

Using Survey Data

By:

Cynthia L. Spanhel, Ph.D.
Blue Fire Moon Consulting Partnership

Presented at:
ACLEA 49th Mid-Year Meeting
February 2-5, 2013
Clearwater, FL

Cynthia L. Spanhel

Blue Fire Moon Consulting Partnership
Driftwood, TX

Dr. Cynthia Spanhel provides research consulting services to associations and the legal profession. She was Director of Research for the State Bar of Texas from 1988 to 2002 and Principal Researcher for the NALP Foundation for Law Career Research and Education 2005-2011.

Cynthia has also been a member of the marketing faculty at the University of Texas at Austin, College of Business Administration, and she is currently an Associate Instructor in the College of Business and Professional Studies of Ashford University. She holds a Masters in Business Administration degree from Arizona State University and a Ph.D. in business from Indiana University.

INTRODUCTION

Over the past decade, the Internet has become a very common avenue for the deployment of many different types of surveys. Most organizations now have email addresses on a high proportion of their members or customer base, and the emergence of inexpensive and easy to use online research software tools has put the means to conduct surveys within the reach of even the smallest organization.

In spite of the ubiquity of these online tools and the accompanying survey research knowledge base, the results of many surveys go unused. More often than not, surveys fail because of poor design, implementation, and analysis. This article covers some best practices in survey research. Adhering to these practices will increase the odds of survey success in terms of data quality and usefulness for decision-making.

DO YOU REALLY NEED A SURVEY?

- ***The desired information already exists.*** Often, management or volunteer leadership will propose a survey without really thinking about whether a survey is the best way to collect the needed information. A survey is a method of asking structured questions to obtain information *that is not available elsewhere*. Often the desired information is available in an organization's records or from external sources.
- ***The desired information is not available, but the problem is not well defined or understood.*** In order to write good questions for a survey, it is necessary to know quite a bit about the topics being considered for the survey. If the proposed survey topics are

not well understood, research approaches such as focus groups or qualitative interviews should be considered before a structured survey.

- ***The information is not available, and the problem is well defined.*** In this case, you will need to consider specific survey methods (telephone, in-person, intercept, mail and online) and what type of sampling frame (a list of names, email addresses, phone numbers, etc.) is available to you and the quality of that frame. The sampling frame is the list from which you will draw a sample. The frame should include a very high percentage of the population to which you want to generalize your survey results. For instance, for an online survey, it is recommended that you have valid email addresses on at least half of the entire group you wish to study.

SURVEY OBJECTIVES

- ***What are the survey's objectives?*** Though it seems it would go without saying that a well-defined set of research objectives should exist prior to drafting a questionnaire, this is often not the case. Often, it is simply easier for management or a volunteer group to decide to undertake a survey based on a vague topic list, or worse, present a set of often poorly designed questions from which the persons responsible for implementing the survey must deduce the purpose of the survey.
- ***A survey's purposes should be specific and limited in scope.*** Integral to the survey design is thinking about how the survey answers will be used and the decisions that will be made based on the results. These uses and decisions should be articulated explicitly, and then used as guides to crafting questions. If a question does not directly bear on these uses and decisions, remove it from the questionnaire. Additionally, do not try to

‘boil the ocean’ on a single survey. Too many objectives will usually lead to a long survey with a high quit rate and a lower overall response rate.

SURVEY LENGTH

- ***The questionnaire should be short.*** In keeping with the need to limit the scope of a survey to a few objectives, the questionnaire should be as short as possible. Often, people ask, “What is the maximum number of questions I should put on my questionnaire?” A better question is to ask how long it takes a respondent to complete the questionnaire and to limit that length to about 10-15 minutes maximum—five minutes would be better. As a general rule, three to four simple close-ended questions consume about a minute of respondent time, and one open-ended question is equivalent to about three multiple-choice questions.
- ***The cover letter or email invitation should also be very short.*** The cover letter or email containing the invitation to participate in a survey is an important component of your project. It should be as short as possible, but persuasive. If using an email invitation, the subject line should be limited to 35 characters or less and not contain language that tends to trigger spam filters.
- ***The content of the welcome screen and survey instructions should also be brief.*** Instructions at the beginning of a survey should be welcoming and limited to general issues related to completing the survey (e.g., how to navigate an online survey). Complicated instructions will increase the odds of survey abandonment. If a given question or section of the survey needs more specific instructions, that text should be placed in the questionnaire.

