

Lecture 1

Definition of MIS :

management
(does)
5 things

MIS is the **study** of

1) - **People**

2) - **Technology** and

3) - **organizations**

and **Relationships** between them.

(108)

Planning

- Goal setting
- Environmental scanning
- Forecasting
- Data collection

Organization

- Staffing
- Coordinating
- Delegating
- Understanding
- Procedures / Policies

Leading

- Authority
- Motivation
- Directing : delegation of responsibilities
- Activating
- Supervising
- Negotiation
- Persuading

Controlling

- Measuring
- Evaluating
- Reporting
- Corrective action
- Feedback

Controlling what? (6)

Resources : Money (Capital) (1)

Manpower : People (2)

Materials (3)

Machines (4)

Movement : Distribution, flow (5)

Information (6)

* Management is a process consisting of planning, organization, leading, controlling and communicating.

Communicating

- informing
- persuading
- negotiation
- listening
- connective action

for what?

- goals / objectives
- standards of desirability

Lecture 2

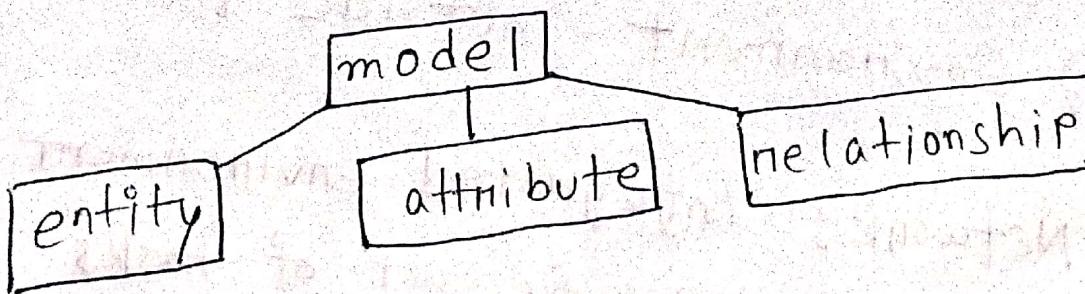
* What is information?

→ Information is (data) that has been processed into a form that is meaningful to the user / recipient and is of real or perceived value in current or prospective actions / decisions.

④ Characteristics of information:

- meaningful
- processed data
- transformed from data

- perceived value
- real value
- surprise value
- news value
- active (it enables doing) ↗
- motivating action ↗
- presented facts
- business / domain based
- reduces uncertainty
- reduces equivocality — unclear
- knowledge / power
- send / receive messages



Chapter - 3

System

A set of elements or subsystems that operate together to achieve a common objective

- composed of subsys.

→ 1) Abstract system

- orderly arrangement of interdependent ideas

2) Physical system: (same as system)

* General model of a system (3)

- 1) Input
- 2) Process
- 3) Output

* Features: (2)

- 1) System - inside the boundary
- 2) Environment - outside the boundary

* Network: integrated environment for a specific set of tasks

* Interfaces: interconnection and interaction between the subsystems

Example: **System** — stereo system, PC, automobile

Subsys — PC monitor

PC SW

PC hard disk

User

* Boundary between software and user:

Software boundary

— The boundary between software and hardware

— The boundary between hardware and user

— The boundary between hardware and software

— The boundary between hardware and environment

— The boundary between environment and user

— The boundary between environment and software

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— The boundary between environment and user

— The boundary between user and environment

— The boundary between user and software

— The boundary between user and hardware

* System approach:

- identify and establish the obj. of system
- consider the totality of its relationships with its environment
- identify its components and their interactions
- not ignoring the importance of the internal and external environment.

Ex:

Human resource

- skills inventory
system

- managerial
promotion sys.

Breakage
house

- central
client
- individual
breakage sys.

TPS

- has a
very long
response
time

Classification of system

Natural

- occur in nature
- without human intervention
- Ex: Biological sys.
Immune system

Artificial

- human made or modified
- measure.

Deterministic → (system) ← probabilistic

- system described in terms of interaction between the subsystems

ex: computer program

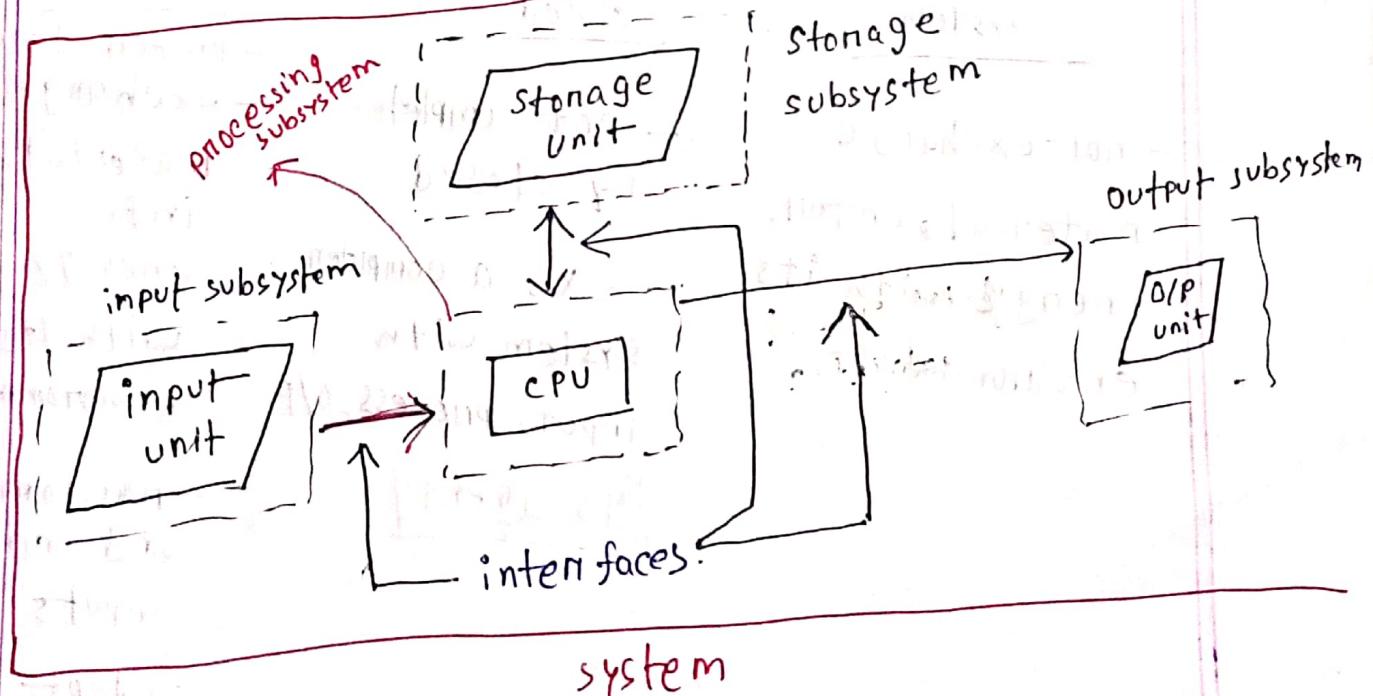
- performs a set of instructions exactly

