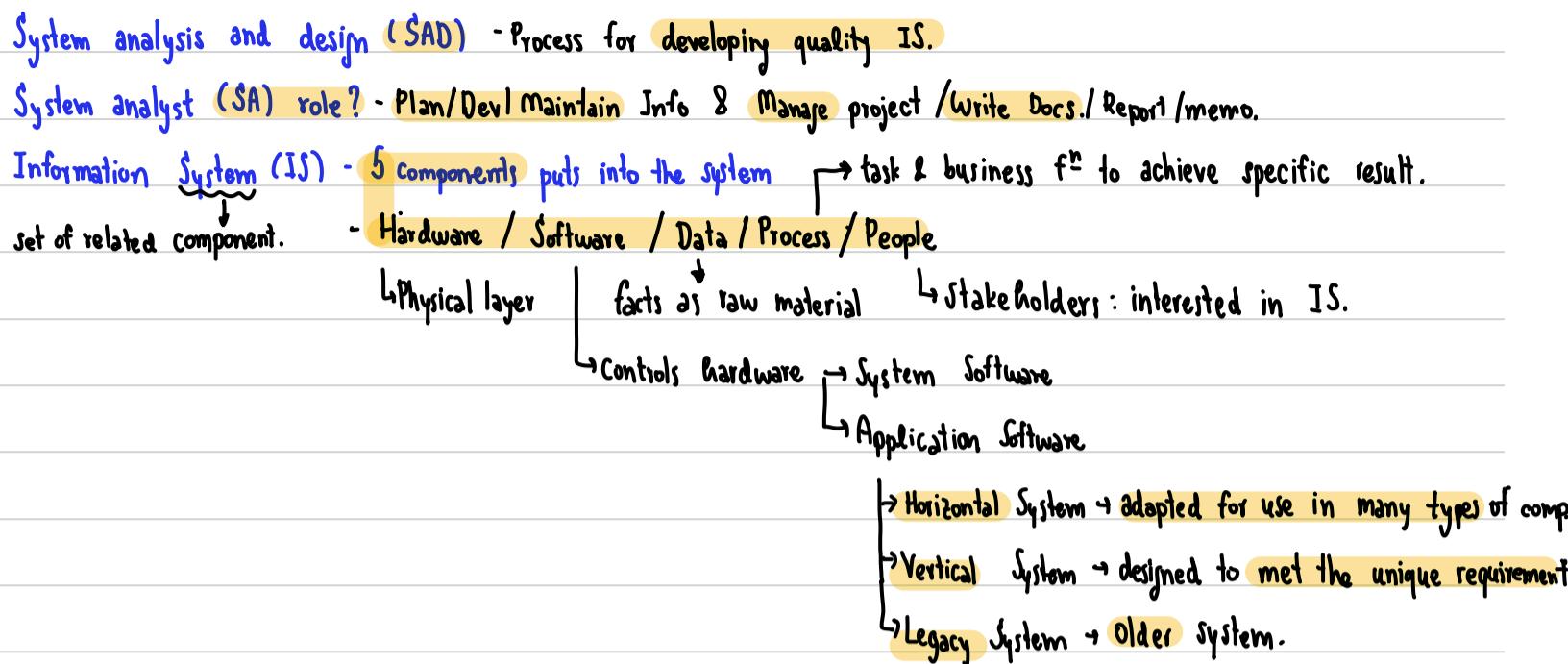


► DES329: Chapter 1-2 Summary

• Chapter 1 Introduction



Internet Business Strategies - The Internet Model + UI creates comm. b/w DBMS & web servers.

- B2C: customer can do basic customer stuff.

- B2B: carry out using EDI / using SCM to manage inventory / suppliers etc.

Business Information System - Current method: office productivity systems

↳ Operational require decision support / Systems defined by fn & features

- Enterprise Computing: supports company-wide operation & data management reqs.

↳ Enterprise Resource Planning (ERP)

- Transaction Processing (TP) system: generated by day-to-day ops.

- Business Support Systems: Job-related info. support e.g. MJS / RFID

- Knowledge Management: use knowledge base & inference rules.

↳ find info using keywords ↳ data pattern & relat.

- User Productivity System: e.g. groupware / improve productivity

- Digital assistants: comb. of knowledge management & user productivity

- System Integration: comb. of TP / business support / knowledge / user prod.

Organization Information Models - Organizational Level

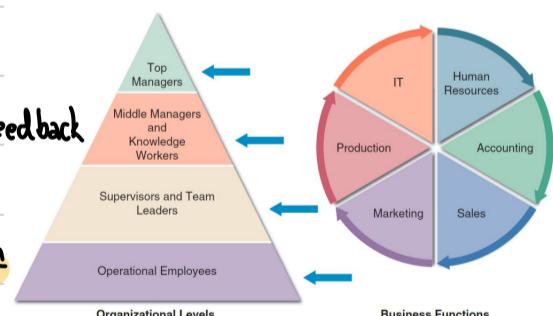
- Top manager: Develop long-term strategy

- Middle manager: provide direction / resource / feedback to supervisor & team leaders

- Knowledge workers: support org's basic fn

- Supervisors & Team leaders: oversee employee & carry day-to-day fn

- Employee: rely on TP to do data ops. / handle tasks assigned by supervisors.

