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***(Data)***

***\*DEFINITON OF DATA***

***\*TYPES OF DATA***

***\*MODE OF DATA COLLECTION***

***DATA*** *is defined as individual pieces of factual information recorded and used for the purpose of analysis. It is the raw information from which statistics are created. Statistics are results of data analysis- that is, in the interpretation and representation of data. In other words, some computation has taken place that provides some understanding of what the data means. But statistics goes the extra mile to represent data often in forms of tables, charts, or graphs.*

*When working with statistics, it is important to recognize the different types of data and they are;*

***i) Numeric/quantitative data.***

***ii) Categorical data.***

***iii) Ordinal data.***

***Numeric data;***

*This is a type of data that deals with measurement in numbers (0-9). They are sub-divided into two types:* ***discrete and continuous.***

***\*Discrete data*** *is a type of numeric data that represents items that can be counted; they have possible values that can be listed out. The list of values can be fixed (finite), or the list may go on and on until infinity (making it countable infinity).*

***\* Continuous data*** *represents measurements whose possible values cannot be counted or estimated but can only be described using intervals on the real number line.*

***Categorical data;***

*This is type of data represented by characteristics such as address, marital status, choices on certain beliefs and opinion, etc. This form of data also takes on numerical values (such as “1” to represent baby and “2” to represent adult), but these numbers used above do not have mathematical meaning and cannot be used for basic mathematical functions such as addition or subtraction. Another name for categorical data is* ***qualitative data.***

***Ordinal data;***

*This is a form of data that mixes qualitative and quantitative data. The data here falls into categories, but the numbers placed on the categories have meaning. For example, rating of a hotel on a scale from 0 (lowest) to 7(highest) stars gives ordinal data. Ordinal data are often treated as categorical, where the groups are ordered when charts and graphs are made. But unlike categorical data, in ordinal data the numbers have mathematical values/meaning.*

*There are different ways/methods of collecting data and some of them are;*

* *Sample surveying*
* *Questionnaire*
* *Focus groups*
* *Experiments*

***Sample surveying;***

*This is a data collection method where you select a sample of respondents from a large population with the aim of acquiring information or certain details about the population or any other related subject. The process of identifying individuals from the population who you will interview is known as* ***sampling.***

***Questionnaire;***

*This method involves interviewing a group of people through varies of questions in order to get specific information about a specific subject from them. This can come in form of an online questionnaire or more like a fill up questionnaire they can answer at a given place.*

***Focus groups;***

*Using this method, you identify 6 to 10 people with similar characteristics. These people are then guided through a discussion to identify attitudes and experiences of the group. The responses are then recorded and analyzed to give an answer to the research question. Focus groups have the advantage of requiring fewer time and resources for the research unlike interviewing individually which is rather time consuming.*

***Experiment;***

*An experiment is a data collection method used by researchers to observe the effect on a variable by changing some other variables. The variable are manipulated are called independent variables while the outcome of the manipulation are called dependent variables, ie (independent variables 🡪 manipulation 🡪 dependent variables). The greatest advantage of using experiments is that casual relationships which cannot just be observed can be explored. But experiments take a lot of time and it’s also expensive.*

*Research reference;*

* *Libguides.macalester.edu*
* *Dummies.com*
* *Albert.io*