- system described in terms of probable behavior

ex: inventory system

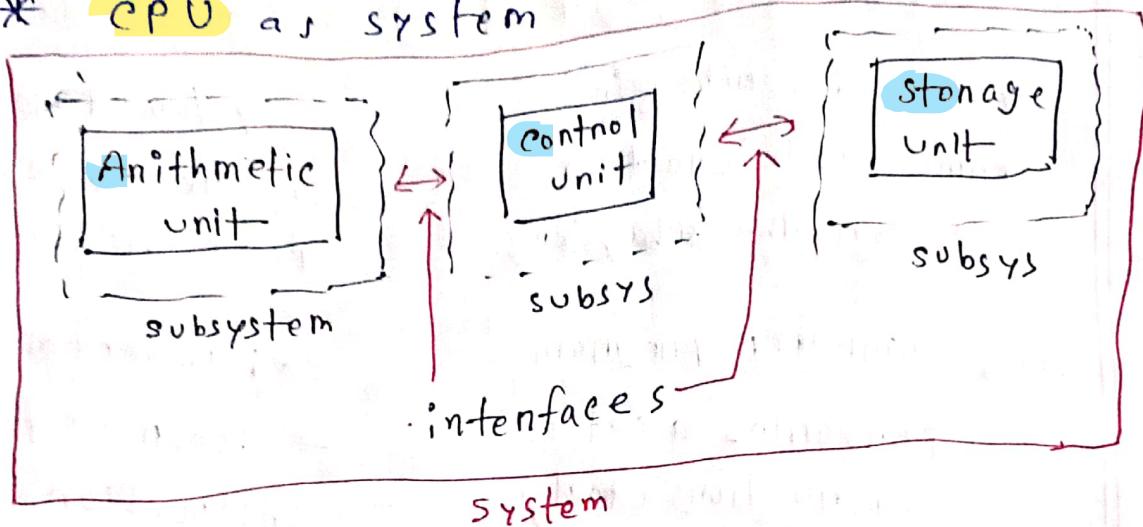
- doesn't follow instructions exactly

* computer configuration as system



* interface or interconnection
or bus way

* CPU as system



① Closed system

- not exchange material, info, energy with its environment.

② Relatively closed

- not completely closed
- ex: a computer system with input, process, o/p

No agent

③ Open

- open structure
- exchange material, info, energy with its environment
- random and undefined inputs
- adapt to changes in environment

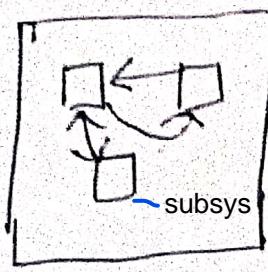


Fig: close system

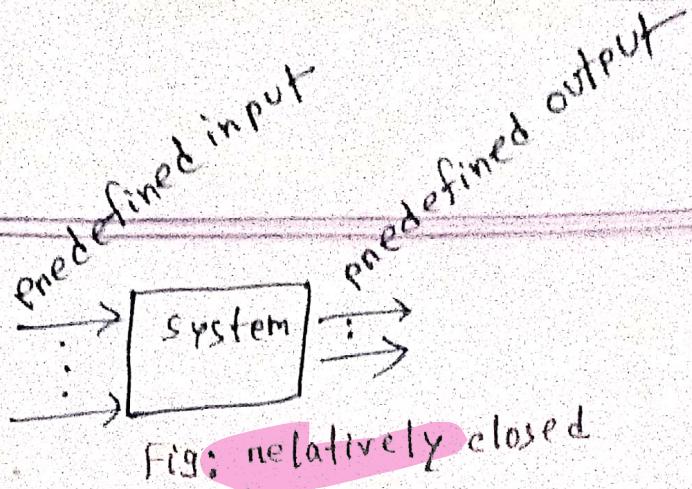


Fig: relatively closed

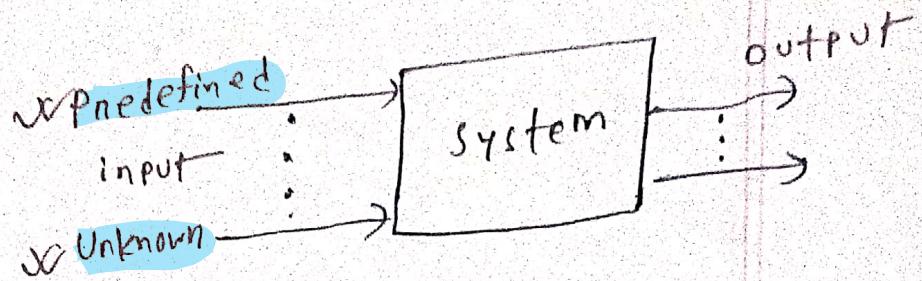


Fig: Open system

(a) Human machine system:

