

Research Methodology

by

Zurab Khviengia

*Research Department, Eco & Associates, Inc.
1855 W. Katella Ave, Suite 350, Orange, CA 92867*

zkhviengia@ecoinc.info

Phone: 1(714)289-0995 Fax: 1(714)289-0965

Abstract

This article discusses an established methodology of statistical research that is widely used today in many business disciplines and various environmental studies. Inferential statistics as a cornerstone of this research is mathematically sound and rigorous branch of statistics. Sampling based research, as the inferential statistical research happens to be, is the only truly scientific approach in groundwater contamination studies and site investigations in which many environmental companies, including Eco & Associates, Inc., are involved. From the managerial perspective, however, tedious mathematical analysis of groundwater sampling data cannot justify the expenditure of resources or time frequently spent on it. Many practical problems do not require so much technical information statistical reports usually provide. It is often challenging to see the connection between the decisions that managers are to make and the data analysis results and complex statistical terminology. This complicates a decision-making process instead of simplifying it. It is not easy to account for statistical errors or rely upon formulas valid only under certain assumptions, which themselves become questionable in practice. Being one of the main approaches, sampling research can be modified to fit better practical demand of result-oriented environmental project managers. In this paper, descriptive statistical methodology is offered as a viable alternative to existing today inferential methodology in research. Descriptive statistics can be adjusted to be very informative and readily available for a quick review and understanding for those people who are not professional statisticians, those who actually make the decisions. Not very technical, this paper can draw interest of practically minded experienced managers in the field who look for answers rather than long formulas and cumbersome notions of inferential statistics.