



Information Systems in Organizations



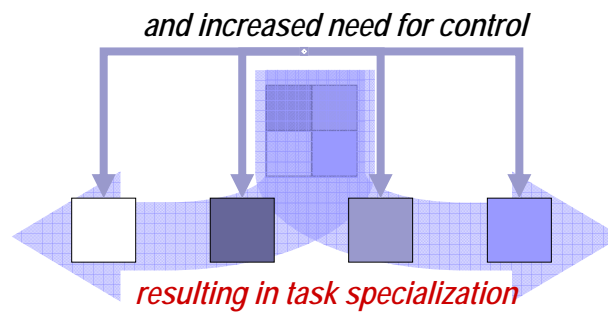
Objectives

- develop sense of context for:
 - organizations
 - information technology
 - information systems
- describe some of advances and failures of the old context

Why organize?

- division of labor
 - manage complexity
 - achieve mastery
 - reduce switching costs
 - reduce training costs
 - increase scalability

Specialization & control

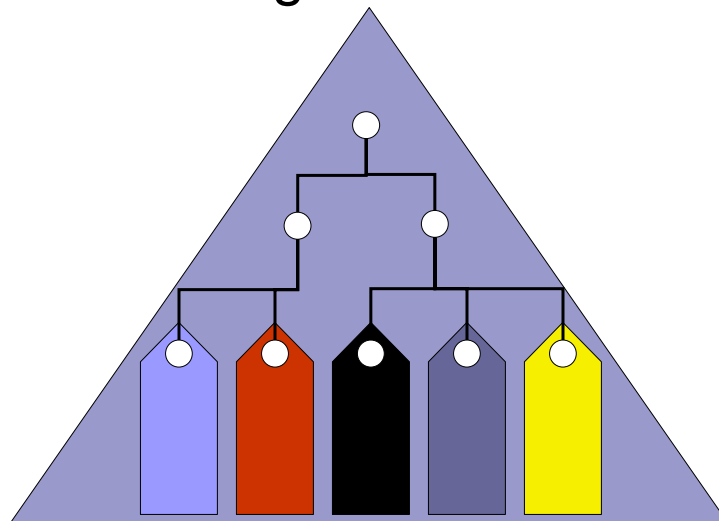


Coordinating mechanisms

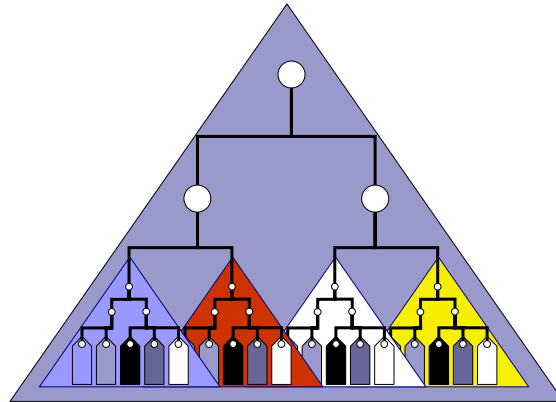
- mutual adjustment
- direct supervision
- standardization of tasks
- standardization of outputs
- standardization of skills

