

Statistics ch1

1. Ruba

Variables : a characteristic or attribute that can assume different values.

Is the science of conducting studies to :

Data : the values that the variables can assume.

Sample : a group of subjects selected from a population.

Population : consists of all subjects that are being studied.

- 1- qualitative variables that have distinct categories according to some characteristics or attribute. **وصفي**
 - 2- quantitative variables
 - Are variables that can be counted or measured
 - 1- discrete variables : assume values that can be counted. **متقطع** : تحليل فيه يمكن عدّها
 - 2- continuous variables: can assume an inf number of values between any two specific values. **متصل** : عليه متناهي كثير و كثير غير عددي
 - They are obtained by measuring. They often include fractions and decimals.
- Measurement scales :
- Nominal level
 - Classifies data into categories that can be ranked however, precise differences between the ranks do not exist
 - Ordinal level
 - It classifies data into mutually exclusive Categories in which no order or ranking can be imposed on the data.
 - Interval level
 - ranks data and Precise difference between units of measure do exist however, there is no meaningful zero.
 - Ratio level
 - Possesses characteristics of interval measurement and there exists a true zero in addition to true ratios exist when the same variables is measured on two different members of the population

- Organize
- Summarize
- Analyze
- Draw conclusion from data
- Collect

Data set : A collection of data values
Data value : datum : each value in the data set.

- The four basic methods of sampling are :
- 1- random sampling
 - Is a sample in which all members of the population has an equal chance of being selected.
 - 2- systematic sampling
 - Is a sample obtained by selecting a every k th member of the population where K is a counting number.
 - عشوائية عشوائية من كل k
 - 3- Stratified sampling
 - Subject are selected by dividing up the population into subgroups and subjects are randomly selected within subgroups
 - 4- Cluster sampling
 - subject are selected by using an intact subgroup that is representative of the population

- Error
- Sampling error
 - The difference between the results obtained from a sample and the results obtained from the population from which the sample was selected.
 - Nonsampling error
 - Occurs when the data are obtained erroneously or the sample is biased nonrepresentative

تربصت الطويل : 5 : الخسبي

طلب الجامعة / موضوع المقرر

Statistics divided to two area depending on how data are used

Uses and misuses of statistics

Type of statistical studies

1- Descriptive statistics

Consists of the collection , organization , summarization , and presentation of data .
Average median standard deviation mode
وصفي : حساب مقياس وتلخيص
تقسيم الميزان الجوانب الأعداد أو ترميز

2- Inferential statistics

Consists of generalizing from samples to populations , performing estimates and hypotheses tests , determining relationships among variable and making predictions.
استدلالي : تعميم من عينة إلى مجتمع
من 2-18 نسبة الأرباح تكون 0.05 : رغم أنه ليس نسبة لكن العبرة لها من المصنف إذا استدلالي

Suspect sample

- Very small sample
- Convenience sample
- Volunteer sample
- تجربة صغيرة : رأي غير انساني

Ambiguous average

Mean median mode midrange

احتمال التكرار والثلاث به مثل حصاره 33% أو حصاره
تأني مليون للفران نفس المعنى ولكن نتائجهم ربما مختلفة

Changing the subject

There is no comparison is made , compared to what ?
ملا هذه الشركة التي اريد : المقصود بالربح أو الخسارة : يوجد مقارنة به

Detached statistics

May , might , suggest , some

3 : عبارات غير اليقينية

Misleading graph

Statistical graph give a visual representation of data that enables viewers to analyze and interpret data more easily than by simply looking at nu.

Faulty survey questions

أو مدرسة طلبت موافقة الآباء في بناء مكتبة وهو طلب الموافقة ليس به
الدراسة وقت رموية ابتداء لها سمحت الفرعي من 10% أن السؤال
لماذا لم يكون الترميز طريقة السؤال غير بل الخسبي : ابتداء منهج

Observational study

The researcher merely observe what is happening or what has happened in the past and tries to draw conclusion based on these observation

Experimental study

The researchers manipulate one of the variables and tries to determine how the manipulation influence other variables

Advantage :

Researchers can decide how to select subjects and how to assign them to specific group also can control or manipulate the independent variable

Disadvantages

They may occur in un-natural setting , such as laboratories and special classrooms
 Hawthorne effect

Confounding variables : influence the dependent or outcome variables but wasn't separated from the independent variables

Use probability : the chance of an event occurring.
The area of it called hypothesis testing : a decision-making process for evaluating claims about a population, based on inform. Obtained from samples.