

In 2015, *Consumer Reports* published an evaluation of 126 tablets from a variety of manufacturers.

What is the population of interest, the sample, and who requested the information?

Population: ALL tablets

Sample: 126 tablets from a variety of manufacturers

Who: CR

In 2015, *Consumer Reports* article about 126 tablets lists each tablet's manufacturer, price, battery life (hrs.), the OS (Android, iOS, Windows), an overall quality score (0-100), and whether or not it has a memory card reader.

Are the variables categorical or quantitative? Include units where appropriate and describe WHY this investigation into tablets was done.

Variables

Categorical: Manufacturer (names), OS (A, IOS, W), memory card reader (yes, no)

Quantitative: price (\$), battery life (hours), overall quality score (0-100)

Sample size: $n = 126$

Why: CR gives information for consumer purchasing (informed consumers)

We want to survey a random sample of the 300 passengers on a flight from San Francisco to Tokyo, Japan. Use this example to describe how to use Simple Random Sample (SRS), Stratified Random Sample (StRS), 1-stage cluster (1SC), 2-stage cluster (2SC), and Systematic Random Sample (SyRS).

SRS: each passenger has equal chance to be chosen

StRS: Split passengers into groups by country of origin, take SRS from each of passengers by country

1SC: passengers are in clusters of seat-type (1st class, business class, coach), randomly sample by cluster (seat-type), then survey every single passenger in each chosen cluster

2SC: passengers are in clusters of seat-type (1st class, business class, coach), randomly sample by cluster (seat-type), then randomly sample n passengers from each randomly chosen cluster

SyRS: every 5th passenger ($k = 5$). Randomly select a starting point (random start is between 1 and k , here $k = 5$), systematically survey every 5th passenger after that (ex: random start at 2: 2, 7, 12, 17, 22, 27, 32, 37, ..., 297)