

## 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

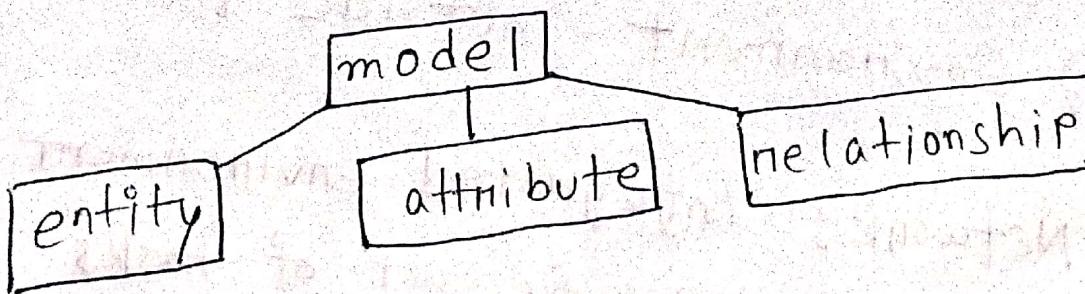
### \* What is information?

→ 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

— The boundary between software and environment

— The boundary between software and user

— The boundary between user and environment

— The boundary between user and hardware

— The boundary between hardware and environment

— The boundary between environment and hardware

— The boundary between hardware and system

— The boundary between system and environment

## \* 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

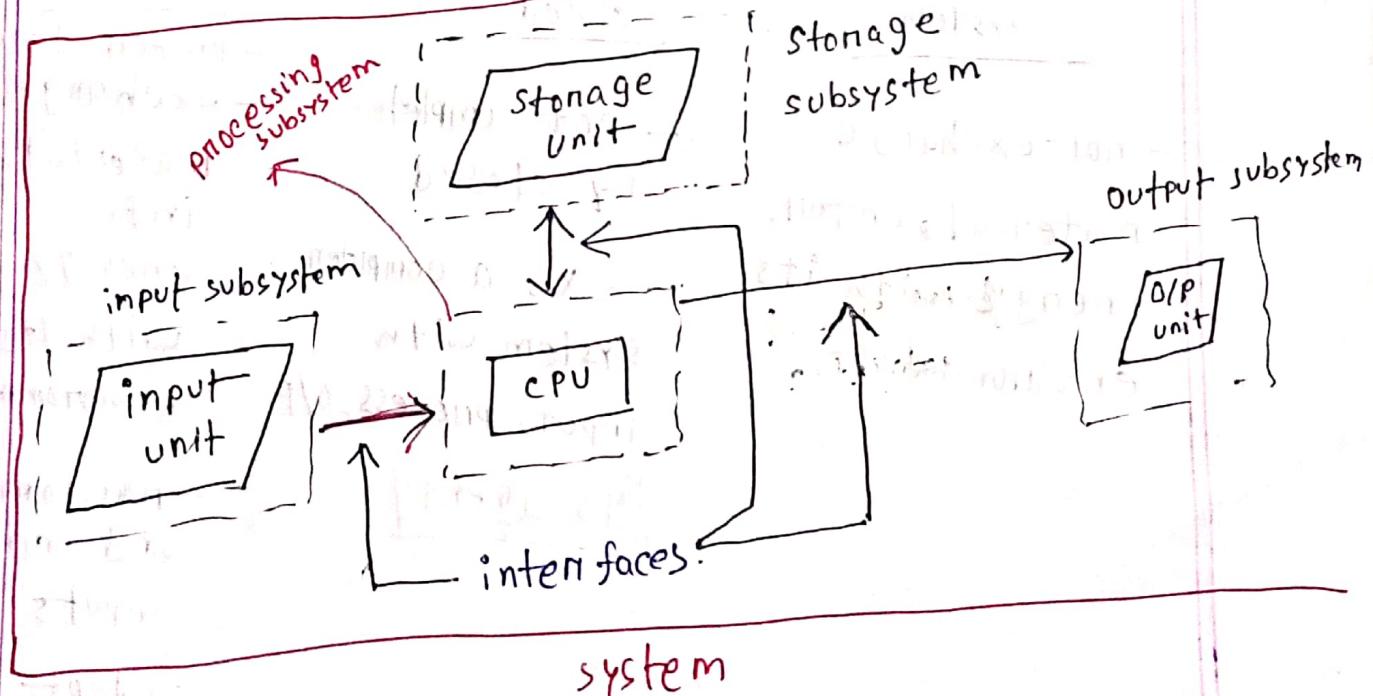
- performs a set of instructions exactly

