

FORMATIVE ASSESSMENT-BMSK5006

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1. **Explain why the same set of data can be considered as useful information by some and useless data by others. Further, could this useful information be termed as “knowledge”? Why?**

Data is devoid of context, meaning, or intent. Information is in fact, a subset of data. Information typically involves the manipulation of raw data to obtain a more meaningful indication of trends or patterns in the data. Information only includes those data that possess context, relevance, and purpose. So one could say that Information is processed Data.

However, irrespective of whether data is processed or not, whether certain facts are information or only data depends on the individual who is using those facts.

Let us illustrate this point with suitable examples:

- a. The total number of TV viewers who watch the Super Bowl is considered as data. From this data, if we also find the maximum number of viewers watching the Super Bowl during a certain quarter, then this can be viewed as useful information for companies that wish to have their products exposed to the largest audience possible by way of a TV commercial. However this very same piece of useful information is completely useless to a company that does not use the mass media as a form of advertising.
- b. The price of a large bag of popcorn at a movie theatre is a piece of data. When we get the average price of popcorn in all the competing theatres, this can be termed as useful information for the management of a movie theatre that wishes to remain competitive in its business. However, this useful information is useless to the very same movie theatre’s cafeteria staff, if it is not concerned with the price of popcorn in competing theatres as it is of no consequence to them.

So we see that the very same piece of information can be extremely useful to some and completely useless to others, depending on the person viewing the information.

Useful information can be termed as knowledge, only if it enables action and decisions, or provides information with direction. Knowledge is intrinsically similar to information and data. It is the richest and deepest of the three, and is consequently also the most valuable.

2. Describe the ways in which “knowledge” differs from “data” and “information.” Justify your answer with a relevant diagram.

The basic view considers knowledge as being at the highest level in a hierarchy with information at the middle level and data at the lowest level. According to this view, knowledge refers to information that enables action and decisions, or information with direction. Hence, knowledge is intrinsically similar to information and data, although it is the richest and deepest of the three, and is consequently also the most valuable.

The more advanced view of knowledge is based on the fact that the basic view doesn't fully explain the characteristics of knowledge. The advanced view considers knowledge as intrinsically different from information. It defines knowledge in an area as justified beliefs about relationships among concepts relevant to that particular area.

To sum up, knowledge helps produce information from data or more valuable information from less valuable information, and this information facilitates action. Based on the newly generated information, as well as the relationship with other concepts, knowledge enables the beholder to make decisions.

3. Does a player in a card game use tacit or explicit knowledge? Explain why. Define and explain the difference between the two.

One of the ways to classify knowledge is to term it as Tacit or Explicit. Let us see the differences between the two.

Explicit Knowledge is knowledge that has been expressed into words and numbers. Such knowledge can be shared in the form of data, specifications, manuals, drawings, audio and video tapes, computer programs, patents, etc. For example, the steps involved in using an electrical appliance, contained in its instruction manual, is considered as explicit knowledge.

Tacit Knowledge, on the other hand, includes insights, intuitions, and hunches. The fact that it is difficult to express and formalize makes it difficult to share. Tacit knowledge is more likely to be personal and based on individual experiences and activities.

Although explicit and tacit knowledge are quite different from each other, it is however possible to convert explicit knowledge into tacit knowledge. A good example of this would be when a customer reads the instruction manual of the new electrical appliance and hence converts the explicit knowledge in the instruction manual into tacit knowledge in his brain. The reverse is also true when tacit knowledge in the form of information in a person's mind is written down into a book and is converted to explicit knowledge.

A card player uses tacit knowledge as well as a bit of explicit knowledge. Tacit knowledge tells him based on his experience when to play, when to play offensively, and when to play defensively. There is no rule book or written set of rules followed in this case and the player uses his own judgment, based on events taking place in the game and his prior experience. Explicit knowledge is however used at a very basic level. This was probably used by the player to learn the rules of the game, but once the player is familiar with the rules, this knowledge is converted to tacit knowledge in his brain.

4. Consider five decisions you have made today. (They could be simple such as, taking a turn while driving or even choosing a soda at a convenience store.) In each case determine the data, information, or knowledge that were involved in the decision.

a) Action: Sending an e-mail message to a friend

Data: E-mail addresses of all individuals at the university at which the friend is a student

Information: E-mail address of the friend to be contacted

Knowledge: How to send an E-mail

b) Action: Watching your favorite television program

Data: Opening the TV guide

Information: Referring to the TV guide to find out when the program airs.

Knowledge: Turning on the TV and setting it to the correct channel

c) Action: Driving to work

Data: Details about the car functions like brakes, steering wheel, etc.

Information: Directions from home to work

Knowledge: How to drive and maneuver a car

d) Action: Answering a ringing telephone

Data: Hearing the phone ring

Information: Where the phone is located

Knowledge: How to pick up the receiver and answer the phone

e) Action: Setting a clock for Daylight Saving Time

Data: Dates with and without Daylight Saving Time

Information: The date and time when to make the time change

Knowledge: In which direction and by how much to adjust the clock

5. Now consider how those decisions would have been influenced by the lack of pre-existing data, information, or knowledge.

As we see from the discussion below, each of the above actions would be either hindered to some extent, or even completely impossible in some cases in the absence of pre-existing data, information, or knowledge.

Sending an e-mail to a friend would be impossible without information of the e-mail address of the friend to be contacted. Lack of data on the e-mail addresses of all students at the university would not be a problem if the information about the specific friend's e-mail address is available. Basic knowledge of how to open a program to send an e-mail is necessary.

Watching your favorite television program would be possible without having to use the TV guide or referring to the program schedule. However it would be a hindrance if one did not know what time the show airs.

Driving to work absolutely requires the knowledge of how to drive and the directions to work. It does not require detailed data about the car functions like brakes, steering wheel, etc.

In answering a ringing telephone, hearing the phone ringing is vital in the decision to answer the phone. Information about the location of the phone may not, however, be as important as one could determine this by moving towards the ringing sound.

Setting a clock for Daylight Saving Time requires the information on when and how to make the time change and knowledge about the direction and extent of clock adjustment.

- 6. You have recently invented a new product. Collect demographic data from a sample population, determine how you would use this data, and convert it into information and possibly knowledge for marketing the product.**

This answer would focus on identifying the specific kinds of data (e.g., age, gender, education, income, etc.) and manipulating this data based on characteristics of the invented product (e.g., if the new product is one targeted at older men, the average education level and income of men in higher age groups would help identify the pricing and the target audience for advertising).