

Examining the Context in Qualitative Analysis: The Role of the Co-Occurrence Tool in ATLAS.ti

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When analyzing your research data it is often interesting to examine the associations between concepts. These associations can give us clues about contextual factors and how these factors shape the specific manifestation of a given phenomenon. ATLAS.ti has a powerful tool that helps reveal associations between concepts, their intensity, their meanings, and their role in constructing the phenomenon under study: the Co-occurrence Explorer.

This tool defines a co-occurrence under the following circumstances: Two codes are either coding exactly the same quotation (i.e., equivalent to the AND Boolean operator) or they are coding quotations that are touching each other in some way (i.e., within, enclosing, and overlapping). For the purposes of this article, two codes that are co-occurring in the text are two codes that in some way are associated with each other. Thus, the two terms are used interchangeably throughout the article.

For example, let's suppose that we have conducted a marketing study to examine consumers' opinions about "Bright Teeth Toothpaste", a product recently introduced into the market. A set of consumers were asked to try this new toothpaste for a month and were then interviewed through a survey containing open-ended questions to explore their opinions about the toothpaste. After importing

the survey data into ATLAS.ti and exploring the responses to the open-ended questions, we learned that surveyed consumers had both positive and negative opinions of the product. Using the Co-occurrence Explorer, we can identify the several factors that are associated with these opinions. Furthermore, the tool allows us to quantitatively explore the relative significance of these factors.

Figure 1 below shows the tree view of the Co-occurrence Explorer, in which it is possible to see the different codes that co-occur with the code "Likes it" (i.e. that participants liked the toothpaste). At the same time, it is possible to see the exact quotations in which two codes are co-occurring. In this example, the Co-occurrence Explorer is indicating that the following concepts are found in association with the notion of liking the toothpaste: being disappointed with the other product, that the family likes it, that the teeth feel clean, that the toothpaste tastes good, that participants liked the toothpaste even though they were used to another product, and that they will switch to Bright Teeth Toothpaste. By clicking next to the code that co-occurs with "Likes it", the Co-occurrence Explorer shows the exact quotation in which the two concepts are co-occurring. By exploring these quotations, we can come to an understanding of the actual meanings behind these associations.

Positive attributes of Bright Teeth Toothpaste

I feel my teeth clean and fresh after using the toothpaste. In fact, I was kind of dissatisfied with the toothpaste I was using before, and I have tried many. I just could not find a toothpaste that would leave my teeth as clean as I like them to be. Bright Teeth toothpaste

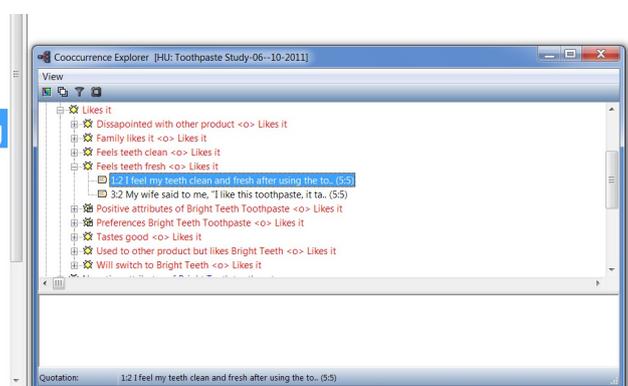


Figure 1: Co-Occurrence Tree

Figure 2 below shows the table view of the Co-occurrence Explorer. This table shows the number of co-occurrences between the code "Likes it" and the other codes mentioned above. It also tells the intensity of those co-occurrences measured using the C-Coefficient¹, whose values fluctuate between 0 and 1. Additionally, the table allows us to revisit in context the quotations in which two concepts are co-occurring.