- system described in terms of probable behavior

ex: inventory system

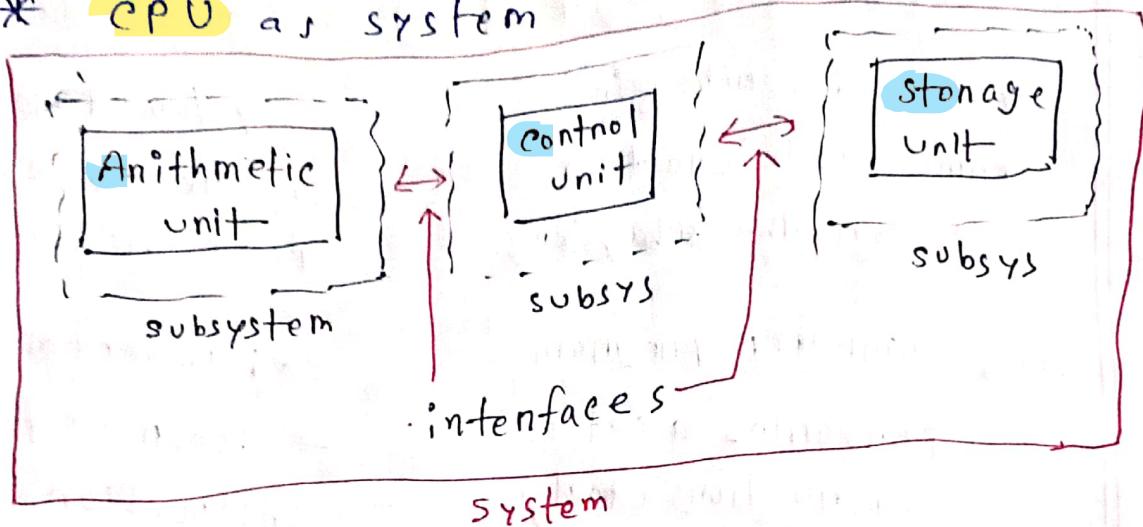
- doesn't follow instructions exactly

\* 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

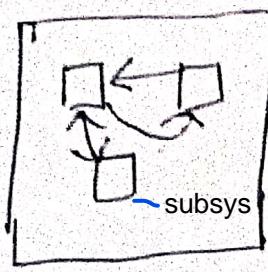


Fig: close system

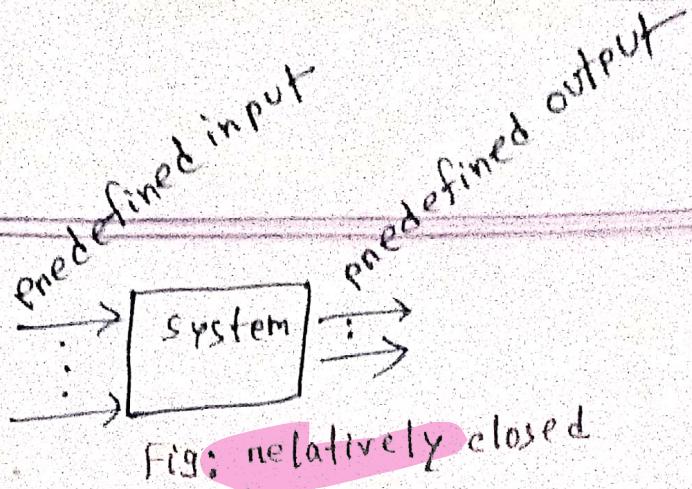


Fig: relatively closed

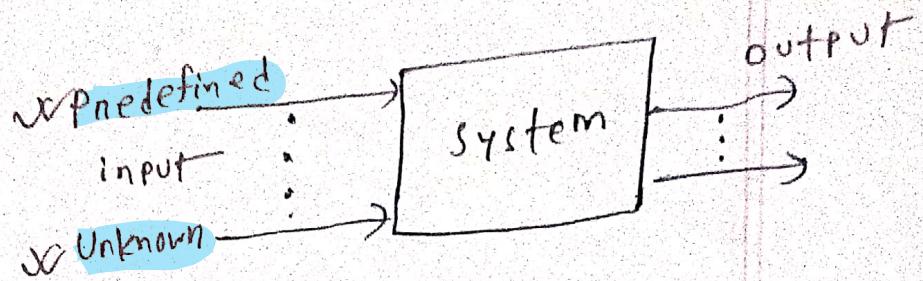


Fig: Open system

### (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

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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.  
→ BTBT

