ Owners or Sponsors – Those who commission the project, pay for it or have the power to halt it
 - ◆ Developers – Those who will produce the software

Class Exercise

- Why do users, clients and developers disagree on the nature and causes of the problems in information systems development?

End-user View

- End-users may directly operate the software, or may be more remote, e.g. a manager who receives printed reports
- Typical concerns include:
 - ◆ A system that is promised but not delivered
 - ◆ A system that is difficult to use
 - ◆ A system that doesn't meet its users' needs

End-user View (Example)

System characteristic	Example
Poor interface design	A web page with yellow text on a white background.
Inappropriate data entry	A system where the backspace key sometimes deletes whole words.
Incomprehensible error messages	A system message that says 'error #13452'.
Unhelpful 'help'	A system message that says 'wrong date format—try again'.
Poor response times	Nurses in an Intensive Care Unit complained that their new computerized patient chart system took longer to store and retrieve data, compared with the manual system. This took them away from patients for longer ¹ .
Unreliability in operation	A national motor vehicle insurance company lost most of its digital records of customers' policies due to a system error. Staff were unable to send renewal notices, but were compelled instead to write to customers asking them to phone in with their policy details ² .

Owner View

- Owners care about meeting business needs and about value for money
- Typical concerns include:
 - ◆ Projects that overspend their budget (may no longer have a net benefit)
 - ◆ Systems that are delivered too late
 - ◆ Badly managed projects
 - ◆ Systems that are rendered irrelevant by events

Developer View

- Developers sometimes have a difficult time
- Budget and time constraints often conflict with doing the job properly
- Users and owners may not know how to ask for what they really want
- Technologies, development approaches and business needs all constantly change

Why things go wrong?

- Whether a system is delivered or not, many things can go wrong
- Flynn (1998) categorizes the main causes as:
 - ◆ Quality problems
 - ◆ Productivity problems

Analytical Framework for Failures

Type of failure	Reason for failure	Comment
Quality problems	The wrong problem is addressed	System conflicts with business strategy
	Wider influences are neglected	Organization culture may be ignored
	Analysis ³ is carried out incorrectly	Team is poorly skilled, or inadequately resourced
	Project undertaken for wrong reason	Technology pull or political push
Productivity problems	Users change their minds	
	External events change the environment	New legislation
	Implementation is not feasible	May not be known until the project has started
	Poor project control	Inexperienced project manager

Quality Problems

- The wrong problem is addressed
 - ◆ Failure to align the project with business strategy
- Wider influences are neglected
 - ◆ Project team or business managers don't take account of the system environment
- Incorrect analysis of requirements
 - ◆ Poor skills or not enough time allowed
- Project undertaken for wrong reason
 - ◆ Technology pull or political push

Productivity Problems

- Users change their minds
- External events
 - ◆ E.g. introduction of the Euro, change of law
- Implementation not feasible
 - ◆ May not be known at start of the project
- Poor project control
 - ◆ Inexperienced management or political difficulties

Class Exercise

- Define the term “Quality”.

Class Exercise

- What are the main differences between quality problems and productivity problems?

Class Exercise

- Why do the requirements drift once a project is underway?

Ethics Issues & Stakeholder Problems

- Some Information System may affect people far beyond obvious users and owners of the system
 - ◆ Mobile companies collect data about subscribers’ calls and physical movements
 - ◆ This data can be passed to police and many other government agencies
 - ◆ Do you know what data is stored about you? Who by? And what it is used for?

Stakeholder Analysis

- This approach tries to identify everyone affected by a proposed Information System
 - ◆ Who are the stakeholders?
 - ◆ How does the system affect each group?
 - ◆ What are their legitimate concerns?
 - ◆ Are there any legal implications, e.g. Data Protection Act in the HK?

Class Exercise

- Define “Stakeholder”?

Class Exercise

- What ethical issues might be involved in setting up online shopping system that has links to an organization’s management information systems?