Unit 4

Information, knowledge, Business Intelligence

Information Concepts, Information: A Quality Product, Classification of the information, Methods of data and information collection, Value of information, General model of a human as a information processor, Summary of information concepts and their implications, Knowledge and knowledge management systems, Business Intelligence, MIS, and the Information and Knowledge, Case Study

Information, knowledge, Business Intelligence

Information Concepts

The word 'information' is used commonly in our day to day working. In MIS, information has a precise meaning and it is different from data The information has a value in decision making while data does not have. Information brings clarity and creates an intelligent human response in the mind. In MIS a clear distinction is made between data and information. Data is like raw materials while the information is equivalent to the finished goods produced after processing the raw material. Information has certain characteristics. These are: Information

• improves representation of an entity.
• updates the level of knowledge.
• has a surprise value.
• reduces uncertainty.
• Aids in decision-making. The quality of information could be called good or bad depending on the mix of these characteristics.

The above model of communication is used in the MIS. The MIS is equivalent. to which provides information and sends through reports (channel) to the various receivers, which is decoded or interpreted by the receiver at the destination. The poor quality of an information due to ('factors would create confusion and misunderstanding, which is equivalent to a Noise 'Distortion 'and in the communication model. A good MIS communicates the information without a noise and distortion to the user.

Information: A Quality Product

Information is a product of data processing. Even if we take care of the aspects discussed in the above. Section, the manager will determine the quality of the information based on the degree of motivation it.
Provides for action, and the contribution it provides for effective decision-making the quality of information is high, if it creates managerial impact leading to

attention, decision and action. The quality of the measure on the four_dimensions, nt0faction, error and bias. The utility dimensions has four facets—the farm, the time. the access and the possession. If the in-formation is presented in the form the manager requires, then its utility increases. If it is available when needed, the utility is optimized. If the information is easily and quickly accessible through the Online Access System, its utility gets an added boost. Lastly, if the information is possessed by the manager who needs it, then its utility is the highest. Many of the organizations suffer from the possessive nature of the managers making an access difficult for the other users of the information. Improving the quality through increasing a utility means an increase in the cost. The balance, therefore, is to be maintained tween the cost and the utility. The concept of the utility of the information is subjective to the individual manager, at least in terms of the form, time and access. Sin the organization there are many users of the same information, the subjectiveness would vary. Therefore, the one common key for measuring the quality could be satisfied of the decision maker. The degree of satisfaction would determine the quality of the information. the lithe organization has a high degree of satisfaction, then one can be safe in saying that the information systems are designed properly to meet the information needs of the managers at all the levels. An error is the third dimension of the quality of the information. The errors creep in on account of various reasons, namely

Information is quality product mean it should be error free and helpful to decision maker

Reason for occurring errors in information are,

• An incorrect data measurement
• An incorrect collection method
• Failure of data processing procedure
• Loss of data
• Incompleteness of data
• Poor application of data validation
• Poor data control systems
• A deliberate falsification

The quality of information can be measured on the three dimensions

1.Utility
2.Satisfaction
3.Error

• **Utility** – If the information is presented in the form of the manager require , then its utility increase. It is available when needed. If the information is quickly and easily accessible throughout the online access system, its utility gets added boost.

• **Satisfaction** – In the organization there are many users of the same information, the subjectivity (time, form and access) would vary. Therefore , the one common for measuring the quality could be the quality of the decision maker.

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• **Error** – The error creep in on account of various reason namely: Parameters Impacting Quality The parameters of good quality are difficult to determine however the information can be termed as of a good quality if it meets the normas of impartiality , validity reliability, Consistenc and age

Impartially – An impartial information contains no bias has been collected without any distorted view of the situation.

• **Validity** – The validity of the information relates to the purpose of the information. Its answer to the question, does the information meet the purpose of decision making for which it is being collected. The validity also depend how the information is used.