- action: **human and machine**
- 1) machine element: hardware, s/w → **close deterministic**
- 2) human element: → **open probabilistic**

Organization: systematic arrangement of people and technology intended to accomplish some purpose

3 parts

People

- workers
- supervisors
- consultants
- engineers
- superintendents

Task

- operation
- print
- fix
- compress

Management

- planning
- organizing
- leading
- control
- communicate

* Input: info, man, materials, money, machine

Output: services, goods

middle: profit

Ques 4 ta

C-6

organizational

* strategic part of system: (4)

- 1) Revenue / sales outcomes
- 2) Product / innovation outcomes
- 3) Service / people outcomes
- 4) Process / compliance outcomes

* their mutual dependency:



* Main process of org. system: (5)

- 1) Review plans and objectives
- 2) Determine the work activities necessary to accomplish set objectives
- 3) Classify and group the necessary work activities into manageable unit

4) Assign activities and delegate authority

5) design a hierarchy of relationships.

* Goals sought by organizational system.
→ ^{ST3TR}

1) provide guidance and direction

2) coordinate planning and actions

3) facilitates process control

4) motivate employees

* How organization is a system?

→ the focus is on interdependency of the subsystem components of the system

- ① subsystem : Production subsystem
managerial " "
innovation " "
- ② Each subsystem has goals, may on my note contribute to whole system
- ③ encourage the interdependency of sub-system
- ④ Interdependency depends on communication
- ⑤ Each specialized function develops a distinctive nucleus of operating procedures, values and information processing requirements.

Open system approach to organization

① differentiable functions

(to cope with environmental change & complexity.)

② must design integrative mechanisms

(to coordinate differentiated task and design feed back system)

③ must also develop multiple paths

(to achieve goals.)

(Ex: Microsoft goals to be largest software company.)

characteristic of open organization system

e-f

① Supra - System

(the environment)

open system exchange information/resource/eng energy with their environment

(i) exists an inter dependency between organization & environment.

(ii) environment determines the type of structure that organization will adopt to cope with the degree of technological change

complexity uncertainty equivocality

(iii) structure influences the behavioral patterns within organization

(2) **Equilibrium :-**
(stability)

open system tends
to maintain themselves in
steady state

- (1) control mechanism
(rules, regulation, plan)
- (2) organization must maintain
some level of stability
to effectively engage
in adaptive behaviours

(3) maintenance and
adaptive activities required

(3) **Feedback :-**

the steady state is
maintained through
feedback process.