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

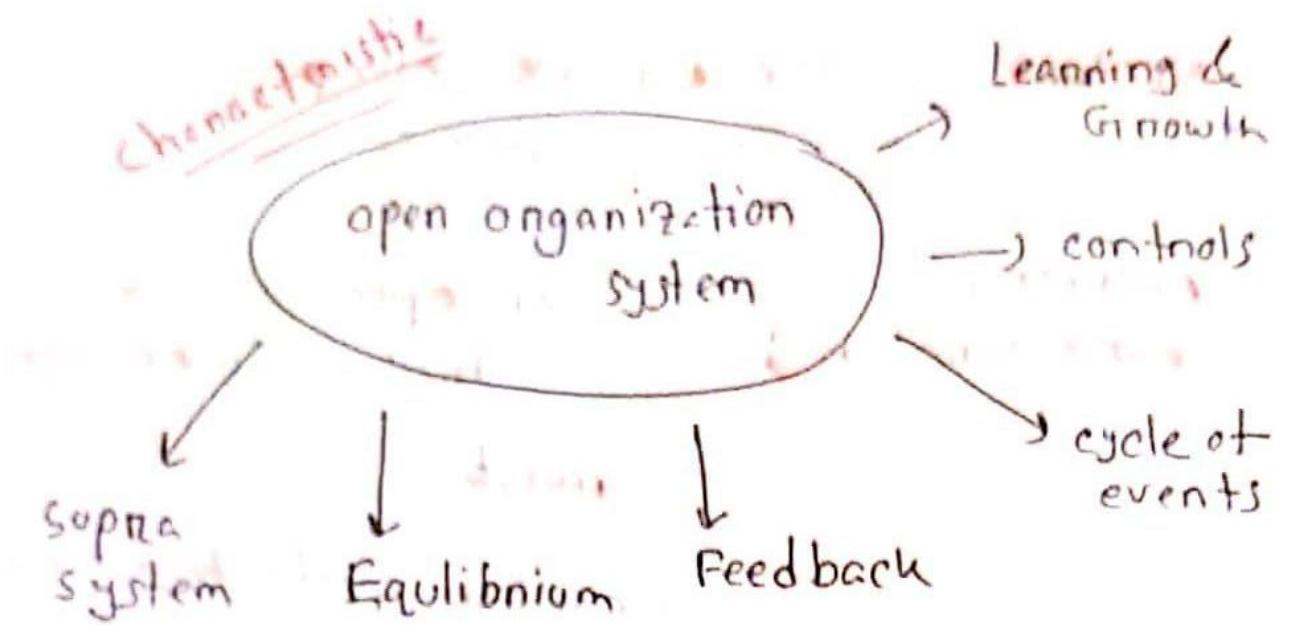
→ particular inputs

→ channel

→ storage

→ cognitive apparatus

→ decision making centers

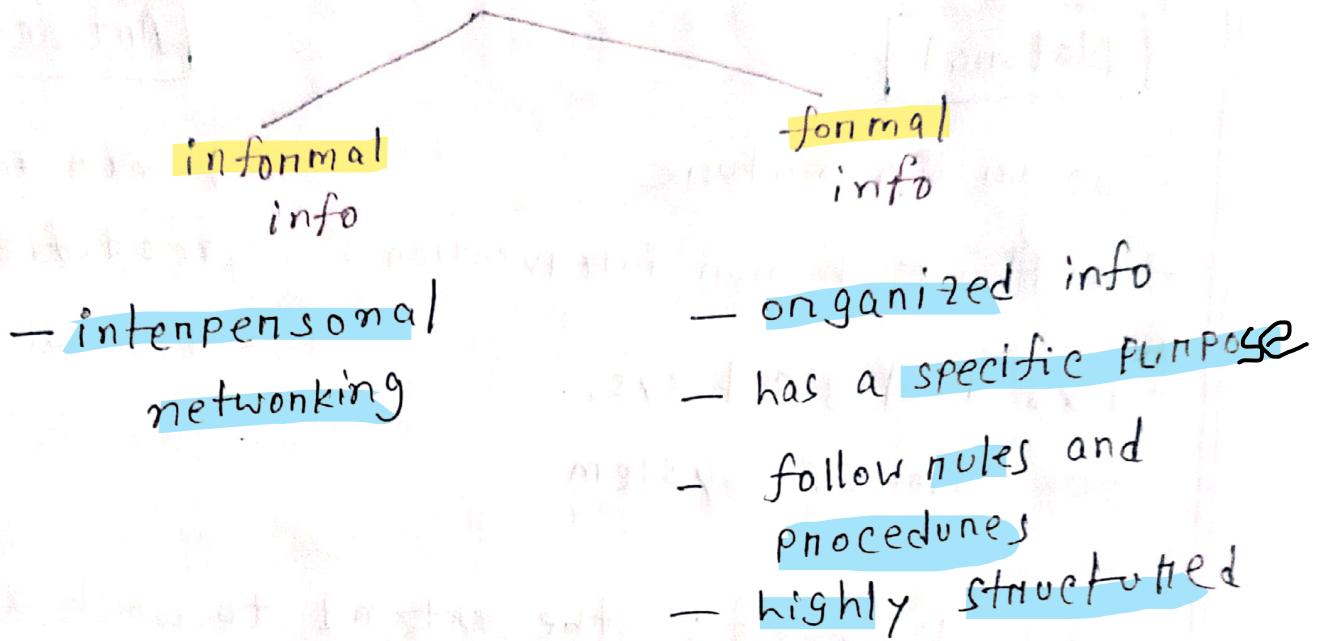


closed organization system

closed organization system

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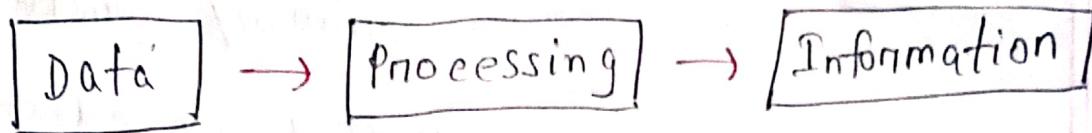
\* Information: (general knowledge of the recipient.)



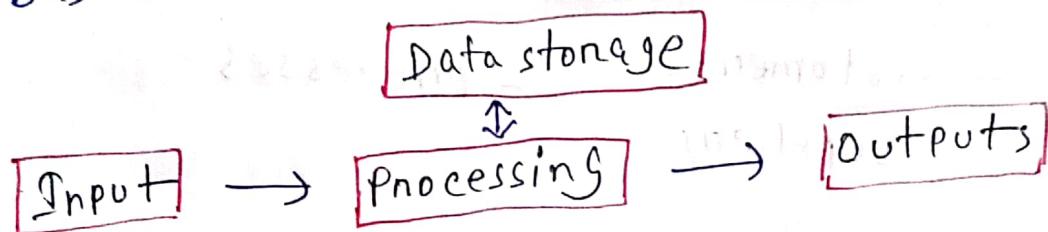
\* Information processing system:

- 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

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

- Application subsystem
- 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

(2 approaches)

system approach

systems thinking

contingency approach

- 1) Linear thinking
- 2) Systems 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.

MIS:

