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Methods of Survey Sampling

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It is important to have a group of people who will participate in the survey and be able to represent the whole target population. This group is called a “sample”. Determining the right kind and number of participants in a sample group, also known as sampling, is one of the basic steps in conducting surveys.

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Selecting Target Population

Before you can be able to have a sample for your survey, you need to define your target population [1] first. If your survey goal [2] is to know the effectiveness of a product or service, then the target population should be the customers who have utilized it. It is critical to select the most appropriate target population in order to satisfy the purpose of executing the survey.

Basic Sampling Techniques

There are numerous ways of getting a sample, but here are the most commonly used sampling methods:

1. Random Sampling

The purest form of sampling under the probability approach, random sampling [3] provides equal chances of being picked for each member of the target population.

2. Stratified Sampling

Stratified sampling [4] involves the use of “stratum”, or a subset of the target population wherein the members possess one or more common attribute. Examples of stratum include mothers, fathers, students, teachers, females, males, etc. Sampling error [5] is usually lower in stratified sampling than in random sampling.

3. Systematic Sampling

In systematic sampling [6], every Nth name is selected from the list of the members of the target population. For instance, the sample will include the participants listed in every 10th from the list. That means the 10th, 20th, 30th and so on will be selected to become the members of the sample group [7].

4. Convenience Sampling

This non-probability sampling [8] method is used when there are only a few available members of the target population who can become the participants in the survey.

5. Quota Sampling

Another non-probability method, quota sampling [9] also identifies strata like stratified sampling, but it also uses a convenience sampling approach as the researcher will be the one to choose the necessary number of participants per stratum.

6. Purposive Sampling

As the name suggests, purposive sampling [10] means the researcher selects participants according to the criteria he has set. This is only used when you are confident enough about the representativeness of the participant regarding the whole target population.

Determining Sample Size

Knowing the target population, you have to decide the number of the participants in a sample, which is termed as the “sample size”. Aside from the estimated number of people in the target population, the sample size can be influenced by other factors such as budget, time available, and the target degree of precision. The sample size can be calculated [11] using the formula:

$$n = \frac{t^2 \times p(1-p)}{m^2}$$

Where:

n = required sample size

t = confidence level at 95% (standard value of 1.96)

p = estimated prevalence of the variable of interest (e.g. 20% or 0.2 of the population are smokers)

m = margin of error at 5% (standard value of 0.05)

Strictly adhering to the sample size facilitates a higher precision in the results because having participants less than the sample size leads to low representativeness of the target population. On the other hand, going over the sample size may cause a diminished rate of enhancement in the precision of the survey outcomes.

Source URL: <https://explorable.com/methods-of-survey-sampling?gid=1576>

Links

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- [3] <https://explorable.com/simple-random-sampling>
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