(4) **cycle of events :-**

processes

Raw materials

↓
intermediates

↑
finished goods

(5) Control : the dynamic interplay
of subsystems

(6) Learning
and Growth :-
an open system
that is to change

must

→ contain specific feedback
mechanism

→ a certain variety of
information

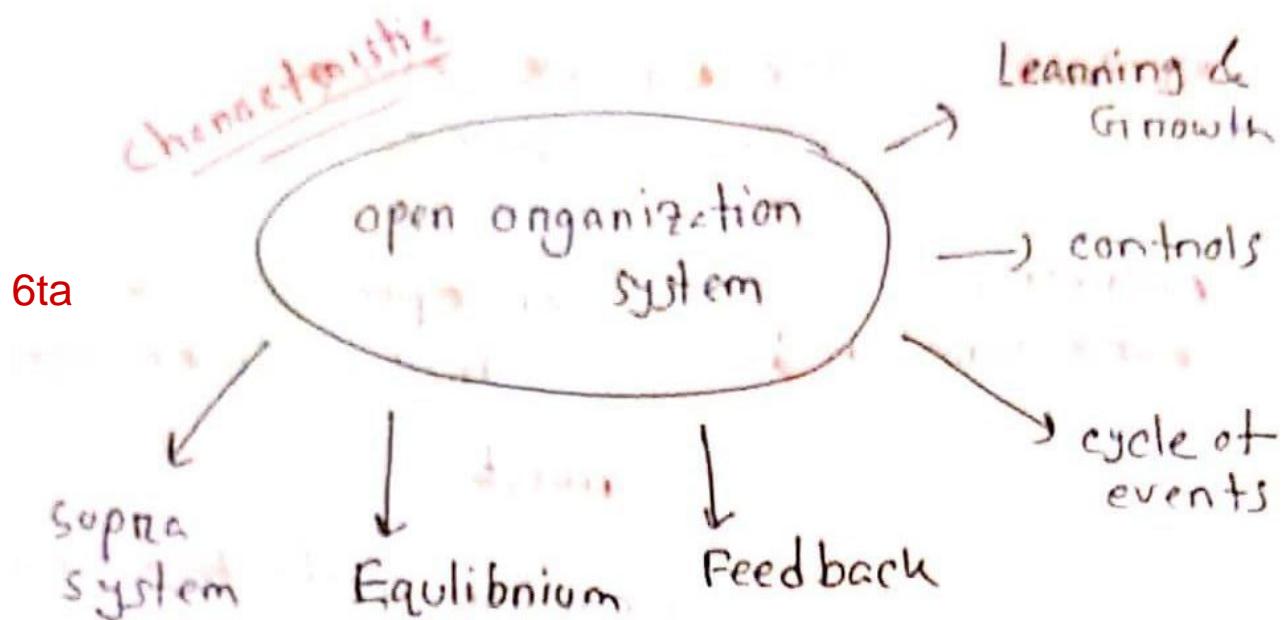
→ particular inputs

→ channel

→ storage

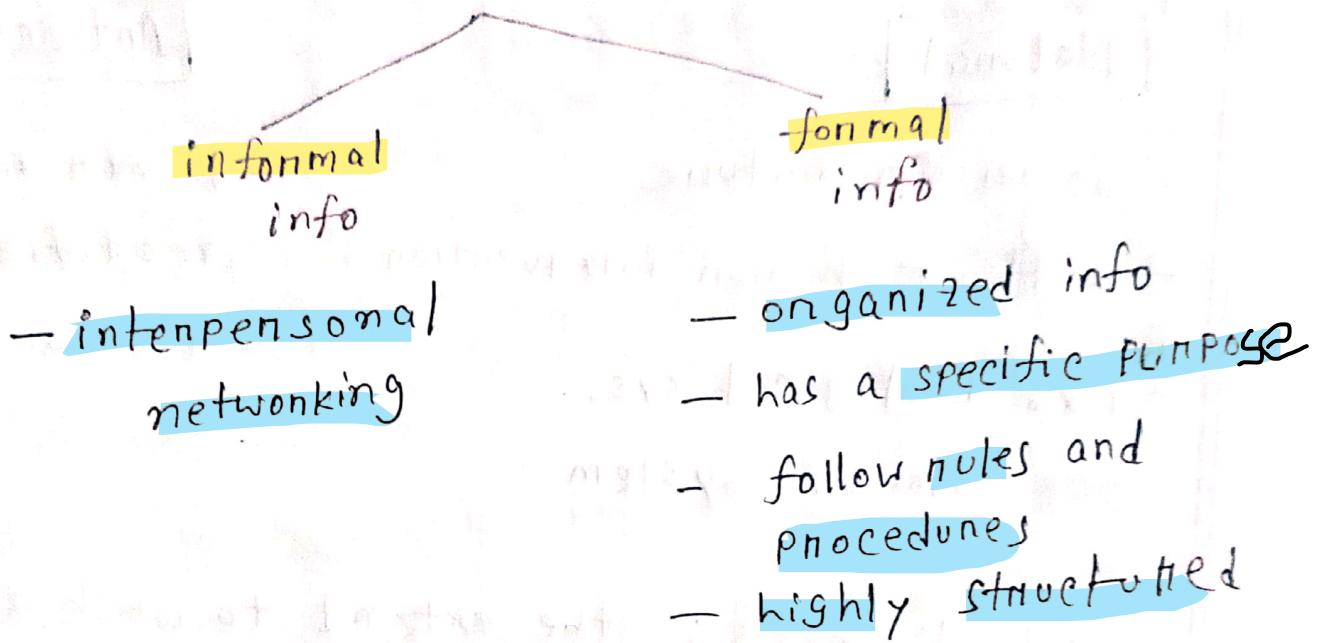
→ cognitive apparatus

→ decision making centers



C - 8

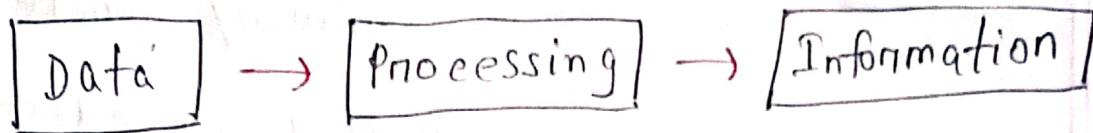
* Information: (general knowledge of the recipient.)



* Information processing system:

- is code, closed system
 - needs collected data
 - data / info storage added
 - data processed in a given period.
- collect → processed → stored

* Basic info system model



* Basic info system model (with storage)



* functional Subsystem Application subsystem

- 1) Hardware
- 2) Utility s/w
- 3) OS
- 4) Data communication
- 5) DB system

- 1) Order entry and billing
- 2) payroll and personnel
- 3) marketing management
- 4) inventory accounting and management

makes use
of

* Management system:

primary functions mediate between organization and immediate task environment.

- customers
- processes
- suppliers

* what do managers do?

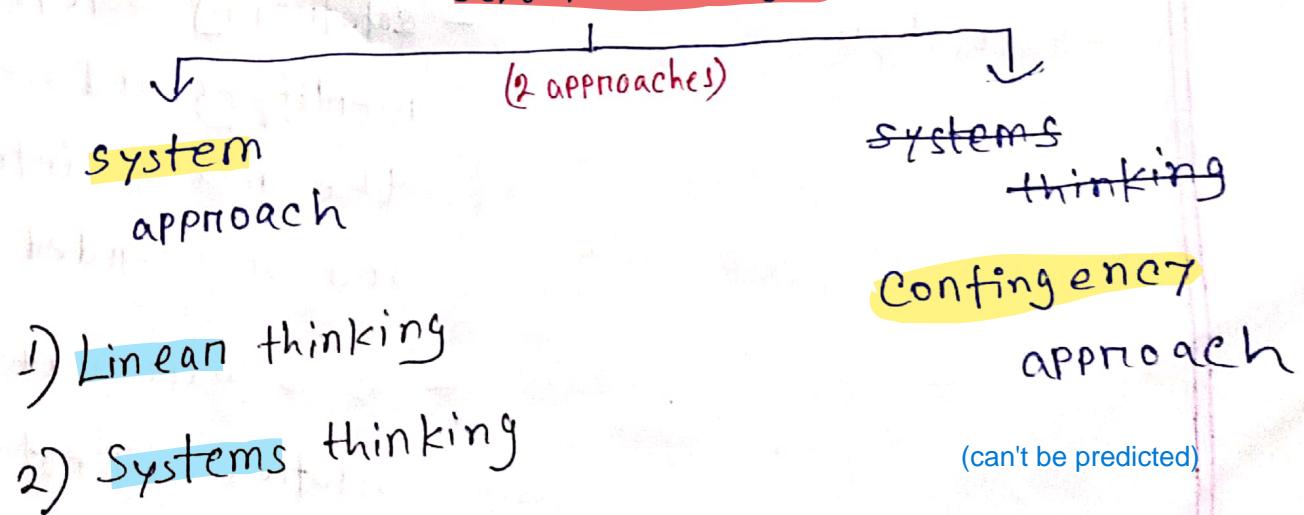
- assume responsibility
- balance competing goal
- be a conceptual thinker
- work with other people
- be a mediator
- " " politician
- " " a diplomat
- make difficult decisions

* Management: is the work involved in combining and directing the use of resources to achieve particular purposes and leading.

