# Sampling methods

All market research aims to better understand what each customer thinks about a product. However, involving all customers in research would be very expensive. To get an understanding without polling everyone, businesses select a representative group called a sample for their research. This sample is expected to represent all customers of a specific product, referred to as the population (see **Figure 1**).

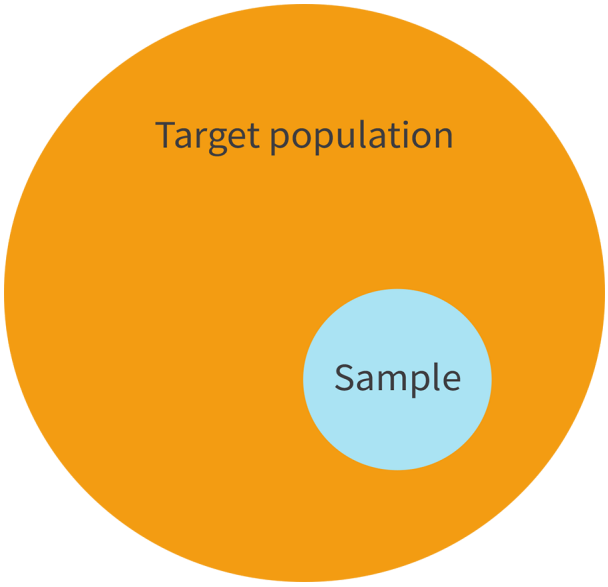


**Figure 1.** A sample is a subgroup of a population that is selected for research purposes.

Population choice matters. A researcher needs to decide which population they should use for their research. For example, when finding out opinions about new models of reading glasses, only those who wear reading glasses (and not the general population) should be of interest.

Sample choice and size are also very important. If you base your research on a very small sample size, the information you gather may not be a good representation of the entire population. However, using a very large sample size will increase the cost and the complexity of the market research.

The methods that are used to choose a sample are referred to as sampling methods. Sampling methods can be characterised as probability and non-probability sampling. Probability sampling refers to a technique whereby each subject has the same chance of being selected. Non-probability sampling is non-random, meaning that not all subjects

have an equal chance of being selected. Out of the three sampling methods presented below, only random sampling is thought of as probability sampling. Random sampling is generally considered to be the least biased sampling method. It is a method that is used, for example, in political polling.

### International Mindedness

Eurobarometer is a European Union (EU) polling organisation that monitors public opinion in the EU area. Since EU countries have vastly different population sizes, the organisation needs to adjust its sample size based on the size of the population.

The following is an explanation of how the organisation arrives at its sample size:

*'Ordinarily, in order to guarantee the representativeness of results, Eurobarometer surveys rely on a randomly selected sample of at least 1000 persons aged 15 years and more per country or territory reported. A sample size of 500 persons is used in countries or territories with a population of below one million inhabitants.*

*In cases where a survey is conducted only among a specific demographic (e.g., people aged between 15-24, people employed in an SME, etc.) the sample size may be adapted accordingly.'*

Source: Eurobarometer (https://europa.eu/eurobarometer/about/eurobarometer)

There are various sampling methods that researchers can use, including:

- random sampling
- quota sampling
- convenience sampling

# Random sampling


**Figure 2.** Random sampling.

Random sampling is a sampling method whereby everyone in the population has the same chance of being selected to take part in the research (see **Figure 2**). For example, imagine a sailing club wants to find out the views of its members on purchasing a new boat. If random sampling is used, then a list of members could be entered into a random name generator. The first 20 names generated can be contacted and asked their views. This sampling size is considered the most representative.

Watch the video below from the Pew Research Center on how a random sample is selected.