Mintzberg, 1979

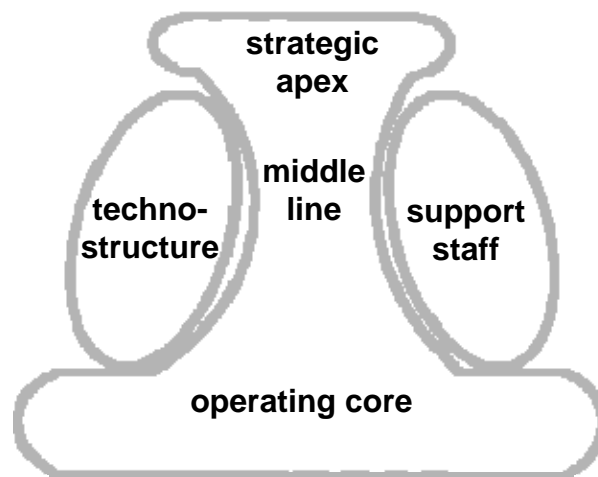
Functional organization



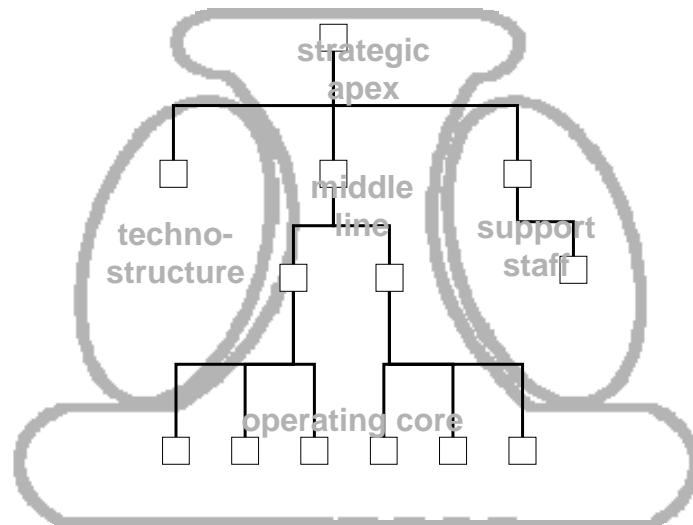
Divisionalized form



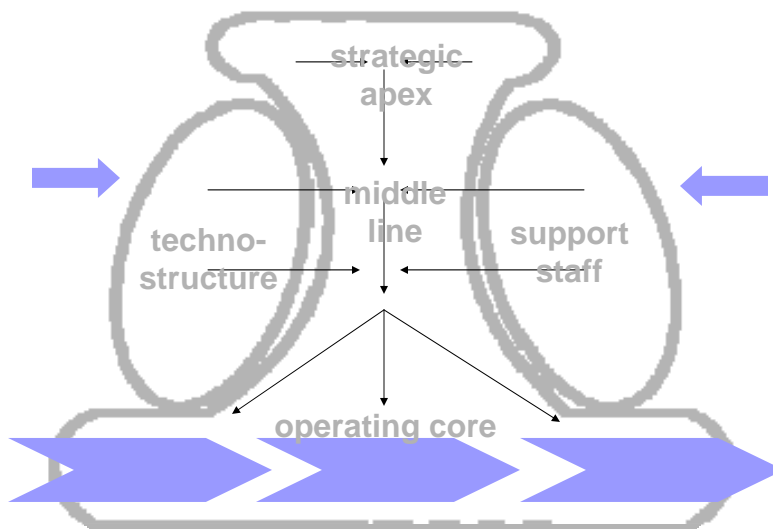
Mintzberg's form



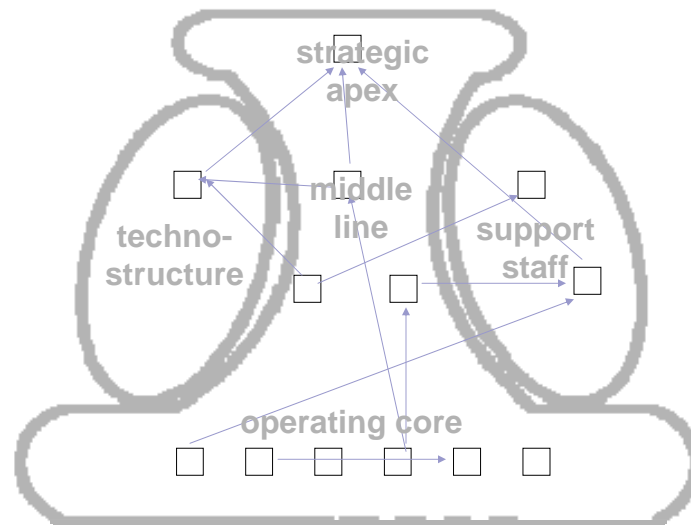
Flow of formal authority



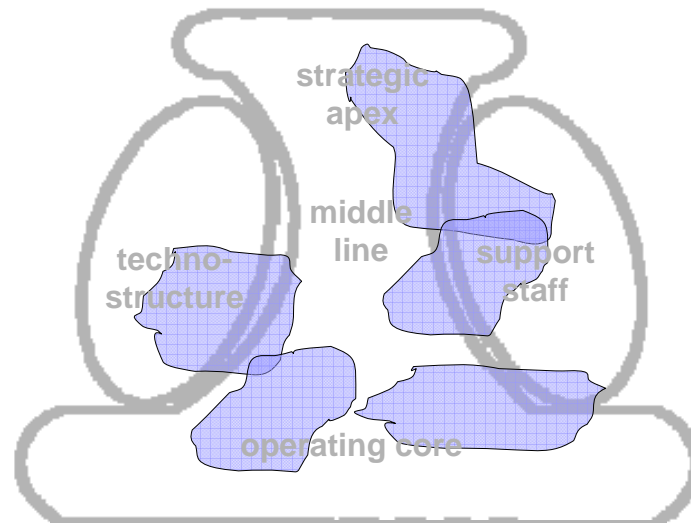
Flow of regulated activity



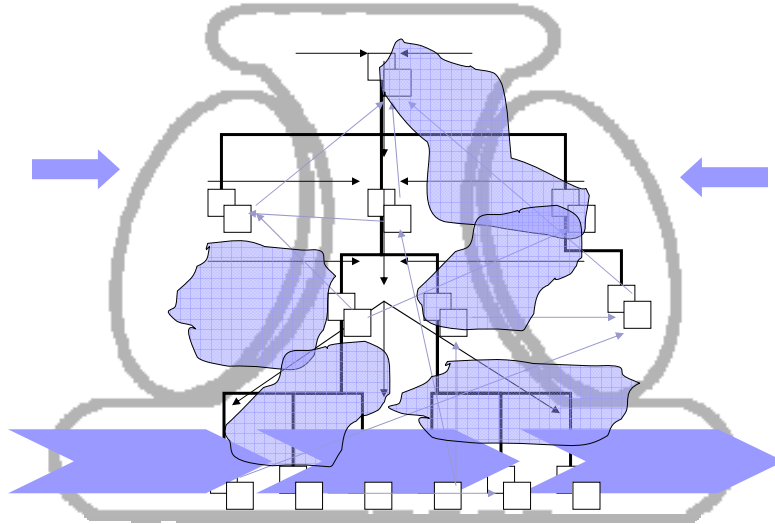