* what distinguishes management from other work? (7)

- - planning
- organizing
- staffing
- directing
- coordinating
- reporting
- budgeting

Schools of mgmt



- 1) Linear thinking
- 2) Systems thinking

System Thinking

Linear Thinking

Linear thinking

(steps)

- a problem exists
- cause
- solution
- the solution can be evaluated entirely in terms of its impact on the problem.
- solution will stay put.

cause → problem → action
→ solution

System thinking

(steps)

- a problem exists
- cause
- solution
- solution will have effects apart from the intended impact on the problem.
- try to anticipate those effects
- evaluating solution by identifying and weighing the mix of intended and unintended effects
- as situation changes, solution will not stay put.

↗ sudden

- * Contingency approach: → deals with diff. ways to fit diff. situations
- situational action
 - organizational "

organizations:

— are systems made up of

- 1) interdependent parts
- 2) people
- 3) tasks and
- 4) management

Relationships fit together and depend upon one another.

MTS:

- an integrated user-machine system for
- providing info
 - supporting the operations
 - management analysis
 - decision making

- MIS utilizes:
 - computer hardware, s/w
 - manual procedures
 - dBase
- modes of:
 - analysis
 - planning
 - control
 - decision making

- * Why MIS computer based?
 - the designens of MIS have knowledge of computers
 - information processing.

- * User machine: the system designer should understand
 - 1) capabilities → (info processing)
 - 2) behavior → (info users)

of human.

* integration: a plan should eliminate

- redundancy
- incompatible hardware and SW

achieved through

- standards
- guidelines
- procedures

* Database: a orden system for storing, retrieving and selecting info.

* models: mathematical representation of an actual system

- contains independent variable
- influence the value of a dependent variable.

thought of containing only the essential of the real system.

- * MIS as an **evolving** concept:
 - MIS provide info for decision making
 - provide correct info in a useful form, to the appropriate manager.

- * **Successful MIS**
 - know who the **users** are
 - provide the **info user needs**
 - " " in the **format** the user can understand.

- * **New options for organizational design:**
 - 1) flattening organization
 - 2) separating work from location
 - 3) increasing flexibility
 - 4) refining organizational boundaries
 - 5) e-commerce
 - 6) reorganizing work flows

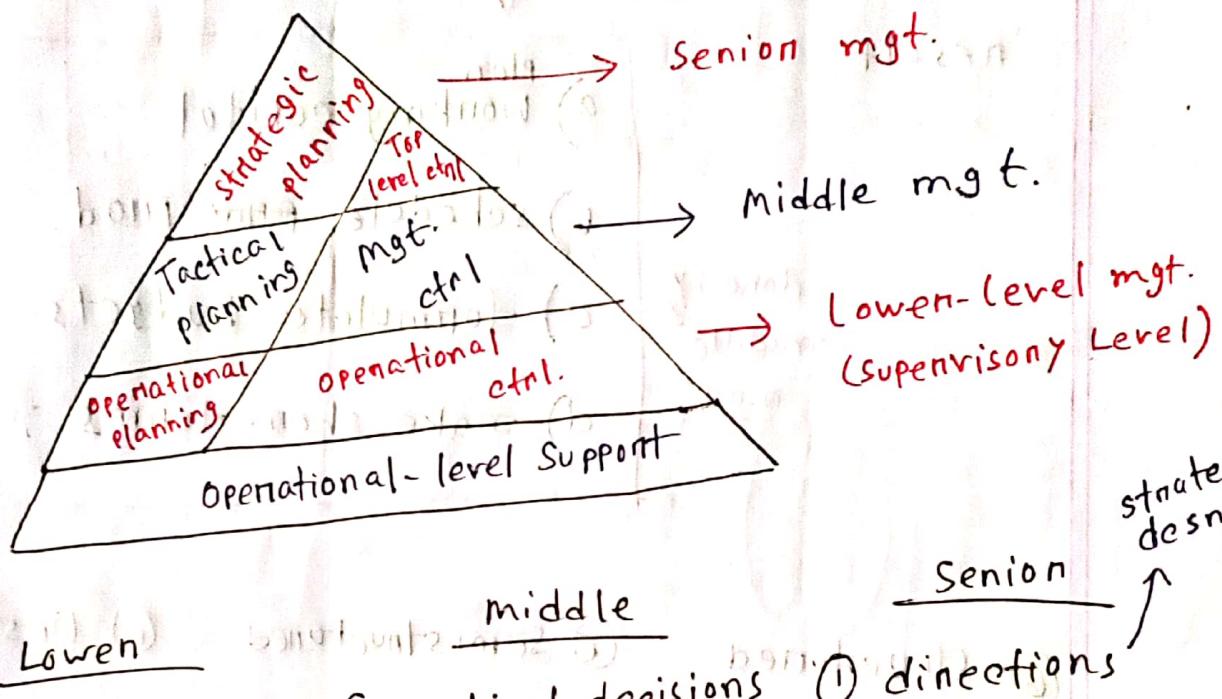
Lecture - 13 (MIS)

Levels of management:

makes us understand

- who the users are

- what info. they need



- Lower middle Senior
- ① Day-to-day operation decisions ① Tactical decisions for 2 years ① directions for 5+ years
 - ② programmed dcsns ② Non-programmed ② Non-programmed
 - ③ predetermined by rules and procedures ③ not predetermined ③ not pre.

