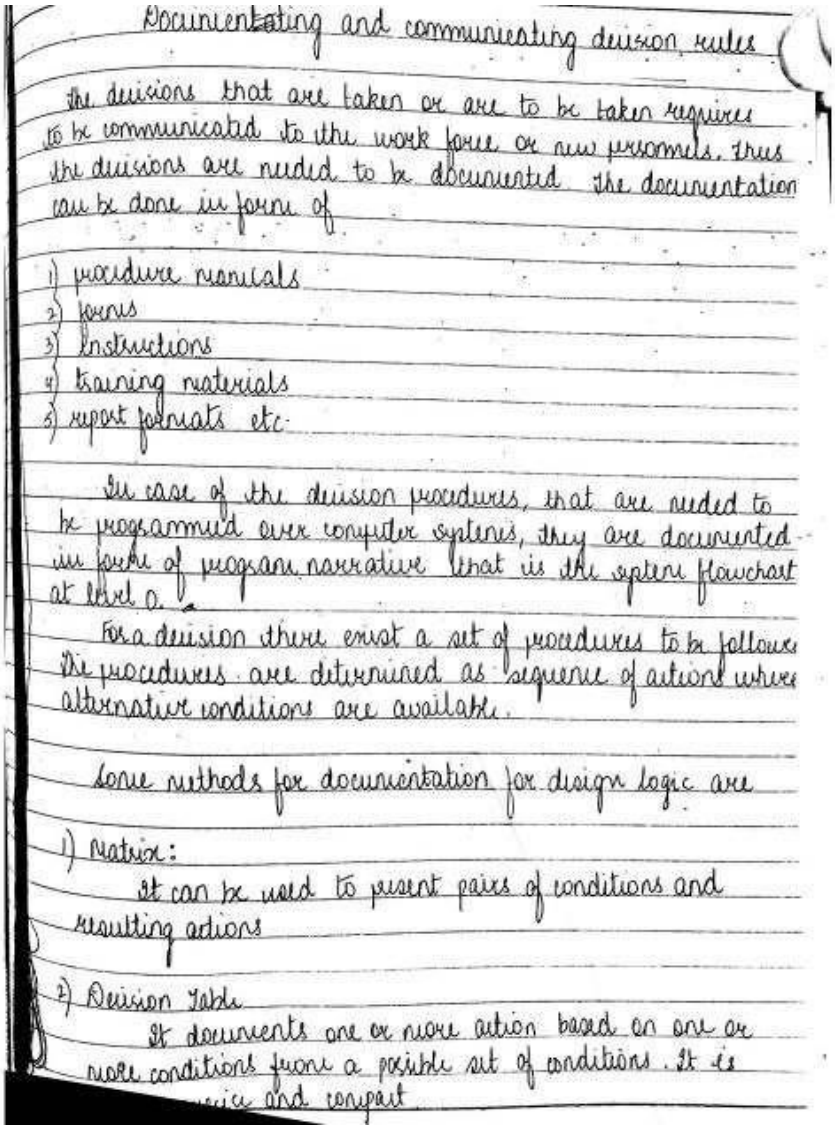
BCA 612 Management Information System

Documentation & Communication Decision Rules



Documentating and communicating decision rules

The decisions that are taken or are to be taken requires to be communicated to the work force or new personels. Thus the decisions are needed to be documented the documentation can be done in form of

1) procedure manuals
2) forms
3) instructions
4) training materials
5) report formats etc

In case of the decision procedures, that are needed to be programmed over computer systems, they are documented in form of program narrative that is the system flowchart at level 0.

For a decision there exist a set of procedures to be followed. The procedures are determined as sequence of actions where alternative conditions are available.

Some methods for documentation for design logic are

1) Matrix:
It can be used to present pairs of conditions and resulting actions

2) Decision Table
It documents one or more action based on one or more conditions from a posible set of conditions. It is ...ic and compact

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3) Flowchart

It is a sequence of instructions shown graphically for the decision representation. In terms of MIS program it is a flow control of instructions.