Flow of informal communication



Constellations



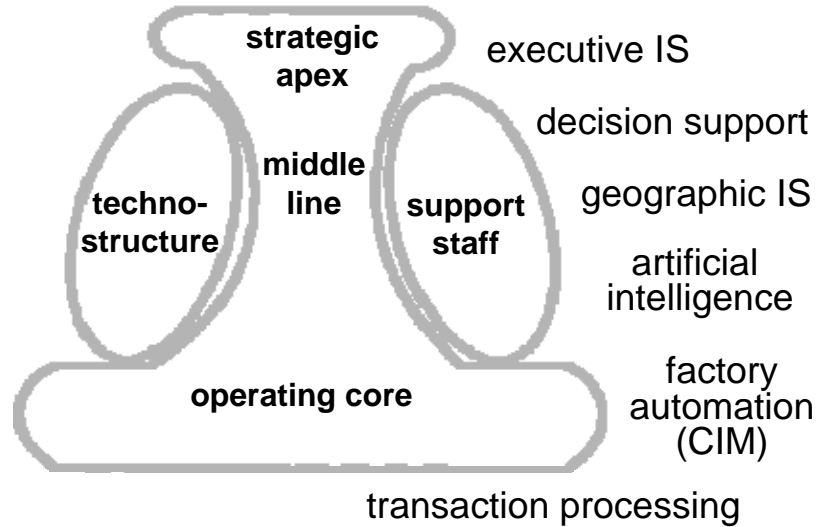
The organizational mess



Failure to integrate

- focus on task and individual over process and team
- grouping by function discouraged
- lacks built-in mechanism for coordinating process flows
 - coordination problems rise to level to far from origin
- loss of big picture; overall performance hard to track