- | <u>Lower</u> | <u>Middle</u> | <u>Senior</u> |
|-----------------------------------------------------------------------------|--------------------------------------|-----------------------------|
| ④ needed info
found by admini-
strative data
processing activities | ④ needed
info must be
specific | |
| ⑤ Lead to desired
result | | ✓ includes
⑥ uncertainty |

- done by
middle
mgt.
- a) plan working capital
 - b) schedule prod.
 - c) formulate budgets
 - d) make shon-temn forecast

- | | | |
|--------------------------------------|---------------------|---------------------------------------|
| ⑥ structured
desns | ⑥ semistructured | ⑥ Unstructured |
| ⑦ supervisory/
operative
level | ⑦ Executive (level) | ⑦ Administrative/
managenial level |

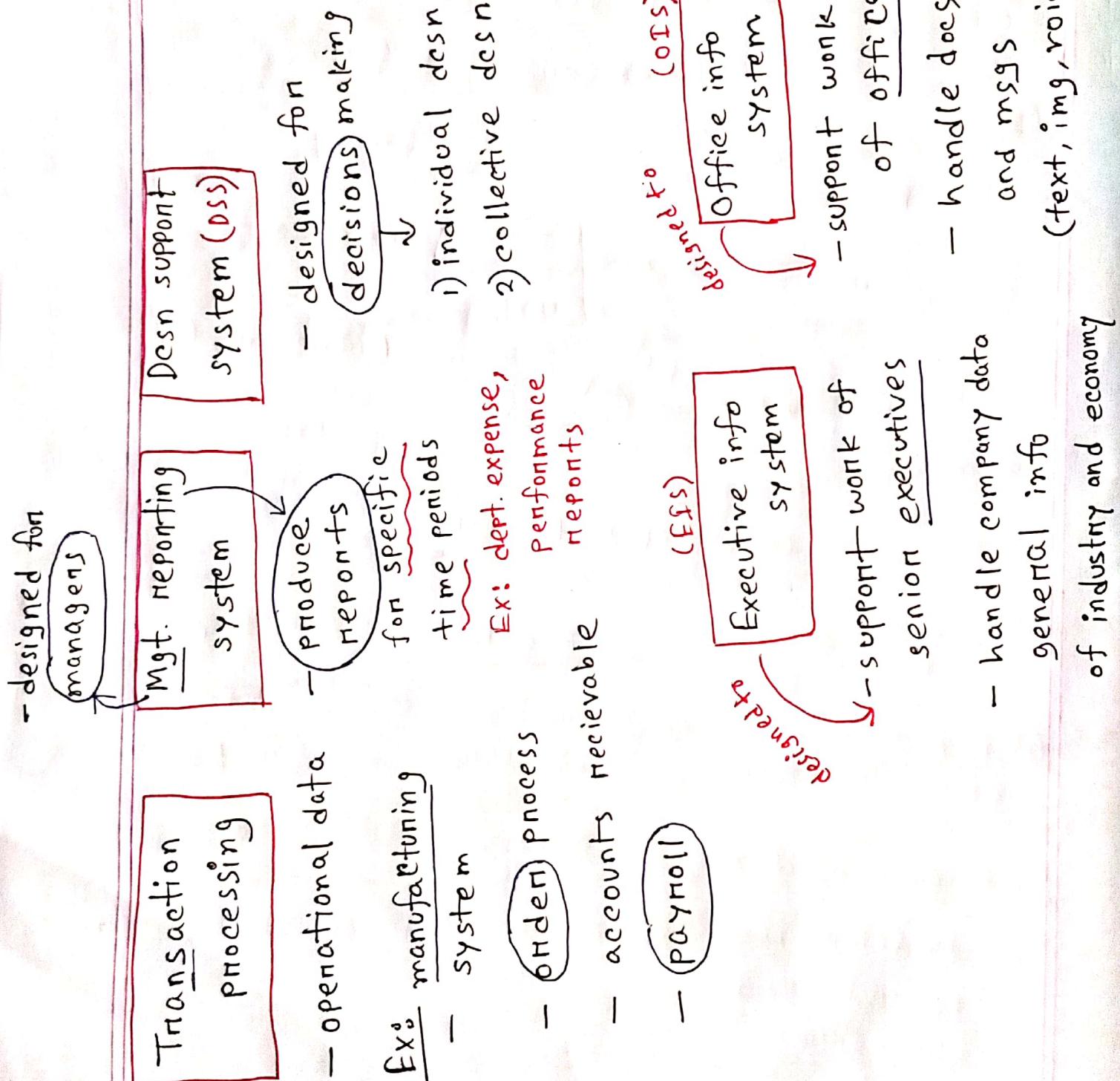
* Why are top and middle levels of mgt
are combined?



- 1. To reduce cost
- 2. To increase efficiency
- 3. To increase accountability
- 4. To increase coordination
- 5. To increase control
- 6. To increase communication
- 7. To increase decision making speed
- 8. To increase adaptability
- 9. To increase innovation
- 10. To increase performance

Lecture 14

What do info systems do?



