



## Cross-tabulations

### *Adding Another Dimension to Survey Data*

Suppose for a moment that you have been asked to conduct a survey to determine what percentage of the population prefers one policy choice over another. As most surveys go, that would be a pretty straightforward request. But now suppose you were also asked to be able to describe the major demographic and attitudinal differences of those in favor of the first policy versus those in favor of the second. What would be the best way to handle this request?

Cross-tabulations, or cross-tabs for short, are a powerful but simple technique to use when analyzing the findings of a survey. In many survey research reports the results are presented only in aggregate form. In other words, the data tables are based on the entire group of respondents taking part in the study. Cross-tabs, by contrast, are two-way data tables that show not only the total results for each survey question but also the findings by individual sub-groups of interest.

A common mistake with surveys is to focus only on how individual questions turn out. A couple of examples would be: *Are customers satisfied with our service?* and *Do they prefer blue widgets to red ones?* However, the value in most surveys lies not so much in a single statistic for the entire sample but in the ability to view the survey findings for specific groups within the sample, such as *which* customers are more satisfied and *who* prefers red.

Consider the following example in light of the recent 9/11 anniversary. Respondents were asked whether or not the events of September 11, 2001 had led to their changing some of the habits in their daily lives. Among 1,000 survey respondents, 48% said their habits had been changed, while 52% said they had not made changes to their daily routine. These findings appear to be reasonable, and one would conclude that 9/11 did cause some shifts in behavior following the attacks.

But if you cross-tabulate the results of this question by another survey question that asked whether respondents live in urban or rural areas, the findings portray a new perspective in the way people's lives have been affected. Seventy-nine percent of urban dwellers said many of their habits had been altered as a consequence of the terrorist attacks. Perhaps they have chosen ways other than by air to travel, or possibly they have avoided taking jobs or attending meetings in tall buildings. Conversely, 83% of respondents who live in less densely populated areas said the events of 9/11 have not led to substantial changes in their lives. The use of a cross-tab reveals a behavioral phenomenon that was not obvious on the surface.

Cross-tabs are normally included as an analytical step in the survey process for one of two reasons. The first is to sub-divide the respondents into **demographic** categories to permit exploration into potential relationships between age, educational level, or employment status, for example, and the survey's major findings. The other purpose for cross-tabs is to segment respondents according to their **attitudinal** makeup. Consider the value that comes from reviewing a survey's findings on transportation habits and preferences and having them cross-tabulated against respondents who are either strongly in favor of or strongly opposed to a transportation related bond referendum.

Cross-tabs can also be constructed into what are commonly referred to as "banners." A banner is a series of individual cross-tabulations that are assembled on a single data table. When examining the study's findings, banners enable each survey question to be viewed by the selected cross-tabbed variables simultaneously.

The use of cross-tabulations in survey research allows for the inspection and comparison of differences among survey sub-groups of interest. Cross-tabs frequently demonstrate that there is more to the story than initially meets the eye.

### Survey Tip

When planning a survey, thoughtful consideration should be devoted to ways the results will be analyzed. Will aggregate data be enough or will it be necessary to segment the data by demographic or attitudinal groups?

If cross-tabulations are determined to be needed, what are the different variables that will provide the best opportunity to analyze the findings - Gender? Age? Total years of service? Division?

Remember, in order to be able to cross-tabulate questions, they have to be included in the questionnaire.

### Did you know...

A recent online survey conducted by novaQuant, Inc. set out to record the number one food benefit sought by adult consumers. Among 17 health-related food qualities tested, purchasing those with whole grains was the most important benefit, followed by high fiber, low fat, low cholesterol, and high in antioxidants.

According to the research report, consumers showed a surprisingly low level of interest in organic foods - the lowest ranked of the 17 food benefits measured. The report suggests that organic foods have not yet become mainstream. High prices, a lack of clarity on the benefits of organics, little trust in organic labeling, and limited product assortment are all contributing to the slow acceptance of the food category.

Survey participants admitted that they do not eat healthy meals often enough or exercise as frequently as they should. Yet, the results of the study reveal that consumers want the benefits of good health and hope to obtain some through their food choices.

Source: novaQuant

Comments, suggestions and questions related to survey research should be directed to Doug Cox - NCDOT Market Research Manager at (919)733-2083.