



Sample Size Determination and Calculator Analysis Essay

Introduction

Sample size determination comprises of the aims and the dimensions of the population under study, the likelihood of making an error during the study and the extent to which researchers allows the error when selecting samples. It also consists of the standards of a sample size that are determined through the degree of sample correctness, the confidence level employed, and the extent of unpredictability of the features being studied (Israel, 2013).

Moreover, it covers the process of identifying a sample size through the total count of the members when determining an undersized population, emulating the sample sizes derived from related studies, and applying tables and formula to calculate the sample sizes. However, the process of determining the sample size using the above processes must observe several assumptions (Israel, 2013).

Sample Size Calculator

The Survey System Calculator

The System Survey Calculator is website-based software for calculating confidence intervals. The calculator utilizes the already collected data from the determined sample (*Confidence interval*, n.d.; The Survey System, n.d.).

When using this calculator to resolve the level of accuracy of the sample size, it requires deciding on an option from the provided check options. For instance, the researcher selects the confidence interval they want to employ, enters the sample size chosen, the size of the population, and the percentage of the people preferring a certain characteristic under study. Then, the researcher presses the calculate button to present the confidence interval (*Confidence interval*, n.d.; The Survey System, n.d.).

Rasoft Calculator

This calculator analyzes the information derived from a sample to establish the least possible sample size for the analysis. The information the calculator analyzes is derived from the amount of error accommodated by the researcher, the size of uncertainty, the number of the sample, and the distribution of the given responses (Rasoft, 2013).

Calculating data using the above Calculators

From a given population of 20,000 people, fifty percent of the people consume coffee. On repeating the experiment on 377 individuals, 95% of the times the experiment is repeated establish that 45-55% of the participants take coffee. However, the remaining 5% of the times suggested that the participants do not take coffee (Rasoft, 2013).

Results from The Survey System

From the above sample size of 20,000 individuals and the confidence interval of 45-55%, the least sample size calculated through this calculator is 96. Using this calculator, the confidence interval of 1.96 is calculated from the above 95 percentage (Rasoft, 2013; The Survey System, n.d.).

Results from the Rasoft Calculator

Using the above sample size of 377, the margin of error and the confidence level are calculated as 5.0% and 95 respectively. By including the above results in the population 20,000 and a response distribution of 50%, the minimum sample size determined by the calculator is 377 (Rasoft, 2013).

Results Discussion

The confidence level computation assumes selection of a haphazard sample of the population and shows the positive results assurance level from the sample. Besides, when the confidence interval is broad, it gives a high guarantee of covering the results. Hence, the combination of the two above gives a better description of the sample. Lastly, the bigger the sample size, the higher the genuineness of the results from the study. Hence, from the specified confidence interval, a larger size of the sample means a smaller confidence interval despite the fact that the affiliation is never linear (MACCORP Research Solution Online, 2013).

References

Confidence interval: Find confidence interval. (n.d.). Web.

Israel, G. D. (2013). *Determining the sample size.* Web.

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Raosoft (2013). *Sample size calculator.* Web.

The Survey System (n.d.). *Sample size calculator.* Web.

Video Version

