

Chapter 8

Applying Qualitative Matrix Coding Queries and Qualitative Crosstab Matrices for Explorations of Online Survey Data

ABSTRACT

Two computation-enabled matrix-based analytics techniques have become more available for the analysis of text data, including from online surveys. These two approaches are (1) the qualitative matrix coding query and (2) the qualitative crosstab matrix, both in NVivo 12 Plus. The first approach enables insights about the coding applied to qualitative data, and the second enables the identification of data patterns based on case (ego or entity) attributes of survey respondents. The data analytics software has integrations with multiple online survey platforms (Qualtrics and Survey Monkey currently), and the automated coding of the data from these respective platforms and other software features enable powerful data analytics. This chapter provides insights as to some of what may be discoverable using both matrix-based techniques as applied to online survey data.

DOI: 10.4018/978-1-5225-8563-3.ch008

INTRODUCTION

Matrices, as exploratory data structures, have long been used in qualitative research to identify data patterns, surface fresh insights, and achieve other research and data analytics aims. They have been used to elicit information from survey respondents in visual ways (aka “graphic elicitation techniques”) (Copeland & Agosto, 2012, pp. 514 – 517, pp. 519 - 524). For quantitative, qualitative, and mixed methods research, matrices have been a staple. In early days, they were completed manually, and in more recent years, they have been populated using computational means. Matrices are a basic data structure form: a rectangular (including) table consisting of row and column headers and then overlapping or intersecting cell data. For binary matrices, the cells are 1s (present) or 0s (not present); for intensity matrices, the cells are numbers, with higher numbers indicating higher intensities of counts or frequencies. Depending on their focuses and respective purposes in research, the different matrices have different names.

Since the early 1990s, qualitative data analytics suites have extended the power of computational matrices. These tools are referred to as a category of Computer Assisted Qualitative Data Analysis (CAQDAS). Software may be used to convert coding from qualitative data for statistical analysis in a mixed methods approach:

*Such integration (of mixed methods studies data) is seen as occurring: (a) when text and numeric data are **combined** in an analysis; (b) when data are **converted** from one form to another during analysis; or (c) when combination and conversion occur together iteratively or in generating blended data for further analyses. (Bazeley, Spring 2006, p. 64)*

These enablements broaden the types of available knowledge and askable questions in qualitative research. They complement the theory-based top-down-coded research by enabling reproducible research with objectively supported data.

This work introduces two core matrix applications in the NVivo 12 Plus software tool: (1) the qualitative matrix coding query and (2) the qualitative crosstab matrix. It also includes some references to some other lesser-known matrix queries (like Coding Comparison queries (based on a similarity matrix). [QSR International (Qualitative Solutions and Research) is the maker of NVivo, which was initially known as NUD*IST or “Non numerical Unstructured Data Indexing Searching and Theorizing software.” NVivo originated in 1999.]

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