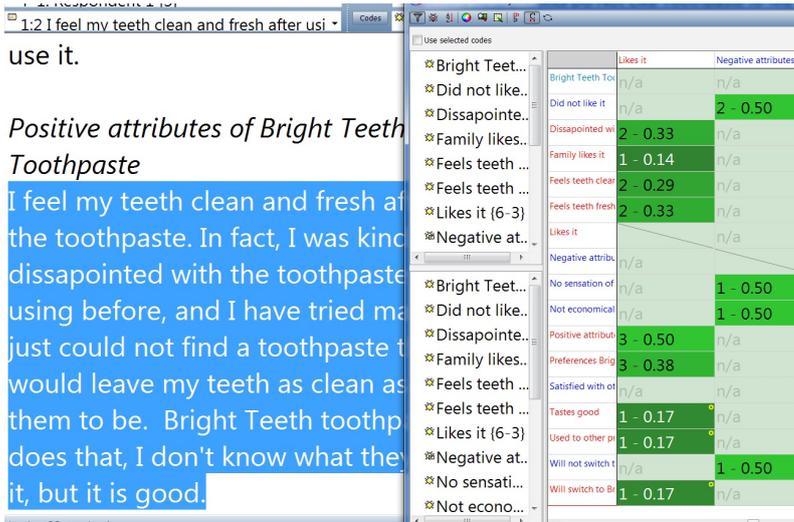


Figure 2: Co-Occurrence Table

Finally, Figure 3 below shows a graph representing the intensity of the co-occurrences between the code "Likes it" and its co-occurring concepts. The graph indicates that the code representing the idea that participants liked the toothpaste they were asked to try is more intensively associated with the two following notions: that they were disappointed with their current toothpaste and that the teeth feel fresh and clean after using this new toothpaste.

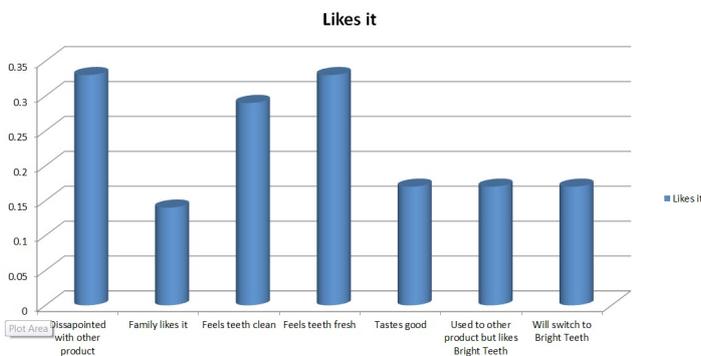


Figure 3: Intensity of the co-occurrences between "Likes it" and its co-occurring concepts

At the same time, liking the toothpaste is less intensively associated with the notions that the toothpaste tastes good, that participants were used to the other product but still liked this new toothpaste, and that they will finally switch to Bright Teeth Toothpaste. Furthermore, the graph tells that in participants' responses, liking the toothpaste is not highly associated with the notion that the interviewee's family also likes it.

It is important to emphasize that the strength of the co-occurrence tool is that it allows for the quantitative and qualitative exploration of associations between concepts. The intensity of the co-occurrence between two concepts tells us something about how closely associated these two concepts may be. Although this can be important (and it is important particularly for mixed-methods research teams and for certain audiences that value the numeric representation of findings), it only tells us half of the picture. The other half of it (that in which associations come to life through meanings) can only be explored by revisiting the quotations in which these concepts are co-occurring and asking key questions, such as:

- What is this co-occurrence telling us about our research problem?
- How do these concepts relate to each other in the context of the study?
- How is this particular concept helping us understand this other particular concept?

That is, after all, the crux of qualitative research: learning about the underlying factors that shape and give meaning to the visible phenomena.

¹ For an explanation of the C-Coefficient, please read the entries in the ATLAS.ti Forum by Thomas Muhr (<http://forum.atlasti.com/showthread.php?t=4317>) and Susanne Frieze (<http://forum.atlasti.com/showthread.php?t=4210>)