

STAT211: Business Statistics

M1: Introduction to statistics

L1: What is Business Statistics

Learning Outcome

By the end of this lecture, you will be able to:

- Understand statistics
- Compare descriptive and inferential statistics

Introduction

Consider Ahmad a Quality Engineer working in a manufacturing company. He is responsible for monitoring and improving the quality of the production process. He collects huge data from various production processes.



How can Ahmad analyze the data effectively to make informed decisions?

Well, Statistics will help him analyze the data and make informed decisions. In this lecture, you will explore statistics in greater detail. You will also compare descriptive and inferential statistics.

What is Statistics?

Statistics is the science of making effective use of numerical data relating to groups of individuals or experiments. It includes data collection, data analysis and interpretation of such data.



Numerical data

Simply, statistics is the science of collecting, summarizing, analyzing, and interpreting data (or drawing conclusions).

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Types of Statistics

Statistics can be broadly classified into two types:

Descriptive Statistics	Descriptive statistics, which uses tabular, graphical and numerical methods used to summarize data.
Inferential Statistics	Statistical inference, which is the process of using data, obtained from a sample to draw conclusions about the characteristics of a population. For instance: <ul style="list-style-type: none">• Predict and forecast values of the population parameters• Test hypotheses about the population parameters

Example



The owner of the Holden Pet Store has collected data for 10 years. He has collected data on the number of each type of pet that have been sold at his establishment. He is interested in applying statistics to illustrate data effectively. Determine whether the statistical application is primarily descriptive or inferential.

Solution:

In this case we need to apply descriptive statistics. We need summary numbers, tables and graphs to summarize and present the data.

Recap

In this lecture, you have learned that:

- Statistics is the science of collecting, summarizing, analyzing, and interpreting data
- Statistics is divided into descriptive statistics and inferential statistics