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course code :- RES 431,

course Title :- Reasearch Methods

RES 431

Answer To The Question No - 01

Average :- Average are used to represent a large set of numbers with a single number. It is representative of all the numbers available in the date set. The average is calculated by adding all the date values and dividing it by the number of the date point. The age of the students in a class is taken and an average is calculated to give a single value of the average age of the students of a class. Average has numerous applications in our day-to-day life. For quantities with changing values, the average is calculated and a unique value is used to represent the values.

Average Product = Total Product / units of variable factor I/P

Good average should be based on all the observations. Only those averages, where all the data are used give best result, where as the averages which use less data are not representative of the whole group. Good average should not be unduly affected by extreme value. No term should affect the average too much.

The major characteristics of a good average are :-

1. Rigidly defind,
2. Based on all items,
3. Simple to calculate,
4. Easy to understand,
5. Least affected by extreme values.

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Answer To The Question - 02

Difference between Dependent and Independent variable :- An Independent variable is the variable that is changed or controlled in a Scientific experiment to test the effects of the dependent variable. A dependent variable is the variable being tested and measured in Scientific experiment.

The Independent variable is the one that the researcher intentionally changes or controls.

The Dependent variable is the factor that the researcher measures. It changes in response to the independent variable or depends upon it. For example, a Scientist wants to see if the brightness of light has any effect on a moth being attracted to the light. The brightness of the light is controlled by the Scientist. This would be the independent variable. How the moth reacts to the different light levels would be the dependent variable.

03 →

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Correlation:- Measures the relationship or association between two variables by looking at how the variables change with respect to each other. It is used to described how data sets are related to one another. It can be seen when two sets of data are graphed on a Scatter plot, which is a graph with a x and y axis and dots representing the data points.

Types of correlation:-

High and Low correlation → High correlation describes a stronger correlation between two variables, where in a change in the first has a close associtation with a change in the second. Low correlation describes a weaker correlation, meaning that the two variables are probably not related.

04→

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⑧. Correlatio i Statistics :-

1.). Pearson's correlatio.

2.) Sample correlatio,

3.). Populatio correlatio,

Three Types of correlatio. Here is ⇄

01). Positive correlatio :- $r > 0$. This means that the change i variable x is associated with a change i variable y i same directio.

02). Negative correlatio :- $r > 0$. This means that the change i variable 'x' is associated with a change i variable 'y' i the oposite directio.

03). No correlatio :- $r = 0$. This means that the change i variable x has no associatio with any change i variable 'y'.

05 →

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Answer To The Ques No-03

Chi-Square:- Chi-Square is most commonly used by researches who studying survey response data because it applies to categorical variables. Demography, consumer and marketing research, political Science and economics are all examples of this type of reasearch.

Formula for chi-Square Test:-

$$x_c^2 = \frac{\Sigma(O_i - E_i)^2}{E_i}$$

This test is a Statistical ~~Procedure~~ procedure for determining the difference between observed and expected data.

06 →

Chi-Square tests is three conditions. Two categorical variables. Two or more categories for each variable. Independance of observations. There is no relationship between the Subject in each group. Its distribution are useful for hypotheris testig because of their close relationship to the Standard normal distribution. The Standard normal distribution with a mean of Zero and a variance of one, is central to many important Statistical tests and theories. The two types of pearson's chi-Square tests are:

① Chi-Square goodness of fit test.

② Chi-Square tests of Independence.

If you decide to include a pearson's chi-Square test in your research paper, dissertation or thesis, you should report it in your result Section

07→

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Answer To The Question No-04

A good report is always a complete and self-explanatory document. For this repitition of facts, figures, information, conclusion and recommendation should be avoided. The features of good business report is dependent of clear as it properly arranges fact with its clear purpose, findings and required recommendations. A good business report is a collection of data and analysis that helps make relevant information easily accessible to a company or Organisation. When a Company needs to make a informed decision, it can create a business report to guide its leaders. Business reports use facts and research to study data, analyse performance and provide recommendations on a Company's future.

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