STATISTIK, DATA & PEMIKIRAN STATISTIK (Lanjutan)

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RULES

Types of Data

You have learned that statistics is the science of data and that data are obtained by measuring the values of one or more variables on the units in the sample (or population). All data (and hence the variables we measure) can be classified as one of two general types:
quantitative data and qualitative data .

Quantitative data are data that are measured on a naturally occurring numerical scale. The following are examples of quantitative data:

1. The temperature (in degrees Celsius) at which each piece in a sample of 20 pieces of heat-resistant plastic begins to melt
2. The current unemployment rate (measured as a percentage) in each of the 50states

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Quantitative data are measurements that are recorded on a naturally occurring numerical scale.

In contrast, qualitative data cannot be measured on a natural numerical scale; they can only be classified into categories. * (For this reason, this type of data is also called categorical data.)
Examples of qualitative data include the following:

1. The political party affiliation (Democrat, Republican, or Independent) in a sample of 50 voters

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2. The defective status (defective or not) of each of 100 computer chips manufactured by Intel

3. The size of a car (subcompact, compact, midsize, or full size) rented by each of a sample of 30 business travelers

4. A taste tester's ranking (best, worst, etc.) of four brands of barbecue sauce for a panel of 10 testers

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Qualitative (or **categorical**) **data** are measurements that cannot be measured on a natural numerical scale; they can only be classified into one of a group of categories.

Collecting Data

Once you decide on the type of data—quantitative or qualitative—appropriate for the problem at hand, you'll need to collect the data. Generally, you can obtain data in three different ways:

1. From a *published source*
2. From a *designed experiment*
3. From an *observational study* (e.g., a *survey*)

A **designed experiment** is a data collection method where the researcher exerts full control over the characteristics of the experimental units sampled. These experiments typically involve a group of experimental units that are assigned the *treatment* and an untreated (or *control*) group.

An **observational study** is a data collection method where the experimental units sampled are observed in their natural setting. No attempt is made to control the characteristics of the experimental units sampled. (Examples include *opinion polls* and *surveys*.)

A **representative sample** exhibits characteristics typical of those possessed by the target population.

A **random sample** of n experimental units is a sample selected from the population in such a way that every different sample of size n has an equal chance of selection. (See Section 3.7 for how to generate a random sample.)*

REFLEKSI

Informasi penting hari ini

Manfaat penting dari informasi penting hari ini

Tindak lanjut yang dapat saudara lakukan


Thank You