• **Reliability** – It is connected to the representation and the accuracy of what is being describe. The reliability is also affected, if the data is not collected from the right source.

• Consistency – Information should follow certain standard regarding consistency and

format in short the flow of information should be subject oriented and consistent.

• **Age** – Age should be low or information age not as old as that it becomes an unuseful product in short information should be updated format

Parameters Impacting Quality

Information is classified into:

• Action Versus No-action Information
• Recurring Versus Non-recurring Information
• Internal Versus External Information
• Planning Information
• Control Information

Classification of Information

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Action versus No-action Information –

The information which induces action is called an action information. The Information which communicates only the status of a situation is a no- action Information. Example of action information is Maintain a stock ledger and Example of no action information is stock balances

• **Recurring Versus Non-recurring Information –**

The information is generated at regular intervals is a recurring information. The Monthly sales reports, the stock statements, the trial balance. The report on the Market research study is a non-recurring report.

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• **Internal versus External Information-**The internal information is generated within the company e.g., sales information, schedule of employee. Internal Information also includes the information of the company like its strengths and weakness, its plans about finances, production. The information of outside the organization is termed as external information like government policies, industry surveys etc.

• **Planning Information** – Information which is useful for planning is called planning information the time standard, the operational standards etc. Classification of Information

• **Control Information** – Reporting the status of an activity through a feedback is called control information. By this information we can take the objective and decision regarding goal and objective of the organization.

• **Knowledge-** A collection of information through the library reports and the research studies build a knowledge base as a source for decision- making

Methods of data and information Collection

Old files/historic files – The main source of getting internal information is old files of the organization. The past performance, financial position etc can be easily known through these files.

• **Observation** – The first hand response can be taken by this method. An accuracy of observation will decide the response. It is dependent on the observer and the individual of perceiving the thing.Methods of data and information Collection

• **Mass media of communication** – Now a days there are so many mass media of communication, e.g. Radio, T.V, Newspaper, Journals are available to give information.

• **Library Research** – In Library we can get every type of books, research, publications, magazines, journals and government publications under one roof.

• **Government agencies** – Like chamber of commerce, RBI, tax authority of India release their publications etc. Methods of data and information Collection

• **Meetings, seminars, workshop and conference** –Large business houses, universities often conduct national and international seminars, They invite experts in various fields and share the knowledge with others.

• **Interviews** – Information can be gathered through personal interview with successful persons in the respective fields of politics, business etc. But interview is very costly and time consuming.

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• **Survey** – Survey can be conducted to collect the information, but the quality of information depend on the quality of questionnaire.

• **Internet** – It now offer access to latest information on all subjects by just a flick of finger

Value of Information

The decision theory suggests the methods of solving the problems of decision-making under certainty, risk and uncertainty.

• A decision making situation is of certainty when the decision maker has full knowledge about the alternatives and its outcomes.

• The decision maker feels more secured when additional information is received in case of decision making under an uncertainty or a risks.

• The information is called a perfect information, if it wipes out uncertainty or risk.

• The information has a perceived value in terms of decision making

• Value should be wiped out uncertainty in decision making

• Value should be count using following formula

VPI = (V2-V1) – (C2-C1)

Where,

V : is the value of the information,

C : is the cost of obtaining the information

V1 and C1: relate to one set of information,

V2 and C2: relate to the new set of information

• If the VPI is very high, then it is beneficial to serve the additional information need.

• If the additional information does not cause any change in the decision behavior then the value of the additional information is zero

General model of a Human as an Information Processor

A Manager generally use eyes, ears to pick up information and transmit them to brain for processing and storage.

• The result of this will be a response which may be a decision, an action or at least a recognition of the event for future use. Hence a manager can be said to be an information processor.

• To retrieve relevant information, a manager has to receive the data using sensory organs and transfer it for processing to his brain.

• The brain uses it stored information as well as the current data, processes it by manipulating, selecting and the application of various law on that and produce the results which may be a decision, an action or use this information for future.