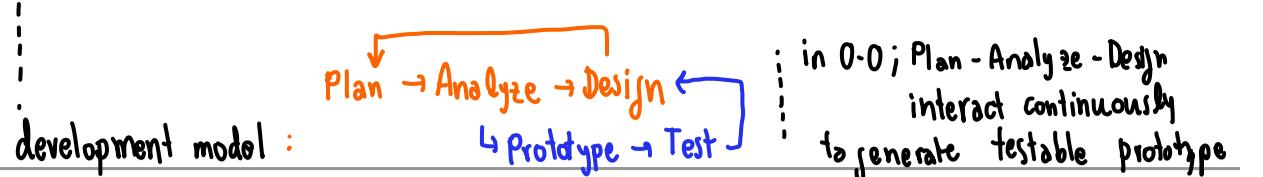


System Development. • Structured analysis: Use SDLC / use a set of process models to visualize a system waterfall { ↳ Plan → Analyze → Design → Implement → Support ↳ DFD}

System Graphical reps., show its stores, process, & transform data ↳

• Object-oriented analysis: data & process as objects: member of a class

↳ characteristics = properties
can inherit from its class or possess its own



- Agile Method : Build a series of prototype & constantly adjust to requirements
 - as a spiral model / require intense interactivity b/w dev & user / not begin w/ overall objective / ⊕ allow for more flexible & responsive
 - ⊖ riskier / doomed to fail if not do properly weak documentation / blurred line of accountability / little emphasize on business

- Prototyping : early version of an IS / based on fact-finding & modeling techniques / ⊖ important decision might be made before business/tech are fully understand.

- Tools : Computer-Aided System Engineering (CASE) / Application Lifecycle Management (ALM) Product Lifecycle Management (PLM); Integrated Development environment (IDE)

Information Technology Department

- Application Development: system dev. by user/manager/IT staff.
- System support & security: provide protection & support.
- User Support: a.k.a help desk / provide user w/ support & tech info.
- Database Admin: data design/management / security / backup / access
- Network Admin: hardware & software maintenance support & security
- Web Support: design & construct webpages / monitor traffic / manage hw & sw.
- Quality Assurance: review & test app. & verify w/ spec & quality standard,

System Analyst.

- Investigate/ Analyze /Design/Develop/Install/evaluate/ maintain a information system.
- Constantly interact w/ users outside & inside organization
- Roles
 - Translator b/w manager & programming
 - Best line of defense in IT disaster
 - Ability to listen / seek feedback from user that system won't go off path again

- Have Tech knowledge / Commu. & Business & critical thinking skills.

Chapter 2 Analyzing the Business Case

Strategic Planning : Process of identifying long-term organizational goals/strategies/resources

- SWOT Analysis → Strength / Weakness / Opportunity / Threats

S	W
O	T

↳ How can we use ↳ How can we reduce ↳ How can we access/manage/respond?
to achieve business goals? or eliminate them? ↳ How do we plan to take advantage?

- Role of IT department : Careful project planning / support business strategy / scope is well-defined & clearly stated / Goals are realistic.

The Business Case : Proposal is comprehensive & easy to understand

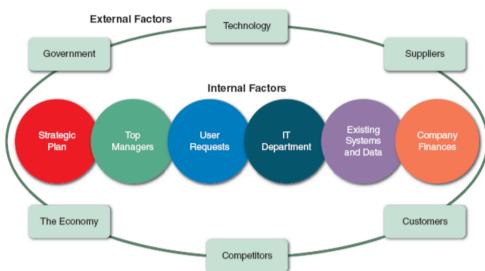
ask questions like reasons / cost / duration / risk / measurement / alternatives?

System Requests : Starting point of IS projects

↳ 6 main reasons : Stronger control / Reduced Cost / More Info / Better Performance
Improved Service / More support for new products

factors Affecting System Projects

- Internal: Strategic Plan / Top Manager / User Request / IT Dept. / Existing System and Data / Company finances.
- External: Tech. / Govt. / Econ. / Competitors / Customers / Suppliers



Processing Systems Request

- System review committee / Computer resource committee
 - use combined judgment & experience of several analyst to evaluate system projects.
 - Broader viewpoints → established priorities → person's bias is less affected. Actions must wait / favor their own interests.
- System request forms.
 - streamline the request & ensure consistency
 - foolproof / indicate required docs.
- System request tool: manage workflow

Request Feasibility Assessment

- can be simple or exhaustive, depends on nature of requests.

Initial fact-finding: study orgz. chart / interviews / review docs. / observing ops. / survey users.

