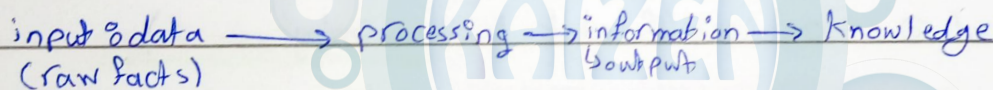
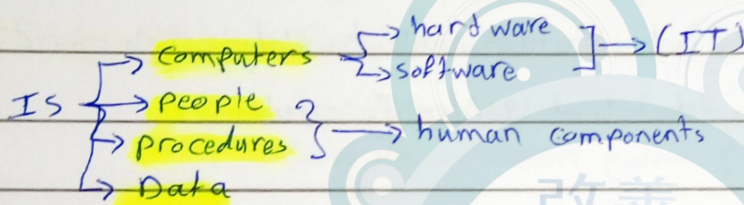


Ch(1) / summary

- 1) Definition & purpose of IS $\Rightarrow$ composed of interrelated components that help organizations collect, store, process & distribute data. These systems enables efficient decision-making, enhance operational management & improve customer service.

* Information system (IS) $\Rightarrow$ a group of components interact to produce information.



- 1) data & raw facts (unorganized facts), data is pure values, don't have much significance. It may be in the form of numbers, letters, images... etc.
- 2) Information & processed, manipulated & interpreted data.
- 3) knowledge & conclusion drawn from the information.

* characteristics of information &

accurate, accessible, complete, economical, reliable, relevant, secure, timely & simple

* Six roles of IS :

- 1) managing operations
- 2) supporting customer interaction
- 3) decision-making.
- 4) team collaboration
- 5) Gaining competitive advantage.
- 6) improving individual productivity.

* MIS helps organizations convert raw facts into actionable knowledge, which can then inform business strategies, detect trends & identify opportunities.

Competitive advantage :

- 1) Free $\Rightarrow$ delivered @ no cost ex: (facebook, twitter, instagram -- etc)
- 2) Perfect $\Rightarrow$ contain no errors or mistakes.
- 3) now $\Rightarrow$ delivered immediately, available 24/7, no wait.

Ch(2) / summary

* systems analyst :

1) Operational level $\Rightarrow$ Transaction processing system (TSS)

2) Knowledge level $\Rightarrow$ Office Automation systems (OAS)
Knowledge work systems (KWS)

3) Higher level $\Rightarrow$ Expert system (ES)

Decision support system (DSS)

Management Information system (MIS)

4) Strategic level $\Rightarrow$ Executive support system (ESS)

Computer-supported collaborative work systems (CSCWS).

Group decision support system (GDSS)

① TSS : large amount of data for routine business transactions, support the day-to-day operations. ex: payroll & inventory.

② OAS : support data workers, do NOT create new knowledge. ex: spreadsheet, word processing.

③ KWS : supports professional workers such as engineers, doctors & scientists. ex: CAD, virtual reality system.

④ MIS : support broad spectrum of organization tasks including decision analysis & making.

⑤ DSS : aids decision makers in the making of decisions.

⑥ ES & artificial intelligence : uses the knowledge of experts for solving problem.

⑦ ESS : make unstructured decisions in an informed way. ex: drill-down analysis.

⑧ GDSS : permit group members to interact with electronic support. ex: email.

⑨ CSCWS : more general term of GDSS, may include software support called groupware.

* Integrating new technologies into traditional systems:

1) Ecommerce & Web systems: ^① Increasing user awareness of the availability of a service, 24 hr access, usefulness of interface design, creating a system that can extend ^③ globally. ^②

2) Enterprise resource planning (ERP): Integration of many IS on diff management levels with diff locations. ex: SAP, Oracle.

3) Wireless & mobile systems (mcommerce) ^{mobile}: Integrate voice, video & email into organizational intranets or industry extranets.

4) Open source software: proprietary code is hidden from users, free to distribute. ex: Linux, Apache, Mozilla.

System analyst

Roles

- 1) Consultant
- 2) Supporting expert
- 3) agent of change

Qualities

- 1) Problem solver (most important)
- 2) Communicator
- 3) Strong personal
- 4) self-disciplined & motivated.

* Development Methodologies

1) System development life cycle (SDLC): الدورة الحياتية للنظام

Identifying prob, opportunities & objectives → determine human info requirements
 → analyzing system needs → designing system → developing & documenting software
 → testing & maintain the system → implementing & evaluating

notes for SDLC: * who/what/where → determine human requirements

* create data flow, analyze structured decisions, system proposal → Analyzing step.

* programmers develop any original software, design, code, remove errors.

* Train users & smooth conversion from old to new system → Implementation step.

note ⇒ the amount of time spent on system maintenance may be as much as 60% of the total time spent on systems projects.

2) Agile approach



3) Object-Oriented systems (O-O): uses "objects" that can be reused making it ideal for dynamic business

* CASE Tools :

⇒ Upper CASE tools : analysis & design stages , define system boundaries & document organization requirements.

⇒ lower CASE tools : generate error-free source code .

* Choosing a method :

SDLC ⇒ when systems needs documentation .

Agile ⇒ when rapid changes are needed or incremental improvements are acceptable.

O-O ⇒ when projects require modularity & gradual system expansion .

* Human-Computer Interaction (HCI) : ensure systems are user-friendly , ergonomic & adaptable to users' needs .

Transformative technologies

Summary:

* Key transformative technologies:

1) virtual & augmented reality.

2) 5G mobile

3) 3D printing.

4) Blockchain

5) artificial intelligence (AI).

Digital transformation means using digital tools in all parts of a business to improve how it operates & delivers values to customers.

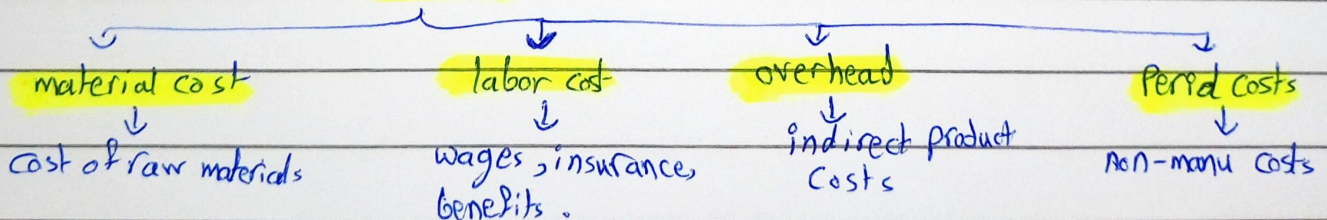
* what is business?

"achieving a goal through the effort of a person(s), involves a monetary component."

goal $\Rightarrow$ money coming in $>$ money going out.

margin = money coming in - money going out

Costs



Data $\Rightarrow$ recorded facts or figures

Information $\Rightarrow$ data presented in meaningful context.

Knowledge $\Rightarrow$ past experience / use of information to solve a prob.

How to track data?

$\rightarrow$ spreadsheets.

$\rightarrow$ database.

$\rightarrow$ IT systems.