III 3 components of info system:

Technology

- computers
- Telecommunications
- databases
- expert systems

Organization

- structure
- mgt. style
- culture

People

- cognitive style
- individual characteristics
- edu. level

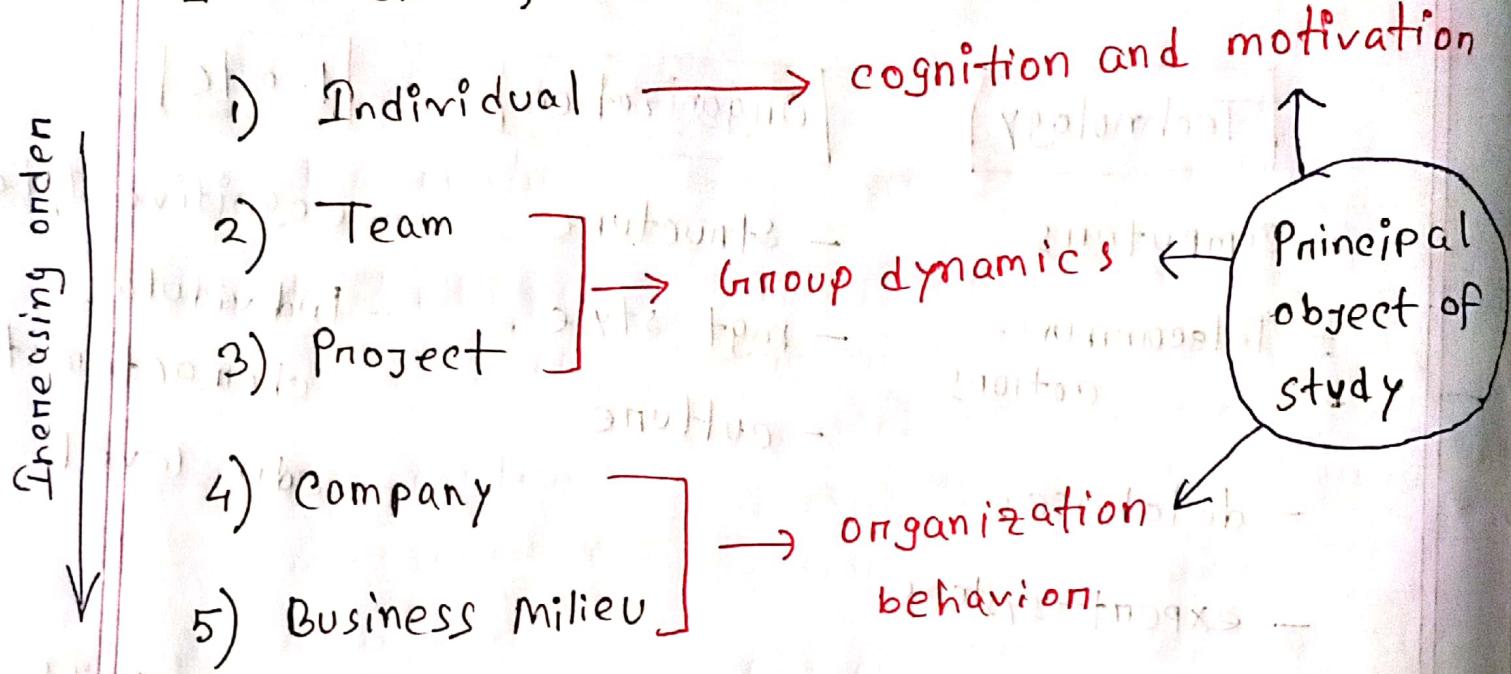
④

Disciplines

contributing to the field of MIS:

- 1) cognitive science
- 2) computer science
- 3) mgt and org. theory
- 4) mgt. science
- 5) Acc.
- 6) Systems theory
- 7) Sociology

