

basic concepts

- last time, we looked at three metaphors
 - organisations as machines, organisms, & cultures
- now we'll look at organisations in more depth
 - what are organisations
 - how do they work
 - what is the role of information and information systems?
- there's a lot of material in chapter 2
 - need to understand it in depth
 - more than I can cover here today

analysing organisations

- Perrow's task typology

	<i>Exceptions</i>	
<i>Search procedures</i>	Few	Many
Unanalyzable	Craft work (e.g. silversmithing)	Nonroutine technology (e.g. R&D)
Analyzable	Routine technology (e.g. assembly line)	Engineering technology (e.g. civil engineering)

analytic approach

- organisations are diverse
 - set up a model
 - description of setting
 - explanatory power
 - draw upon a framework
 - a set of concepts that apply broadly
 - a way of organising the information around us
 - helping to show what's interesting
 - "Perspective is worth 50 IQ points" – Alan Kay

systems

- organisations are *systems*
 - "a set of interacting components that operate together to accomplish a purpose"
 - focus on: separation and interconnection
 - examples: manufacturing; retail
- five aspects of systems
 - set of components with some defined *purpose*
 - operating within *boundaries*
 - that separate it from the *environment*
 - transforming some set of *inputs*
 - into *outputs*

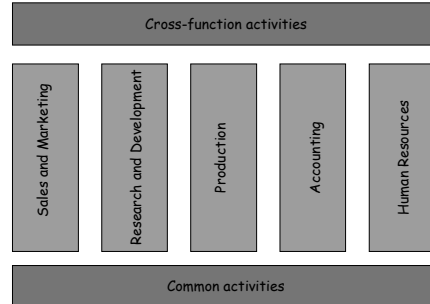
systems of processes

- the components of the system are *processes*
 - business processes
 - sets of steps or activities that create value for customers
 - customers may be internal or external
 - processes are relatively well defined
- the value chain
 - processes that add value for customers
 - primary processes
 - secondary processes

primary or secondary?

- hiring new employees
- designing a new product
- monitoring sales
- teaching classes
- doing research
- analysing market data
- monitoring employee satisfaction
- payroll processing

functional organisation



functional organisation

- alternatives to functional organisation?
 - does UCI exhibit a functional organisation?
- limitations of functional organisation?

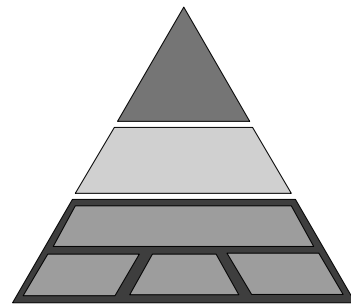
where do inf. systems fit?

- how can information systems add value?

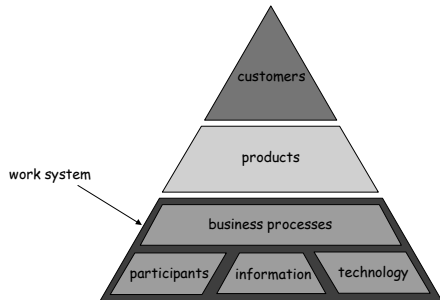
where do inf. systems fit?

- how can information systems add value?
 - primary processes
 - e.g. computer-aided design or manufacture; e-commerce
 - support processes
 - e.g. accounting or management support
 - execution and coordination
 - e.g. organisational communication
- what is the scope of information systems?
 - it's not simply the technology, but the process of putting the technology to organisational uses

work-centered analysis



work-centered analysis



elements

- customers
 - remember, both internal and external
 - processes can generate information products that are of internal value – examples?
 - the role of intermediaries
 - sometimes it's not "customers" who make purchasing decisions
 - recognise the different roles that people play

elements

- products
 - not just physical products
 - services
 - information
 - the product of the work system might not be the same as the product of the organisation
- business processes
 - have more to say next week...

elements

- participants
 - systems rely on people's interests, skills and involvement
 - so what motivates people to participate?
 - example – service engineers and sales force
- information
 - data... information... knowledge
- technology
 - not just "hi-tech" – remember the filing cabinet!
 - technology itself is not enough
 - has to be hooked into the other processes to be effective

five perspectives

- architecture
 - how does everything fit together?
- performance
 - how well do the pieces perform? the whole?
- infrastructure
 - what are we relying upon?
- context
 - what are the potential impacts?
- risks
 - what could go wrong? what are the dangers?

architecture

- how the whole system works
 - people and processes as well as technology
 - looking for problems of execution
 - high or low degree of structure?
 - examples...
 - software systems are always highly structured...
 - ... but the ways that they fit into organisations are not
 - striking a balance
 - reduce redundancy, increase interdependence
 - what happens in case of failure?

performance

- how well do things work?
 - different metrics apply
 - speed? quality? cost? space?
 - each person's view of performance differs
 - performance isn't compositional, either...

infrastructure

- "the stuff that has to be in place"
 - think of buying a CD...
 - infrastructures have costs and benefits
 - who maintains the infrastructure? can I rely on it?
 - where does technology end and infrastructure begin?
 - one person's infrastructure is another person's technology... especially in service settings

context

- what else is going on around?
 - remember the "organism" metaphor...
 - many different elements to the context
 - the personal context of participants
 - the context that the organization puts in place
 - the context of the marketplace
 - the regulatory context imposed by government, etc.

risks

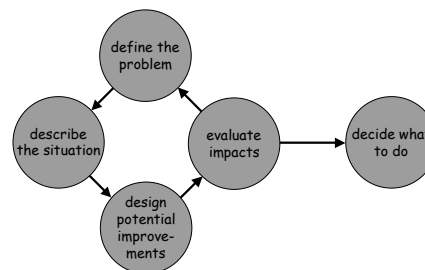
- probably the most-overlooked aspect
 - *process* risks
 - delivering on-time and on-budget is very rare!
 - the world is changing around you...
 - systems inevitably have flaws
 - but externally-imposed risks are just as bad
 - this isn't only an ethical issue
 - risks multiply
 - Perrow, "Normal Accidents"

matrix of concerns

	Customer	Product	Process	Participants	Info.	Tech.
Architecture						
Performance						
Infrastructure						
Context						
Risks						

the lifecycle

- WCA helps you to understand opportunities



asking questions

- where can technology help?
 - where are we focusing our attention?
- what do we expect it to do?
 - which aspects are we attempting to improve?
- what are the factors that affect performance?
 - how is this piece connected to the rest?
 - what impacts might that have?

what's next

- now that we've gotten the basics down
 - look at processes in more detail
 - look at information system design
 - understand how they contribute value
- next time...
 - business processes and workflow technology
 - read Alter chapter 3