

1.2 Population Versus Sample

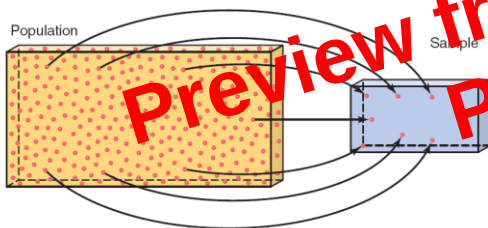
Definition

A **population** consists of all elements – individuals, items, or objects – whose characteristics are being studied. The population that is being studied is also called the **target population**.

A portion of the population selected for study is referred to as a **sample**.

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Figure 1.1 Population and Sample



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POPULATION VERSUS SAMPLE

Definition

A survey that includes every member of the population is called a **census**. The technique of collecting information from a portion of the population is called a **sample survey**.

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Table 1.1 Total Revenues for 2010 of Six Companies

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Company	2010 Total Revenue (millions of dollars)
Wal-Mart Stores	421,849
Royal Dutch Shell	378,152
Exxon Mobil	354,674
BP	308,928
Sinopec Group	273,422
China National Petroleum	240,192

An element
or a member } →

← Variable

← { An observation
or measurement

Source: Fortune Magazine, July 25, 2011.

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1.4 Types of Variables

- Quantitative Variables
 - Discrete Variables
 - Continuous Variables
- Qualitative or Categorical Variables

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Quantitative Variables

Definition

A variable that can be measured numerically is called a **quantitative variable**. The data collected on a quantitative variable are called **quantitative data**.

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