■ Levels of behavioral study



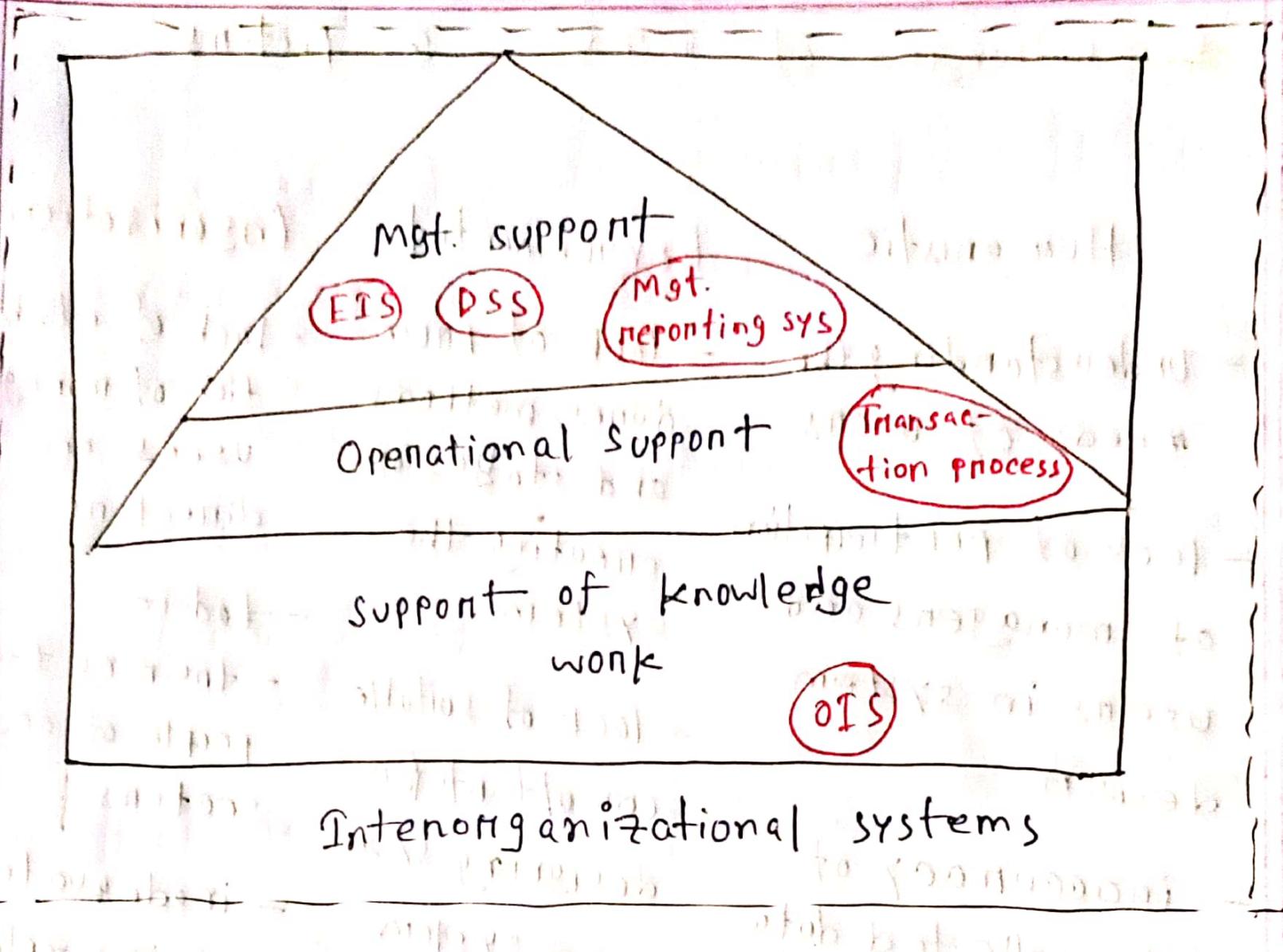
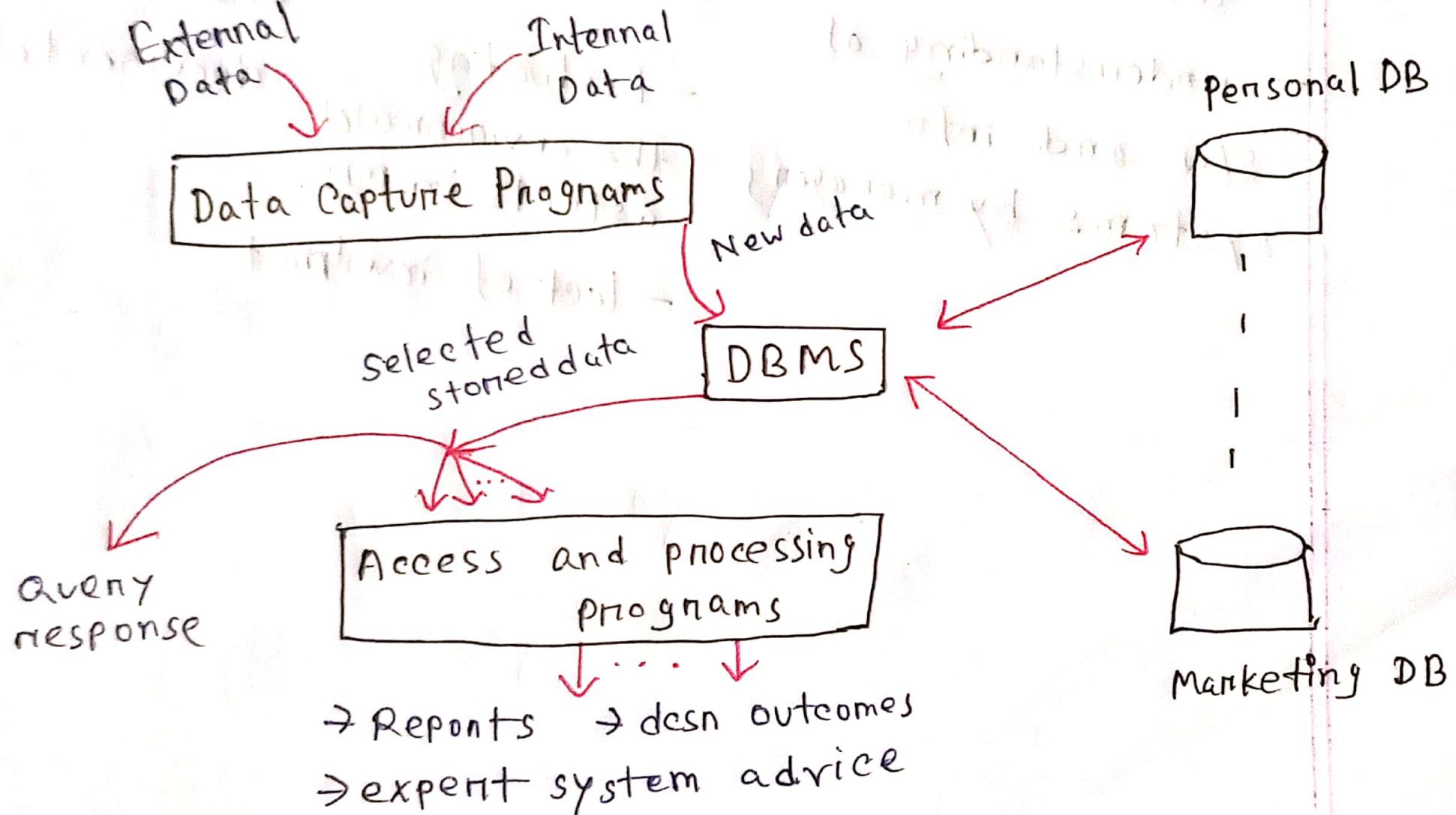


Fig
1



Challenges of info system: (5)

- strategic
- globalization
- info archi
- investment
- responsibility and ctrl

* in internet, what do?
→ communication and collaboration
— access info
— discuss