**Video 1.** How random sampling and weighting are used to gain a fair representation of a whole population.

# Quota sampling

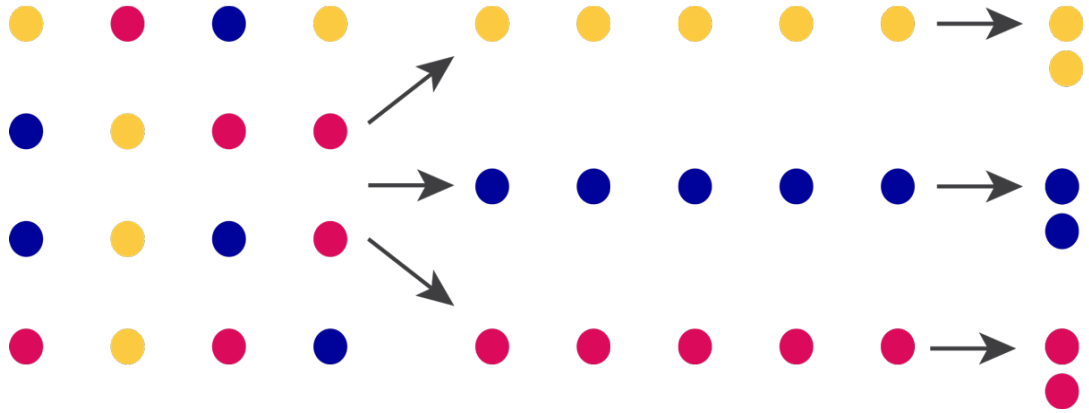

**Figure 3.** Quota sampling.

Quota sampling involves first dividing the population into strata (plural of stratum), or subgroups, based on a given characteristic. A sample is then taken from each stratum (subgroup), not randomly but based on convenience. This might be proximity to the researcher, for example (see **Figure 3**). The size of the sample should be proportionate to the stratum size. Quota sampling is not based on random selection and so is a non-probability sampling method.

Advantages of quota sampling include that it is faster and easier to administer, and that it is generally less expensive than random sampling. It can also take population proportions into account.

# Convenience sampling

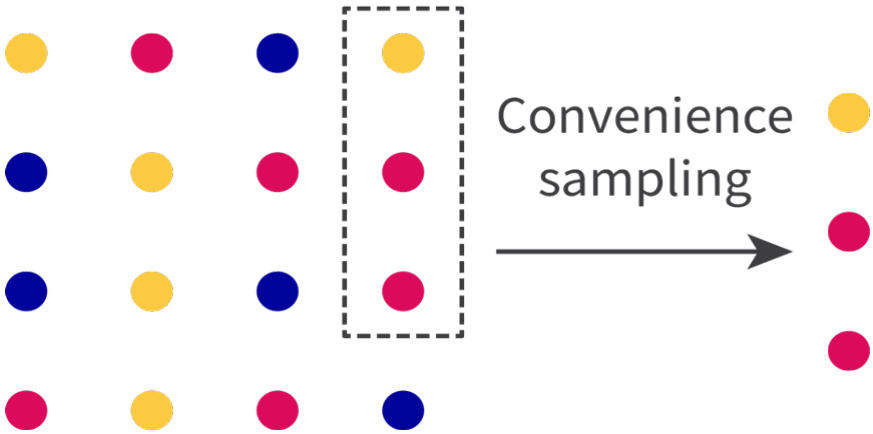


**Figure 4.** Convenience sampling.

Convenience sampling is a method whereby the sample is made up of whichever people are willing to take part in the research (see **Figure 4**). This is by far the least representative form of sampling and is a non-random form of sampling. For example, a researcher may only ask those who happen to walk past them in a supermarket. Supposing a researcher was conducting a survey on height and body size and they had a sample size of ten people. If it happened that the first ten people to pass them were six-foot tall bodybuilders, then they would report that 100% of the population were six-foot tall bodybuilders!

Using convenience sampling makes it simple to carry out the research (hence the name). However, it is unlikely that the sample will represent the target population accurately. Unless very large sample sizes are used, convenience sampling is of limited use.

# Bias in sampling

Researchers often talk about bias in sampling, meaning some groups have a higher chance of being selected than others.

While all sampling methods can result in skewed or unreliable results, researchers need to carry out a cost/benefit analysis and consider the objectives of research to determine the method they would like to use. Random sampling would be more expensive but also more accurate; convenience sampling would be less expensive but potentially highly inaccurate.

### Theory of Knowledge

Sampling methods carry a different degree of bias. Consider the different sampling methods and answer the following question:

- Is it possible to eliminate the effect of researcher bias when conducting market research? (IBDP Business Management guide)

## Activity

**Learner profile:** Inquirers
**Approaches to learning:** Research skills

Suppose you would like to start selling custom made Samsung phone cases with your school logo at your school.

1. What would be the population that you are targeting?
2. Suggest a sampling method you could use to assess customer interest in the product most accurately.