- 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

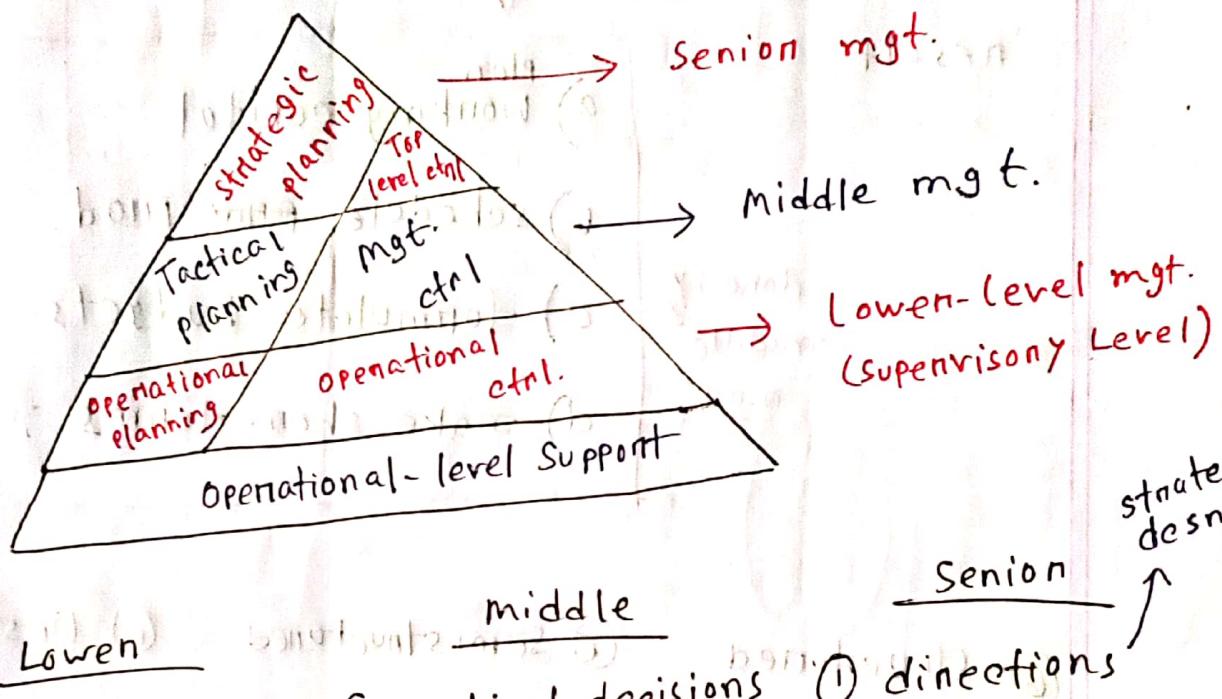
# Lecture - 13 (MIS)

## 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 dcsns      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<br>found by admini-<br>strative data<br>processing activities | ④ needed<br>info must be<br>specific |                             |
| ⑤ Lead to desired<br>result   |                                      | ✓ includes<br>⑥ uncertainty |

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

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

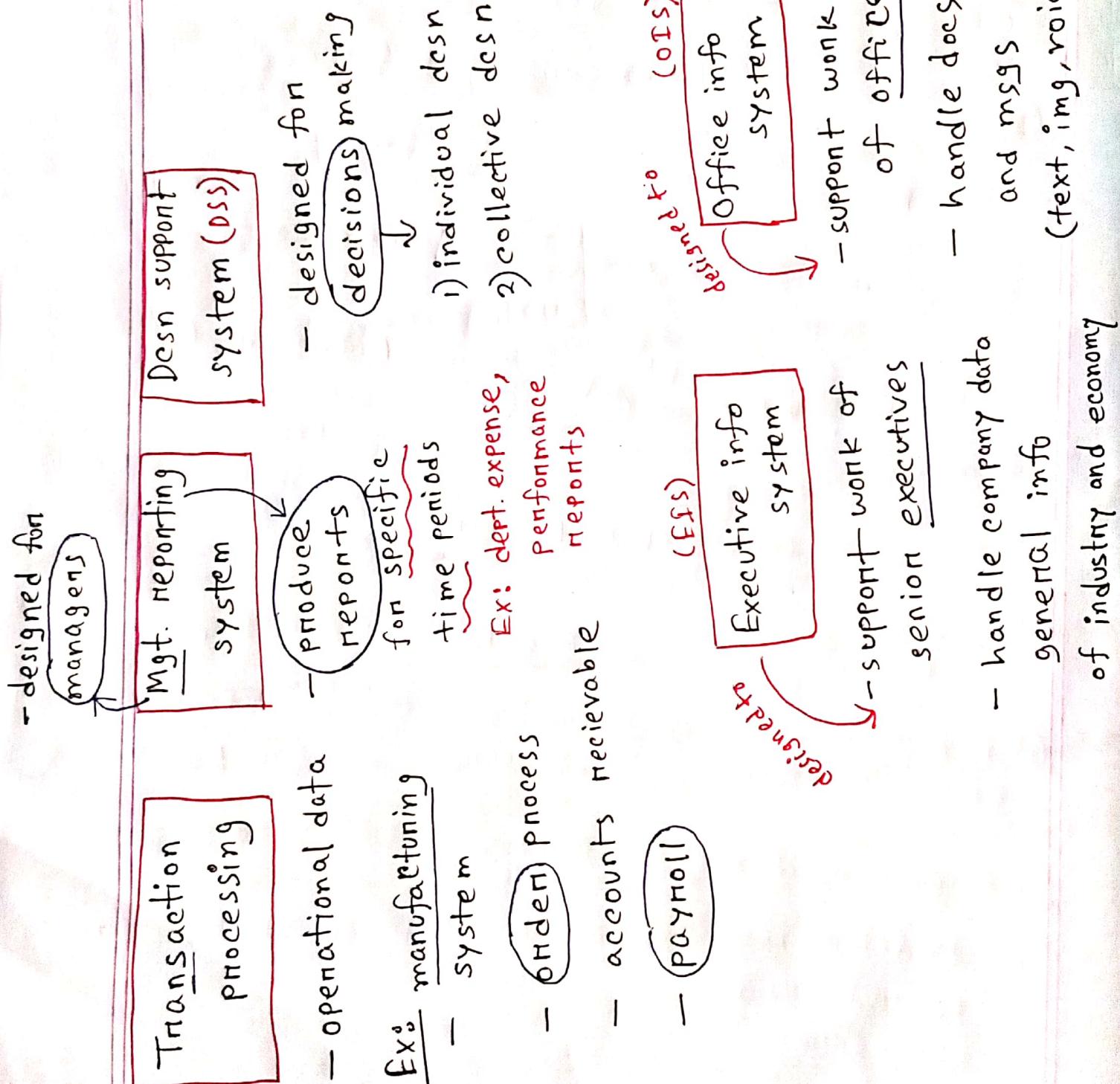
\* Why are top and middle levels of mgt  
are combined?



