

Where Did the Term Statistics Come From?

Latin: The evolution of the word statistics comes from the Latin phrase *statisticum collegium* (lecture about state affairs).

German: The German term *Statistik* was first used by Gottfried Achenwall in 1749.

English: The anglicized form of the German term was introduced by John Sinclair (a Presbyterian pastor) who published the *Statistical Account of Scotland*, a 21-volume compilation. This work was published at various periods during the 1790s.

As Table 1.1.1 demonstrates, none of the estimates of the percentage of effectiveness were exactly correct, but most were very close. If we cannot determine how much faith we should place in our estimates, it will be difficult to use the estimates to make decisions. The process of selecting samples and determining the reliability of our estimates is a large part of what statistics is about.

1.1 Exercises

Basic Concepts

1. What are three objectives of statistical methods?
2. Briefly describe the role of statistics in managerial decision making.
3. What is a controlled experiment?
4. Explain the purpose of a control group.
5. Explain the purpose of a treatment.
6. How is it possible to know the results of a presidential election before Election Day?
7. What is a population?
8. What is a frame?
9. What is a population parameter?
10. Why is it often difficult to determine the exact value of a population parameter?
11. What is a sample?
12. What is a statistic?
13. Describe the relationships between populations, samples, parameters, and statistics.

Exercises

14. Determine whether the statement describes a population or sample.
The salaries of all students that graduate from State University with degrees in Information Technology.
15. Determine whether the statement describes a population or sample.
The number of billable man-hours logged per week by employees at Deloitte.
16. Determine whether the statement describes a population or sample.
The number of times 6 out of 50 CEOs of technology companies in the Fortune 500 meet with their board of directors during a calendar year.
17. Determine whether the statement describes a population or sample.
The final rankings of 5 candidates out of the 22 who applied for the open CFO position in your organization.
18. Identify the population being studied.
The salaries of 13 out of the 30 employees who work during the night shift at a manufacturing plant.
19. Identify the sample chosen for the study.
The price of homes of a sample of 35 employees who work at a company in Silicon Valley.

- 20.** Identify the population being studied and the sample chosen.

The annual tuition paid by students in a sample of 34 from your class.

- 21.** Determine if the numerical value describes a population parameter or a sample statistic.

The average number of hours students in your statistics class study per week is 15.8.

- 22.** Determine if the numerical value describes a parameter or a statistic.

A survey of 1910 people in the U.S. revealed that 73% of those surveyed work a full-time job.