- Operational feasibility:** sys. will be used effectively? can be influenced by orgz. culture. difficult to measure w/ precision, but must study carefully.
 - Questions: supported by management & user? / workforce reduction? / legal & ethical issue?
- Economic feasibility:** Projected benefits of sys. > estimated cost (TCO: total cost of ownership)
 - TCO requires cost analysis (ppl / hardware / software / training / license / consulting / idling cost)
 - cost: tangible cost (in currency / benefit result from revenues)
 - intangible cost (IP / affects orgz. performance / important to company)
- Technical feasibility:** Technical resources needed to develop and operate the system.
 - Questions: Have necessary hardware, software, network resource? / technical expertise?
 - Sufficient capacity for future needs? / required prototype? / reliability?
- Schedule feasibility:** Project can be implemented in a given acceptable time frame. (Time & Cost)
 - Issues: can control factors affect schedule? firm time table established?
 - what conditions must be satisfied? posed any risk? management techniques?

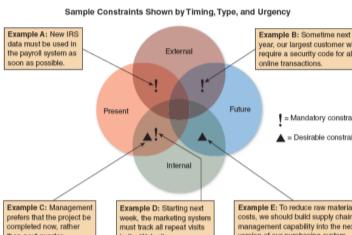
Priorities setting - dynamic priorities: priority can change due to changes & various factors.

- Factors: reduced cost? / increase revenue? / more info or better result? / benefit customers & orgz.? / implemented in time? / necessary resource available?
- Projects: Discretionary (Management has choice in implementation)
- Nondiscretionary (-n- no choice / Predictable e.g. payroll update / tax / quarter charges)

Preliminary Investigation

- Conduct to study the systems request & recommend specific action.
- after obtained authorization, proceed to interacts w/ users, managers, & stakeholders.
- Planning the investigation.**
 - meet the key ppl. to describe project, explain responsibility, answer question, invite comments.
 - focus on improvement not problems.

1	Understand the problem or opportunity
2	Define the project scope and constraints
3	Perform fact-finding <ul style="list-style-type: none"> Analyze organization charts Review documentation Observe operations Conduct a user survey
4	Study usability, cost, benefit, and schedule data
5	Evaluate feasibility <ul style="list-style-type: none"> Operational Technical Economic Schedule
6	Present recommendations to management



Conducting Preliminary Investigation

Step 1: Understand the problem or opportunity

- develop business profile that describe current business process and functions
- Understand how changes affect business ops. and IS / identify ppl, users & business process.
- * fishbone diagram: represents possible causes of problem / for investigating cause & effect).

Step 2: Define the project scope & constraints

project w/ general def. & expand gradually.

- project scope: define boundaries, extents of the project. - avoid project creep
- Create a list w/ sections of "must do/ should do/ could do/ won't do"
- constraints: requirement or condition that system must satisfy & must be identified.
 - e.g. hardware / software / time / policy / law / cost.
- characteristics: present vs. future / internal vs. external / mandatory vs. desirable.

Step 3: Perform fact-finding

- Gather data about usability / costs / benefits / schedules.
- Might analyze organizational charts/ conduct interviews/ review docs/ observe ops/ survey.

Step 4: Analyze Project Usability, Cost, Benefit, Schedule Data.

- must analyze carefully

Questions to be considered: What info must be obtained, how to gather & analyze?

- Who will conduct survey, how many ppl to interview?
- Will survey be conducted, who will involved? How to tabulate result?
- How much will it cost to analyze the info?

Step 5: Evaluate feasibility

- Operational: fact-finding included a review of user needs, requirements & expectation.
- technical: identify hardware, software, network resources needed to develop, install & operate.
- schedule: include stakeholder expectation on acceptable timing & completion date.
- economic: cost-benefit data.

Performing economic feasibility

1: Identify costs & benefits: 4 categories (Dev costs/Ops. costs/tangible benefit/intangible)

2: Assign value to cost & benefit: estimate a range of values for the cost or benefits

then assign a likelihood estimate to each value

... • EXPECTED VALUE for cost or benefit: weighted average

3: Determine cash flow

4: Assess Project's Economic Value: evaluate expected returns in comparison to costs.

- not recognize time value
- * as long as $NPV > 0$, the project is economically acceptable.
- {
- ROI (Return on Investment) = $(\text{Total Benefits} - \text{Total Costs}) / \text{Total Costs}$
 - BEP (Break-even point) = $(\frac{\text{years in negative cashflow}}{\text{net cashflow - cumulative cashflow}}) / \text{net cashflow}$
 - PV (Present Value) = $(\text{Cash flow amount}) / (1 + \text{rate of return})^n$; n = year in cash flow occurs.
 - * --- • NPV (Net Present Value) = $(\sum \text{PV of total benefits}) - (\sum \text{PV of total costs})$

Step 6: Summarize the investigation &

present to management

- present in report

- case for action: summary of requests and its recommendation