• When too much information or extra information is creating a problem for the user. That time a manager has to sort out the relevant form the irrelevant .

• Information should process using filtering method

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• The filtering process generally blocks the unwanted or inconsistent data or the data which does not match the frame of references

• Filtering is one kind of error correction process which applies on information

• Filtering is based on manager's experience, Knowledge, Skills, Choice, Amount of urgency, Confidence in particular method of decision making etc

• General model is as given below,Summary of Information Concepts and their implications Filtering

• Simon Model and Applications

• Codes and representation

• Highlighting –

• Stastical Analysis

• Format

• Referencing and Adjustments

• Cognitive style

• Learning theory

• Feedback Loop

• Perceived Value of Data

• Information Absorption

• Individual Differences

Filtering:- This process take place after information collection this is generally correction of errors in information Simon model and its application:- The designer should attempt top

Highlighting:- The designer should provide information such a way that a significant differences between standard and performance, The budgets and actual are highlighted

Stastical analysis:- Information should be meaningful best way is provide in Stastical format so decision can easily been concluded from them

Format:- Format of information should have completed and easy to understand by user and it should have consistent. Referencing and adjustments:- Designer should able to generate information with references to other system and adjust information according to others

Cognitive Style:- Each user have their own style to resolving information so styles of representing information should be easy to implement and useful to other users too.

Learning Theory:- The designer will able to ready to learn something

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new which is useful to maintain appropriate information and information has not overload with bunches of data and that thing is known by him

Feedback Loop:- While providing information designer will make a feedback loop where users will give their suggestions that can be useful to correction and increase quality of system. Perceived value of data:- Some data in information is not useful for that operation but according to its perceived value these are kept in information so this is perceived value which is useful for future.

Information Absorption:- Designer should provide only those information which user will grasp and able to understand

Individual Differences:- Information will always different according to different human being and it is highly effected on decision.

Knowledge And Knowledge Management Systems

Knowledge is a set of information which provides capability to understand different situations , enables to anticipate implications and judge their effects, suggest ways or clues to handle situations

• Knowledge is provide a complete platform to handle complex situation and it has capability to provide complete solution to decision maker. Knowledge And Knowledge Management Systems

• Knowledge is best illustrated and applicable to resolve complex problem situations.

• It has different from data and information

• Data is raw material where information is process on data

• Knowledge is analyzed information and generate some conclusive thing which is useful for future.

• For Example: -

• Collect rainfall record on daily bases is data

• This data is processed by year and month , it is an information

• When this information is analyzed using analytical tools, it revels rainfall pattern. This pattern is knowledge

• Generally knowledge is useful for future and improves skill, Performance of user.

• It has three components

• First is visualization of strategic option to handle complex situation

• Second is anticipative and assessment of result

• Third is provide a complete base for decision maker.

Types of Knowledge

Third is intellectual knowledge which is could be tacit or explicit generally this type of knowledge can be count using first two knowledge

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• Intellectual knowledge is exact analysed knowledge from information

• For organization point of view to manage knowledge is the key resource because it is important with us it the business economy is turn into knowledge economy..

Knowledge Management

• It is the systematic and explicit management of knowledge related activities.

• KM is comprehensive towards focusing on three perspectives of business Operational, tactical and strategic

• KM dispels some myths which must be mentioned for correction

•KM initiatives and activities lead to more work. Instead improved knowledge and usage.

•KM initiatives and activities is an additional function. Instead it is an Extension to existing technology driven information management function.

•People are often afraid to share their knowledge. Driving Forces behind KM

• The emergence of KM is a result of many forces in today's world KM is not an alternative or luxury, But it is a necessity due to demand of customer centric business initiatives

• KM is steady and customer centric process.