- 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

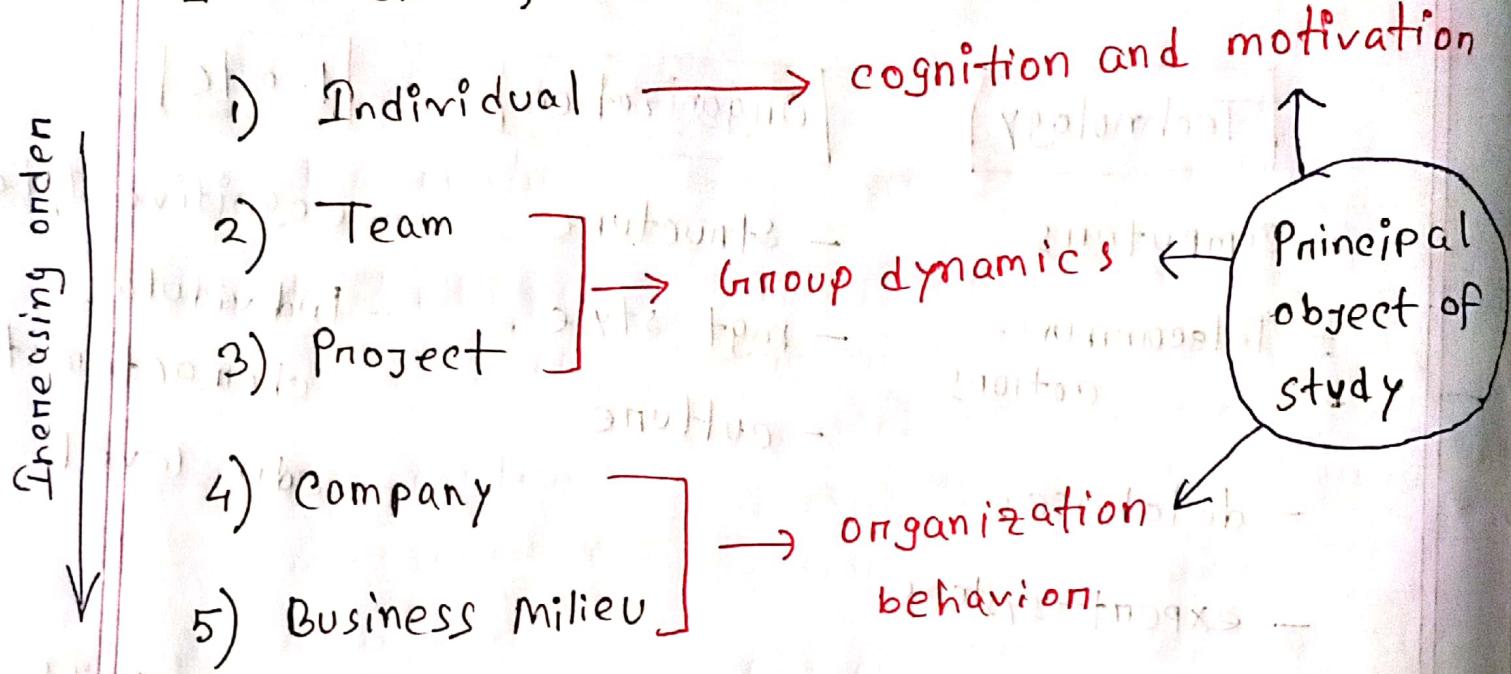
④

**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



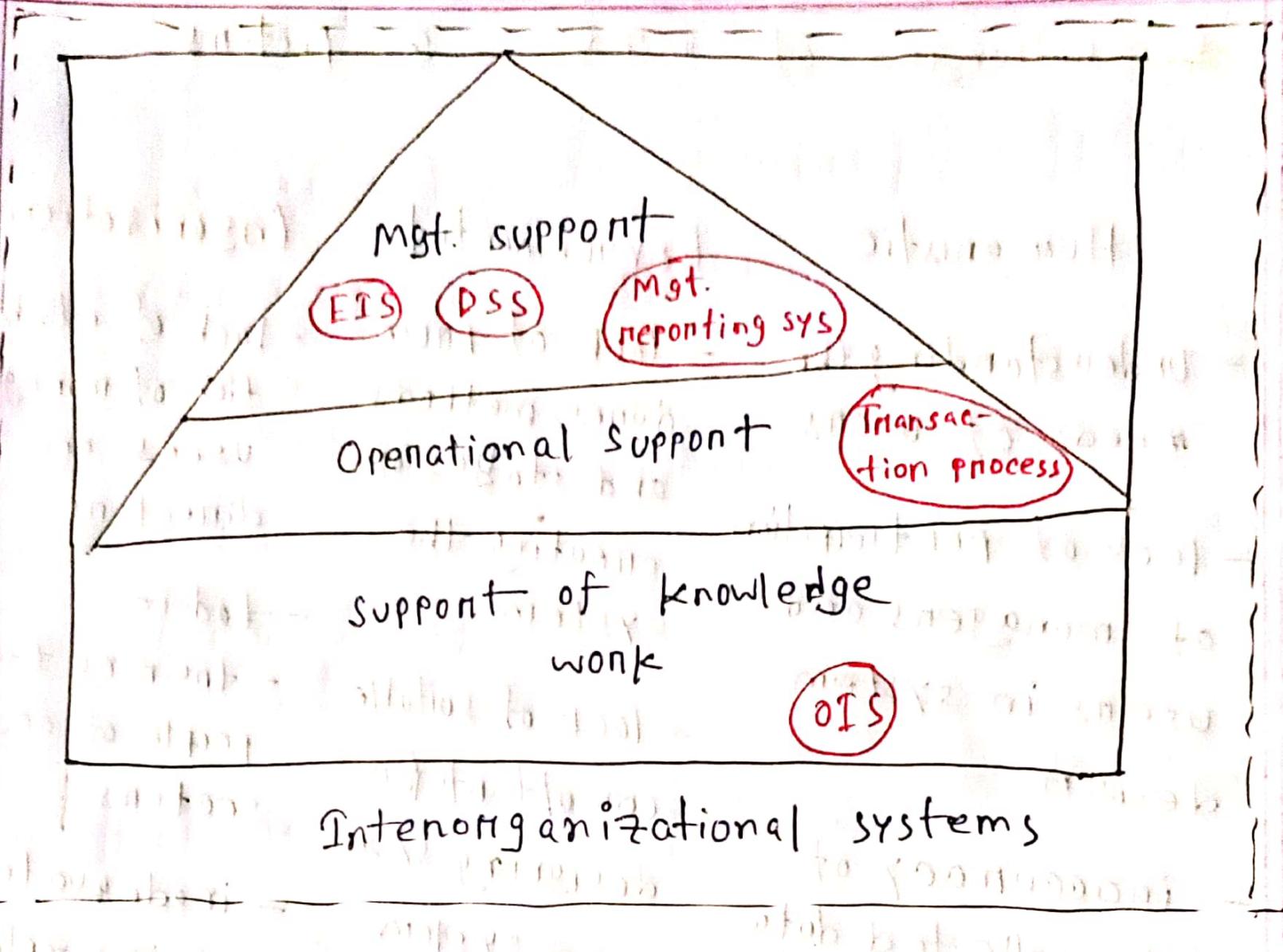
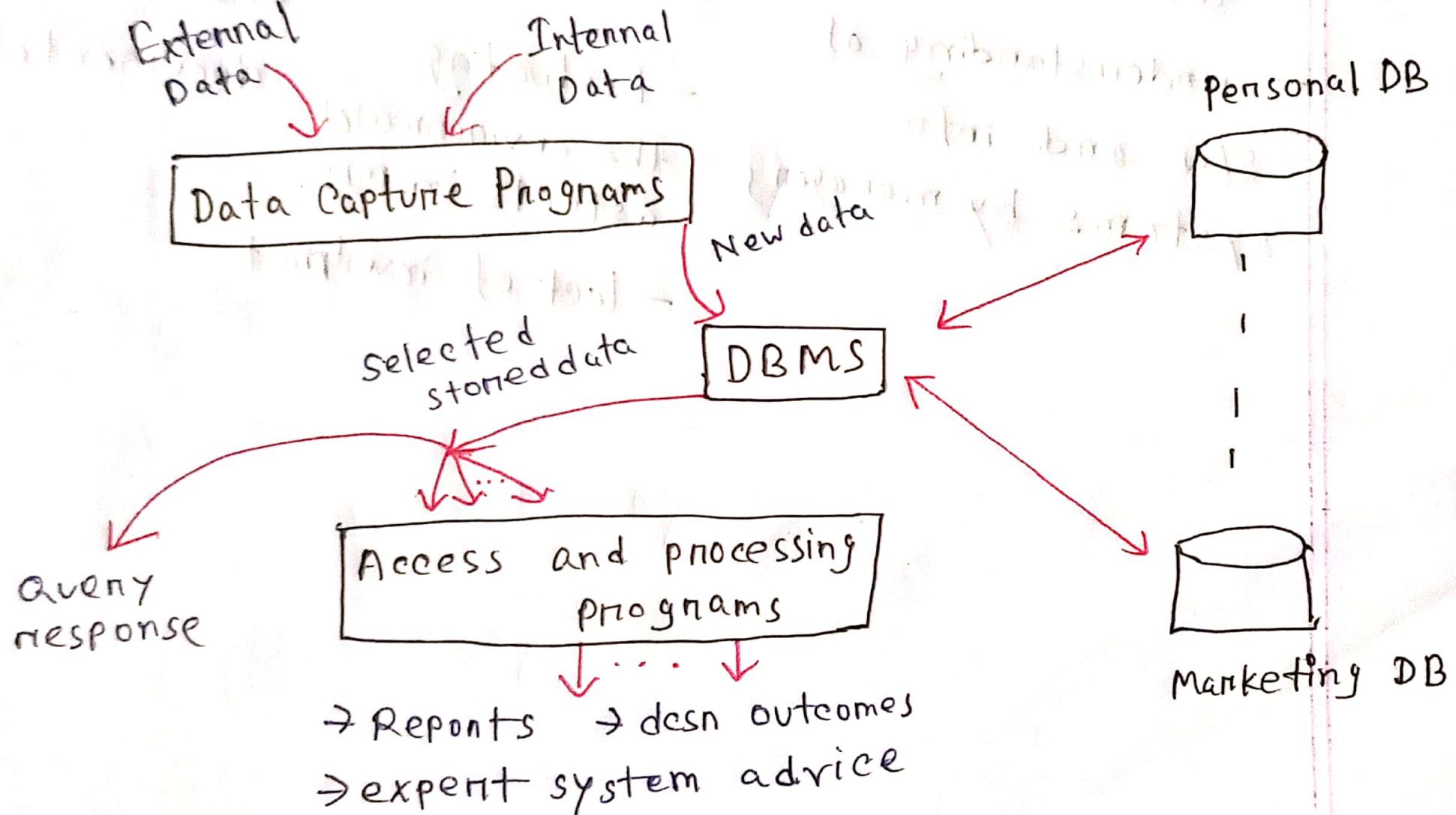


Fig  
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## Challenges of info system: (5)

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

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