4) Decision Tree

It is similar to that of decision table with graphical representation where decision paths are directly visible.

5) Pseudocodes

It is the decision logic coded in terms of If-then statements.

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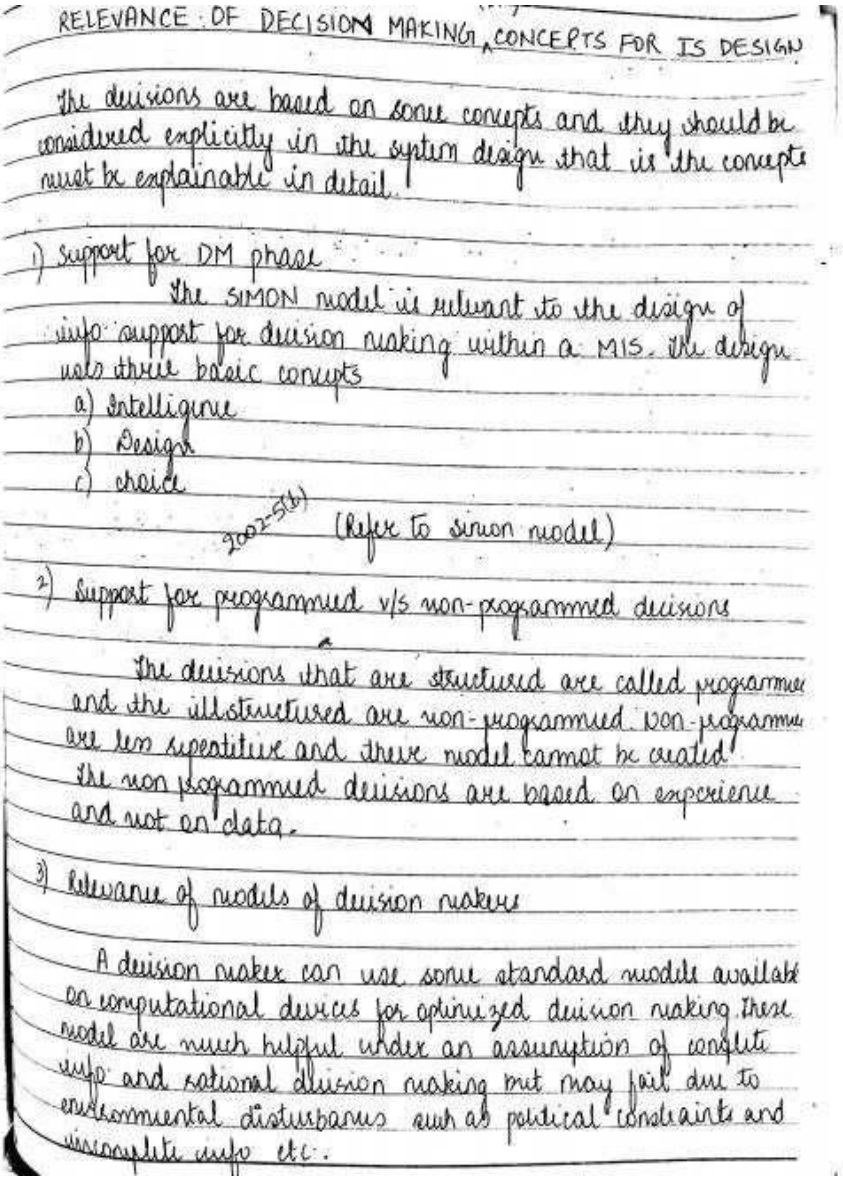
Relevance of Decision Making



RELEVANCE OF DECISION MAKING CONCEPTS FOR IS DESIGN

The decisions are based on some concepts and they should be considered explicitly in the system design that is the concepts must be explainable in detail.

1) Support for DM phase

The SIMON model is relevant to the design of info support for decision making within a MIS. The design uses three basic concepts

a) Intelligence
b) Design
c) choice

(Refer to simon model)

2) Support for programmed v/s non-programmed decisions

The decisions that are structured are called programmed and the ill-structured are non-programmed. Non-programmed are less repetitive and their model cannot be created. The non programmed decisions are based on experience and not on data.