• It has 2 driving Forces

• First is External forces which is focuses on outer world

• Second is internal forces which is focuses on inner thing of organization Driving Forces behind KM

• External Forces: Business organizations perform environments that they cannot control and success depends on how they deal with these forces and still grow. The issues related with external forces are as under

• Globalization of Business

• Demanding Customers

• Innovative Competitors

Resourceful Vendors

Driving Forces behind KM

• Internal forces: Like forces in external environments this impact with internal part of organization. To control negative impact of these forces knowledge initiatives are necessary the points which are effected with this are as given beloved

• Bottlenecks in effectiveness

• Technological capabilities

• Understanding of human cognitive functions

Driving Forces behind KM

• changing workplace

• There are four key aspects of KM which are importance

1) Accelerating knowledge creation and application:- Knowledge is not Static it is completely change according to situation so knowledge Application is completely updated format and up to date.

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2) Converting tacit knowledge into explicit knowledge:- KM converts Static into explicit by implies methods and processed which is beneficial to their future usage.

3) Build Knowledge Assets:- Some of the knowledge is strategically important so need to protect it with various types of processes on them.

4) In summary KM involves knowledge generation through creation and acquisition threw integration, pooling, Storage and identification.

Business Intelligence

• BI is a term that refers to the sum total of gathering and processing data, Building rich and relevant information and maintain it live and up to date.

• BI is used for timely, Effective decisions and better plan for future.

• BI is an outcome of turning a raw data into intelligent information by analyzing and re-arranging data according to relationship between data item and actual subject oriented analysis.

Business Intelligence

• BI Is depended on following things –

• Technology and Software infrastructure –

• Databases, Data Warehouses.

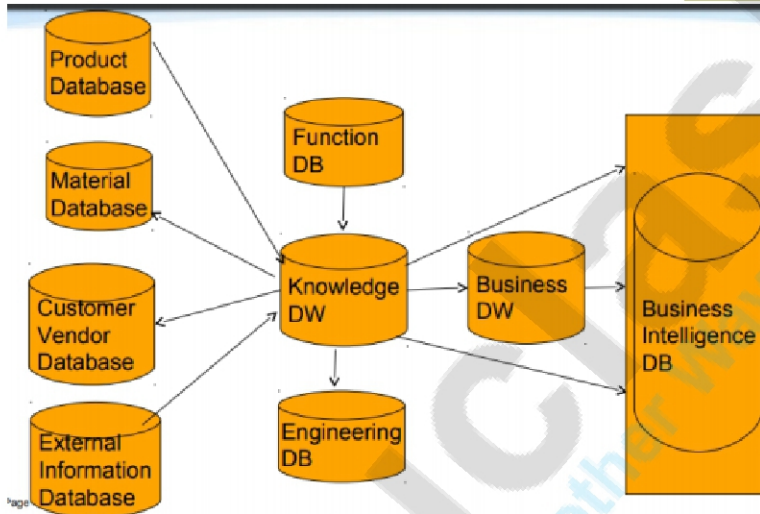• Develops and maintains knowledge databases for all core functions and Business

Figure shows difference between Data, Information and Knowledge, Business intelligence

MIS and Information and Knowledge

The information is quality produce for org.

• MIS provide specific attention to quality parameters

• MIS will provide different kinds of information with help of this decision maker can take useful decisions..

• Decision maker is human so there is chance of errors but MIS help them to reduced error and also guide them towards the right way

• The MIS design should be such that it meets need of total organization.

• The information may be miscued if it falls if it falls into wrong hands, The mis design should have features of filtering, blocking, suppressions and delayed delivery.

• Modern Mis not only should provide information but also support management by providing knowledge necessary at all levels for critical decisions.

• KMS is now a part of MIS suite.

• Knowledge is a result of putting different information sets together and analyzing them and viewing them in particular manner.

• Data processing, Transaction processing, Application processing systems will give different information sets.

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• First will give and explicit knowledge. Further application of the explicit knowledge over a period to solve the problems creates a tacit knowledge.