



Compositional Data (CoDa) methods in the analysis of customer surveys

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9.00 – 13.00

Santa Caterina Complex, SC30

(Via C. Battisti 241, Padova)

Department of Statistical Sciences

University of Padua

Admission is free for students

Workshop Agenda

Workshop intro: Ron: 5 minutes

1. Intro CoDa: Martin: 55 minutes
2. Background surveys: Ron: 45 minutes
COFFEE BREAK: 15 minutes
3. CoDa applications: Martin: 30 minutes
4. Demo CoDaPack: Martin: 45 minutes (videos)
5. InfoQ: Ron: 45 minutes

Workshop Description

In satisfaction surveys, customers, consumers and users are asked to rate their level of satisfaction from topics of importance to the company. Customer satisfaction is measured by questionnaires with statements scored on an anchored scale (e.g. from 1 to 5). The information from these surveys provides a map of customer's opinion and can be used to improve decision making and trigger focused interventions. Kenett and Salini (2011) describe several statistical models for analysing customer satisfaction survey data. Some of these methods are PLS, hierarchical models, fuzzy sets, log-linear models and control charts, among others. Typical goals of these methods are to identify improvement areas or weak points, set service level targets and improving of the questionnaire itself.

In this workshop, we present an application of the CoDa methodology to the analysis of customer surveys and compare the findings to what is presented in the book edited by Kenett and Salini (2011). The general idea is that one can increase the information quality by combining more than one technique. Specifically, we analyze the annual customer satisfaction survey of the ABC Company. The questionnaire consists of an assessment of overall satisfaction evaluated on a five-point anchored scale and almost 50 statements with two types of scores: one evaluation score and a measure of item importance. Other questions such as repurchasing intentions and descriptive variables for each customer complete the ABC dataset. We perform a CoDa analysis, by questionnaire item, to determine strengths and weaknesses, to set up improvement goals, to design a balanced scorecard with customer inputs and to improve the questionnaire for future use. Moreover, we also make an analysis by customers grouped by various descriptive variables to highlight drivers of overall satisfaction and to identify best practices by comparing products or marketing channels. Graphical tools to cover the need to communicate the results are proposed.

References

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