3) Relevance of models of decision makers

A decision maker can use some standard models available on computational devices for optimized decision making. These model are much helpful under an assumption of complete info and rational decision making but may fail due to environmental disturbances such as political constraints and incomplete info etc.

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4) Application of Behavioural model of organizational decision making

The behavioural model theory defines a number of methods of uncertainty avoidance that helps in decision making.

5) Support for decision making under stress

Some pre-specified models can will be explored under stress for decision making. A decisional balance sheet can be created.

6) Support for alternative techniques

Methods for deciding among alternatives should be available as part of DSS.

7) Support for quality of decision making

Here the decision makers has to judge for the solution of the best decision maker by his capabilities

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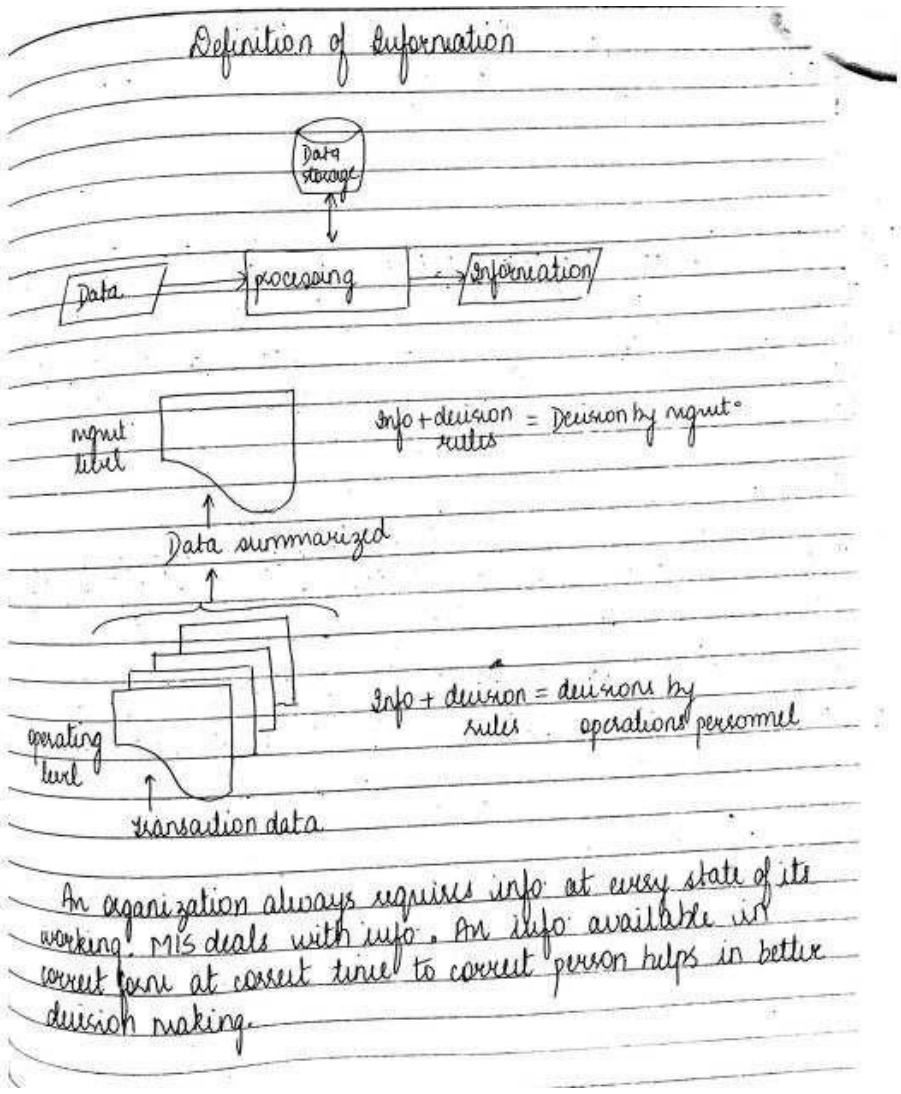
Definition Information



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Defn of information:

An information can be stated as processed data pertaining to some meaning to the recipient. Thus info requires a set of processed facts that is relevant in some sense to the user.

