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A proposed representative sampling methodology (Conference Paper) [\(Open Access\)](#)

Barragán-Landy, M., Sousa, S., Romero, F., Leão, C.

[View additional authors](#) [Save all to author list](#)^aDepartment of Applied Chemistry and Production Systems, Faculty of Chemical Sciences, University of Cuenca, Cuenca, Ecuador^bAlgoritmi Research Centre, University of Minho, Guimarães, Portugal[View additional affiliations](#)

Abstract

A representative sample is a subset of a population which ensures that those characteristics of the population which are under analysis are represented as completely as possible. There are different ways of estimating a representative sample of a population. When different and important characteristics of context are relevant (i.e. region, city, sectors by economic activities, economically active population and others), the selection of an appropriate method to collect data must be carefully planned. The research questions that motivated this work were: What method could help define a sector of study in a country? What criteria must be considered to define a sampling method? What is the adequate sample size considering subsectors within the sector of study? Is there any difference between sampling techniques used to define representative samples in a sector? The aim of this document is to establish an interactive and sequential process to select a sampling method and to apply it to define a sample of companies in the construction sector in Ecuador. The methodology was based on four phases; a characterization of the region and the sectors in the country; a population characterization, based on selected parameters; a sampling process based on a literature review; and a comparative analysis between two sampling techniques. A simple random sampling and a stratified random sampling within a selected sector were compared. Based on the obtained samples, 18.46% on average of the data were equally selected, independently of the sampling method. This reveals that the two methods, which answer specific objectives, can be used together to select a smaller sample. This methodology can be applied in business and management studies in other sectors and can provide an economy in terms of the resources needed for data collection without compromising the sample representativeness. © 2020 Academic Conferences Limited. All rights reserved.

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