

IV. Problems with Information System Projects

Different perspectives on IS problems
 User's perspective
 Client's perspective
 Developer's perspective
 Stakeholder analysis
 Ethical and professional responsibility
 ACM/IEEE code of ethics



Perspectives on Problems

- Consequences of failure are severe: over \$ 81B in the USA alone (1995.)
- Problems range from cancelling a project altogether (no system!), to delivering a system that supports only some of the requirements and/or is never actually used.
- What can go wrong?
- Answer depends on who gives it.
 - End user perspective
 - Client perspective
 - Developer perspective

End User's Perspective

- No system:** What system? I haven't seen a new system...
 ...30% of large IT projects are cancelled before completion
- Unusable:** It might work, but it's dreadful to use...
- No engine under the hood:** It's very pretty – but does it do anything useful?



Client's Perspective

- Too expensive:** If I'd known the real price, I'd never have agreed...
 Typical project is one year late and 100% over-budget!
- Too late:** It's no use delivering it now – we needed it last December! (e.g., Y2K)
- Bad press:** OK, so it works – but the installation was such a mess that my staff will never trust it.
- Change of mind:** I didn't want it in the first place...
- Change of requirements:** Everything's changed now – we need a completely different system...

Developer's Perspective

- Wrong requirements:** We built what they **said** they wanted...
- Insufficient resources:** There wasn't enough time to do it any better...
- Incomplete requirements:** How can I fix it? I don't know how it's supposed to work
- Impossible requirements:** We said it was impossible, but no-one listened...
- Blame the others:** The system's fine – the users are the problem

Why Do Things Go Wrong?

Type of failure	Reason for failure	Comment
Quality problems	Final testing problem is introduced	System conflicts with business strategy
	Project resources are inadequate	Organization culture may be ignored
	Priority is not put on quality	Team is poorly selected, not adequately resourced
	Project undertaken for wrong reasons	Technology pull or political push
Productivity problems	User change time costs	
	External events change the real scenario	New legislation
	Complex nature of real business	May not be known until the project has started
	Poor project control	Inexperienced project manager

Causes of Project Failure (adapted from Hayes, 1988)

Stakeholder Analysis

- The person who has the problem is not necessarily the developer of systems, its user or its client.
- Stakeholder analysis** determines impact that a new information system on different groups, e.g., stakeholders for a new bank IS located in a supermarket:

Stakeholder affected	Possible consequence of system	Nature of effect on stakeholder
Bank clients	Automation of bank activities currently carried out manually.	Red need for staff employment on weekdays.
Bank customers	More convenient access to bank services.	Improved service.
Supermarket customers	More people using supermarket car park.	Reduction in service.
Bank shareholders	More people attracted to use bank as greater commercial success.	Increased dividends.
Supermarket shareholders	More people attracted to use supermarket as greater commercial success.	Increased dividends.
Local citizens	More journey to supermarket to use ATM.	Increased pollution.

Professional and Ethical Responsibility

- System analysis and design involves wider responsibilities than simply the application of technical skills.
- Analysts and designers must behave in an honest and ethically responsible way if they are to be respected as professionals.
- Ethical behaviour is more than simply upholding the law.



Issues of Professional Responsibility

- Confidentiality** -- Analysts and designers should normally respect the confidentiality of their employers or clients irrespective of whether or not a formal confidentiality agreement has been signed.
- Competence** -- Analysts and designers should not misrepresent their level of competence; they should not knowingly accept work which is demands skills that go beyond their competence.
- Intellectual property rights** -- Analysts and designers should be aware of local laws governing the use of intellectual property such as patents, copyright, etc. They should be careful to ensure that the intellectual property of employers and clients is protected.
- Computer misuse** -- Analysts and designers should not use their technical skills to misuse other people's computers; computer misuse ranges from relatively trivial (game playing on an employer's machine, say) to extremely serious (dissemination of viruses).

ACM/IEEE Code of Ethics

- The professional societies in the North America have cooperated to produce a code of ethical practice.
- Members of these organisations sign up to the code of practice when they join.
- The code contains eight principles related to the behaviour of and decisions made by professionals, including practitioners, educators, managers, supervisors and policy makers, as well as trainees and students of the profession.



Hidden Costs of Poor Design

Design aspect	Example	Immediate effects	Other consequences
Data interface	Illogical screen layout. Difficult to read screens. Unhelpful help messages.	Wasted time. Increased frustration. Increased error rates.	Loss of confidence in system. Increased sickness. Increased absenteeism. Greater staff turnover.
Program Execution	System response is slow.	As above.	Increased recording costs.
Data storage	Lost data. Inaccurate outputs.	Data work re-entering data. Extra work checking outputs.	Reduced income. Loss of customer confidence. Lost sales.