Fig ① illustrates a simple transformation diagram of data to info. Data in an organization is collected as a set of facts associated with the systems component. The data is coded into some form and is stored into a data store. Typically for computer systems they are the magnetic or optical devices.

Depending on the requirement a set of algorithms are executed upon the relevant data set generating the info. The info generated may have some decision value. This info moves in upward direction in the mgmt hierarchy.

Fig ② illustrates the relevance b/w data and info at different level of organization. A data set at lower level can be an info for decision making and it may require further processing generating a processed data set which helps in decision making at higher level.

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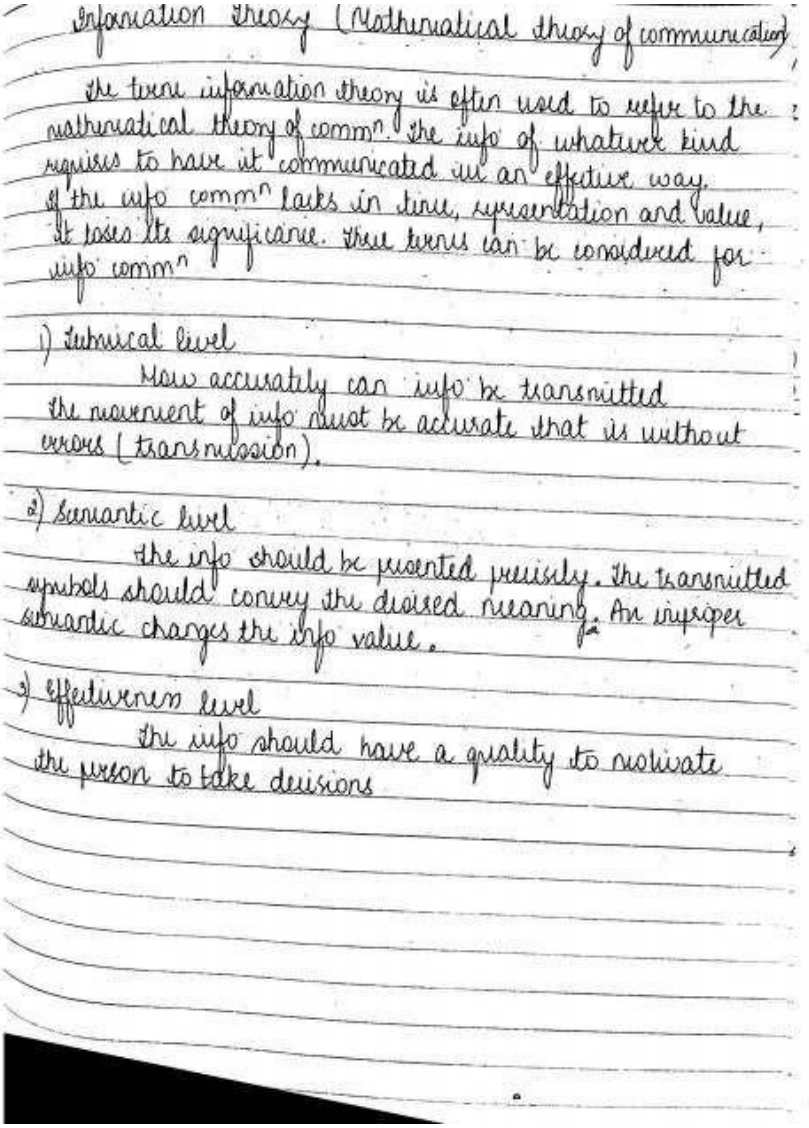
Information Theory



Information theory (Mathematical theory of communication)

The term information theory is often used to refer to the mathematical theory of comm^n. The info of whatever kind requires to have it communicated in an effective way. If the info comm^n lacks in time, representation and value, it loses its significance. These terms can be considered for info comm^n

1) Technical level

How accurately can info be transmitted the movement of info must be accurate that is without errors (transmission).