Supporting Information Systems



Failure to allocate

- imbalance in distribution:
centralize/decentralize
- duplication of data in functional IS
- technical divide



Managerial Decision Making



Managers and Decision Making

Management is a process by which organizational goals are achieved through the use of resource (people, money, energy, materials, space, time) . These resources are considered to be *inputs* the attainment of the goals is viewed as the *output* of the process. The ratio between inputs and outputs is an indication of the organization's *productivity*

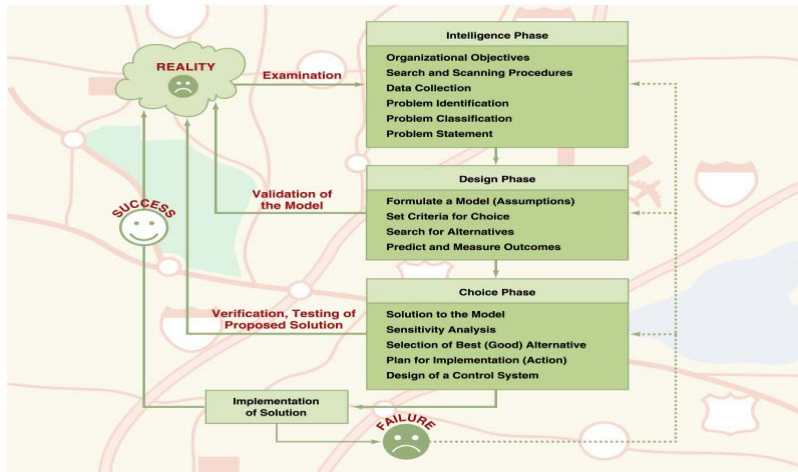
The Manager's Job

- Manager have three basic role (Mintzberg 1973) :
 - **Interpersonal roles:** figurehead, leader, liaison
 - **Informational roles:** monitor, disseminator, spokesperson
 - **Decisional roles:** entrepreneur, disturbance handler, resource allocator, negotiator.

Decision Making

A decision refers to a choice made between two alternatives.

The process and phases in decision making



Model (in decision making)

The benefits of modeling in decision making are:

- The cost of virtual experimentation is much lower than the cost of experimentation conducted with a real system.
- Models allow for the simulated compression of time. Years of operation can be simulated in seconds of computer time
- Manipulating the model (by changing variable) is much easier than manipulating the real system.
- Modeling allows a manager to better deal with the uncertainty by introducing many “ what- ifs” and calculating the risks involved in specific actions.

Why Manager Need IT Support

- ▮ A key to good decision making is to explore and compare many relevant alternatives. The more alternatives that exist, the more computer-assisted search and comparison are needed.
- ▮ Typically, decisions must be made under time pressure. Frequently it is not possible to manually process the needed information fast enough to be effective.
- ▮ It is usually necessary to conduct a sophisticated analysis in order to make a good decision. Such analysis requires the use of modeling.
- ▮ Decision makers can be in different locations and so is the information. Bringing them all together quickly and inexpensively may be a difficult task.

Decision Support Framework.

		Nature of Decision			Support Needed
		Operational Control	Management Control	Strategic Planning	
Type of Decision	Structured	Accounts receivable, order entry 1	Budget analysis, short-term forecasting, personnel reports, make-or-buy analysis 2	Financial management (investment), warehouse location, distribution systems 3	MIS, management science models, financial and statistical models
	Semistructured	Production scheduling, inventory control 4	Credit evaluation, budget preparation, plant layout, project scheduling, reward systems design 5	Building new plant, mergers and acquisitions, new product planning, compensation planning, quality assurance planning 6	DSS
	Unstructured	Selecting a cover for a magazine, buying software, approving loans 7	Negotiating, recruiting an executive, buying hardware, lobbying 8	R & D planning, new technology development, social responsibility planning 9	DSS ES neural networks
	Support Needed	MIS, management science	Management science, DSS, EIS, ES	EIS, ES, neural networks	