Information Systems

A.Y. 2023/24

01PDWOV

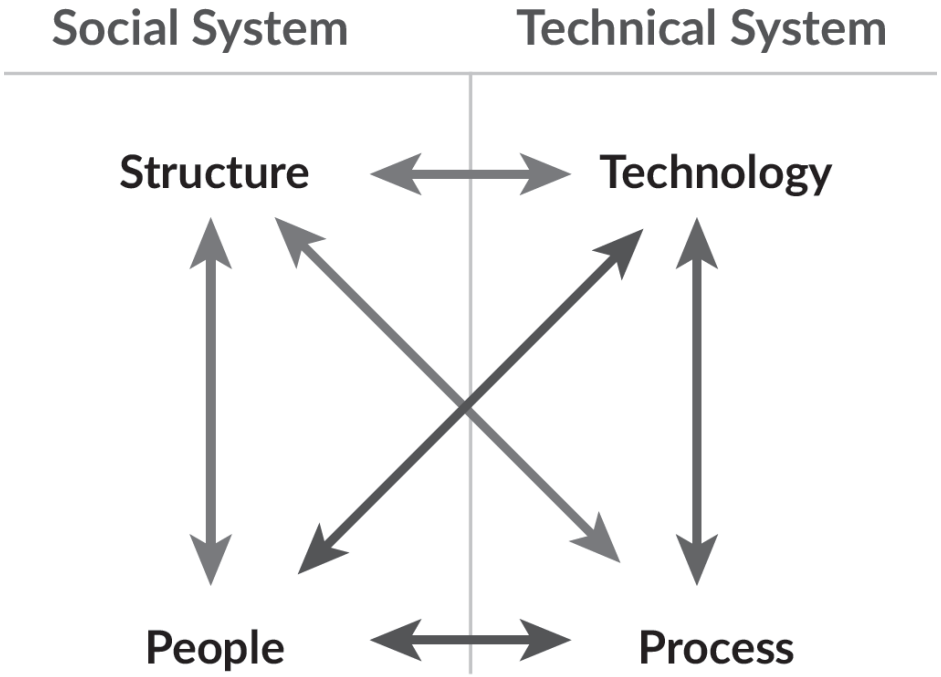
SOftEng

http://softeng.polito.it

Information systems

formal, *sociotechnical*, organizational systems designed to collect, process, store, and distribute information

[Piccoli Pigni]



Information systems

- Or

Software ‘embedded’ in organizations

- Understand the organization to design and improve the IS

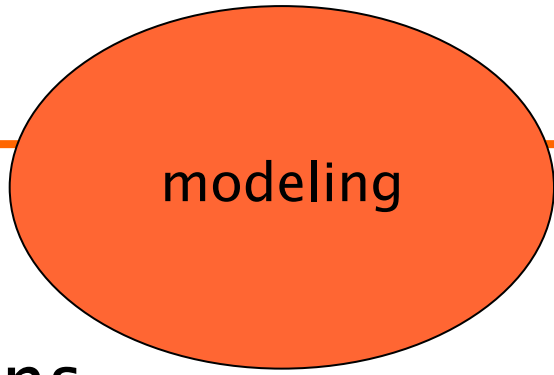
Capability acquired

- Given an organization:
  - Being able to analyze the organization and the IT support to it
  - (Being able to assess IT support, find critical points)
- Given a process
  - Being able to identify options in improving current IT support to the process
    - Evaluation and selection of IT tools

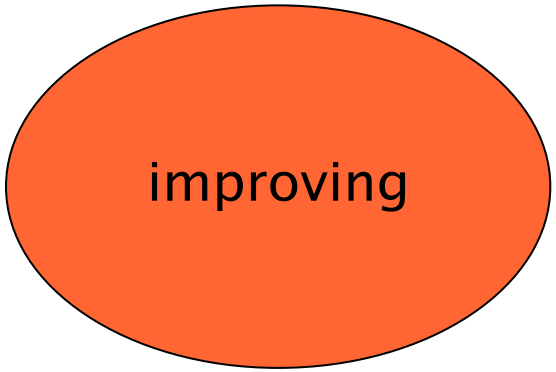
Capability acquired 2

- Given an organization
  - See case studies, Flowe, TextileX, Intergea
- Given a process
  - See Purchase case, Rental car case

Course main topics

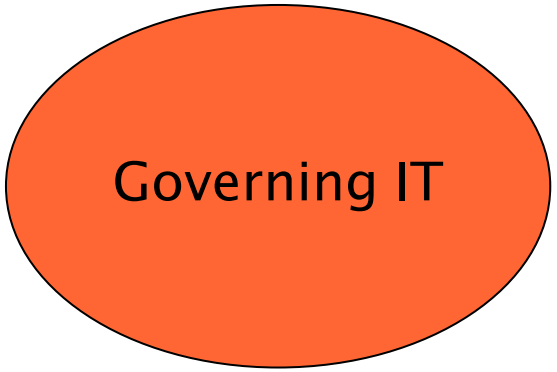


- Organizations
  - Models of (processes, functions, organizational structure)
    - High level models (T model, Anthony ..)
    - More detailed models (BPMN, UML, org charts)
  - Strategy, BMC, management loop, KPIs, SLAs
  - Process redesign