2) Semantic level

The info should be presented precisely. The transmitted symbols should convey the desired meaning. An improper semantic changes the info value.

3) Effectiveness level

The info should have a quality to motivate the person to take decisions

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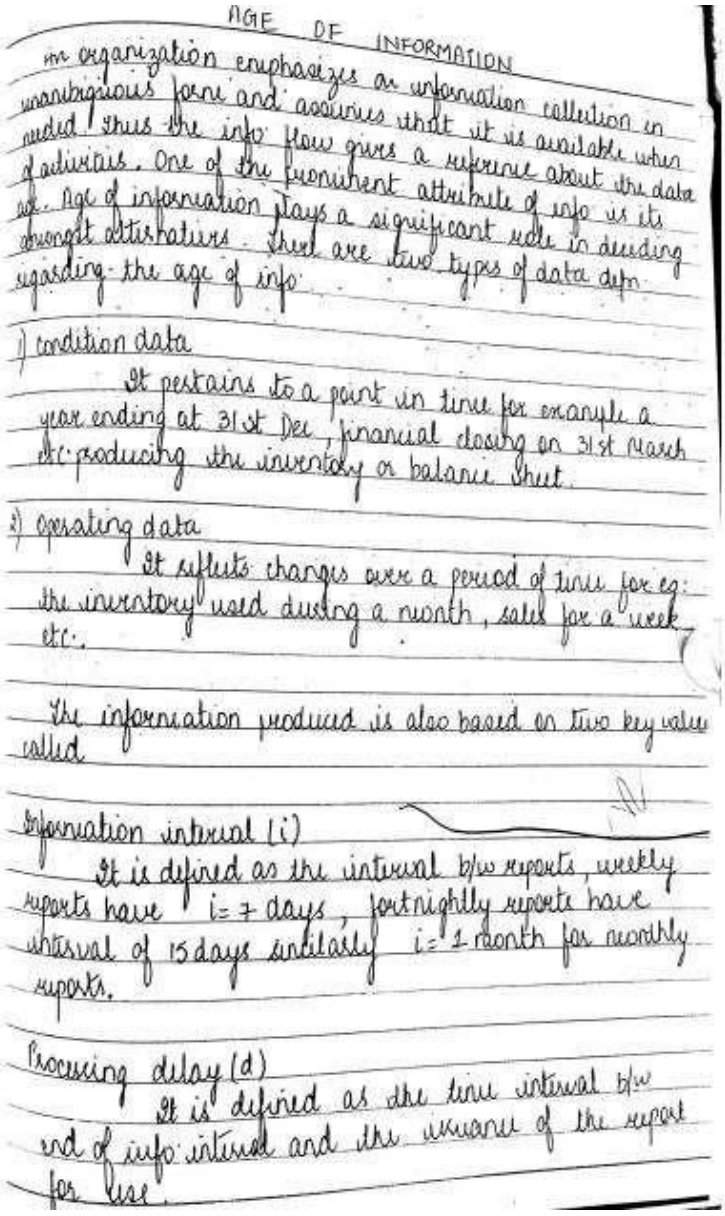
Age Information



AGE OF INFORMATION

An organization emphasizes on information collection in unambiguous form and assures that it is available when needed. Thus the info flow gives a reference about the data of activities. One of the prominent attribute of info is its age. Age of information plays a significant role in deciding amongst alternatives. There are two types of data defn regarding the age of info.

1) condition data

It pertains to a point in time for example a year ending at 31st Dec, financial closing on 31st March etc. producing the inventory or balance sheet.

2) operating data

It reflects changes over a period of time for eg: the inventory used during a month, sold for a week etc.

The information produced is also based on two key value called

Information interval (i)

It is defined as the interval b/w reports, weekly reports have i = 7 days, fortnightly reports have interval of 15 days similarly i = 1 month for monthly reports.

Processing delay (d)

It is defined as the time interval b/w end of info interval and the issuance of the report for use.

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