Evaluation Planning Brief: Sampling

Sampling is the process of selecting individuals or units from a population of interest. Those selected are studied in greater detail and insights gathered from the smaller population of interest are then used to draw conclusions about the larger population.

What is Sampling?

Often your population of interest is too large for a project to survey or interview each member of the population. For example, if you are running a career fair and expect 1500 recent graduates to attend the career fair, it is not feasible (nor a good use of resources) to interview all 1500 attendees. It more appropriate to select a representative sample of your population that can provide insights about the population as a whole.

To develop an effective **sampling strategy**, one must consider the **sampling approach** as well as the **sampling size**. There are many different sampling strategies evaluators can take, all of which have advantages and drawbacks. Your sampling strategy should be determined based on the resources available, evaluation purpose, population of interest, and evaluation questions.

This brief presents and overview of sampling approaches and sampling size considerations. Review this brief and apply the concepts to your project to develop an appropriate sampling strategy.

Two Sampling Approaches

Generally sampling approaches can be divided into two broad categories: probability (random) sampling and purposive (non-probability) sampling.

Probability (random) sampling

> Any method of sampling that utilizes some form of random selection. Random selection ensures that different units in your population have equal probabilities of being chosen.

Purposive (Non-random) sampling

> A method in which units are selected for a particular reason (not randomly) such as based on that unit's experience, background, or the convenience of that unit.

If it is not feasible to compile a list of sampling units, random selection will not be possible. In addition, if one does not intend to generalize to a universe, probability sampling is not necessary. Non-probability samples may provide enough information and are less cumbersome to select.

Probability Sampling

Probability sampling involves random selection of individuals from the population of interest. Each individual has the same likelihood of being selected for the sample.

Common probability sampling techniques:

- **Simple random sample –** Units are selected so that each one has a known and equal chance of being selected. It is like a lottery and can be done in various ways such as using a random numbers table, randomized computer selection, or simply pulling names from a hat.

- **Systematic random sample –** This method is considered simpler and more convenient than random sampling, especially for long lists. Once the first member of the population is chosen, other members are automatically determined. For example, every 30th name on a page.

- **Stratified sampling –** This technique first divides the population group into two or more parts, and a sample is selected from each. The groupings are determined based on The parts may be selected in proportion to their numbers in the population itself.

- **Cluster sampling –** This technique divides the population group into clusters that serve as the sample. Unlike stratified sampling, all individuals in the cluster are surveyed during the evaluation.

Purposive (Non-Probability) Sampling

Some members/units of the population may have a greater chance of being selected than others in purposive sampling. Given this, the sample is less likely representative of the overall population but it often requires fewer resources than probability sampling.

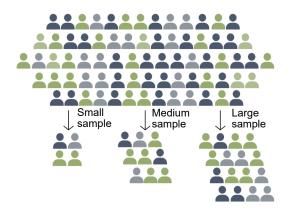*Common purposive sampling techniques:*

- **Convenience sample –** Cases (the units of study) are selected as they become available until the sample reaches the desired designated size. For example, you might select people visiting the library to access a course or offering.

- **Quota sample –** A variation of convenience sampling. In a quota sample, you would attempt to include significant elements of the population in some proportion. For example, if you wanted to survey users of the EatFresh course and the school has shared that 20% of students come from low-income families, you would try to ensure 20% of your survey respondents were students from low-income families.

- **Volunteer or self-selected sample –** As the name suggests, the respondents select themselves for inclusion in the study. For example, students who would be willing to visit the library to test the new EatFresh course.

Determining the Sample Size

Once you decide upon your sampling strategy, you will need to determine how many people or units to sample. In general, the larger the sample size, the more accurate the sample is at estimating the population of interest.

Sample size calculators (available for free online) can be used to determining the number of data points that are needed for statistical significance in quantitative data.

Population of Interest

Increasing sample size, increasing accuracy