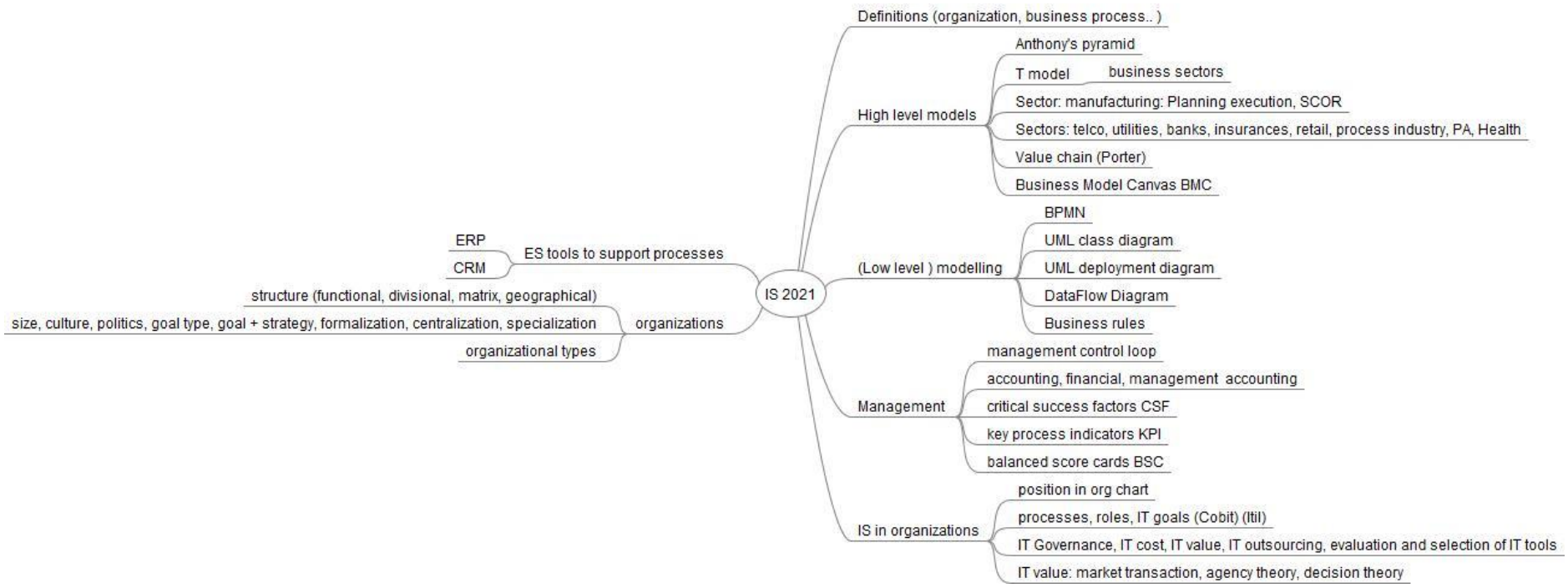
Course main topics

- IT in organizations
  - ERP, CRM and core IT offering
  - IT economics, cost and value of IT
  - Selection and adaptation of IT, outsourcing
  - ITIL COBIT



Course main topics

- Software embedded in organizations
- Out of scope
  - Software embedded in products
    - Cars, homes, devices
  - Software stand alone
    - Platform: OS, DB, network
    - Application: email, word processing, ..


IS 2021
Definitions (organization, business process..)
High level models
Anthony's pyramid
T model
business sectors
Sector: manufacturing: Planning execution, SCOR
Sectors: telco, utilities, banks, insurances, retail, process industry, PA, Health
Value chain (Porter)
Business Model Canvas BMC
(Low level) modelling
BPMN
UML class diagram
UML deployment diagram
DataFlow Diagram
Business rules
Management
management control loop
accounting, financial, management accounting
critical success factors CSF
key process indicators KPI
balanced score cards BSC
IS in organizations
position in org chart
processes, roles, IT goals (Cobit) (Itil)
IT Governance, IT cost, IT value, IT outsourcing, evaluation and selection of IT tools
IT value: market transaction, agency theory, decision theory
ES tools to support processes
ERP
CRM
organizations
structure (functional, divisional, matrix, geographical)
size, culture, politics, goal type, goal + strategy, formalization, centralization, specialization
organizational types

THE message

- To build an effective IS you need to understand the organization, its processes, its goals
  - Technology is (usually) not the main problem