- ***Limit the number of open-ended questions.*** As mentioned in the introduction, a well-designed survey uses a set of structured questions. As such, it should consist primarily of close-ended questions. Generally, the number of open-ended questions on a survey should be limited to no more than five. Overuse of open-ended questions is usually a sign of poorly defined research objectives, is burdensome on the respondent (and in the analysis of the survey results), and reduces the survey's response rate.

SURVEY APPEARANCE

- ***The questionnaire should look simple yet professional.*** Pay careful attention to the appearance of the invitation email and the graphic elements of the questionnaire. The questionnaire should look simple and appealing, with plenty of white space. Online survey providers such as Zoomerang and Survey Monkey offer a number of design templates with varying background colors, button styles and easy to use text formatting tools (though knowing a bit of HTML comes in handy).
- ***Limit the number of questions per screen.*** In an online survey, the need to scroll to see all the questions on the page is an issue. Often it is better to have only one or a couple of questions on a page/screen.
- ***Limit the number of different fonts, font sizes, and graphics.*** Use graphics only as needed (e.g., sponsoring organization's logo), and stick to basic fonts such as Times New Roman and Arial.

QUESTION ORDER

- ***Start the questionnaire with easy to answer, general questions.*** Generally, questions should move from easy to answer to more difficult, from general to more specific questions, and from least to most sensitive. The first questions the respondents see should be straightforward, uncomplicated, not open-ended, and not asking for sensitive information.
- ***Demographic questions should be included at the beginning of the questionnaire only if they are being used as screening questions to direct respondents in or out of the survey or to certain parts of the survey.*** Outside of their use as screening questions at the beginning of the questionnaire, demographic or classification questions should be placed at the end of the survey and should be limited to questions that will assist in assessing the representativeness of the respondents and/or for cross-tabulation of the survey's results. To be useable for cross-tabulation, the answers to demographic questions should track information already available in the organization's database. i.e., use the same categories. Also, avoid asking for demographic information that does not bear on the purposes of the survey. For instance, there is no point in asking for area of practice information unless responses are expected to differ along this dimension. If basic demographic information is desired on the organization's membership or customer base, often it is better to capture this information outside of a survey—e.g., on membership renewal forms, course registration forms, or in a census of the organization.

WRITING GOOD QUESTIONS

- ***Keep the language simple.*** Striving to write questions in plain language will result in shorter questions, more open space on the page, and a pleasant survey taking experience. It is common to see many parenthetical explanations in surveys directed at attorneys. If the question or answer option requires such an explanation to be clear, it is a sure sign that the language needs to be improved.
- ***Questions should be specific and unambiguous.*** Questions should have a frame of reference and be specific. For instance, a question such as “How many hours of professional development did you attend last year?” is subject to many interpretations. By professional development, do we mean CLE only? Or the whole range of activities that might be considered professional development? And does ‘last year’ refer to the previous calendar year, the respondent’s MCLE year, or the last 12 months?
- ***Questions should cover only one topic.*** Good questions will address only one dimension of an issue or topic at a time. Double-barreled questions cover more than one subject where the respondent might answer one way to one part of the question and a different way to the other part. For instance, “How do you rate Speaker A’s presentation style and expertise?” is double barreled.
- ***Questions should not suggest an answer.*** Since the purpose of the questionnaire is to inform decision-making and action, it is important that the language used in the questions does not bias respondents to answer more often in one way than another. A leading question contains words that suggest the “correct” answer. A loaded question contains language, text formatting, or extra

information designed to appeal to a respondent's emotions. The question below is both leading and loaded.

“The blue ribbon XYZ Committee has been meeting to review the locations in which ABC course has been held for the past five years. In response to the poor economy and in the interest of keeping course registration fees low, the Committee has recommended that the course be moved from the ...Spa and Resort to the more affordable ...Motel 1000. Don't you agree that this is the correct thing to do? “

- ***Questions should be applicable to all respondents who view them.*** The question, “How long have you worked in private law practice?” would not be applicable to all attorneys. If knowing the answer to a question like this is important to the survey's objectives, alternatives include limiting the sample to attorneys known to be working in private law practice or to use a qualifying or filter question so that lawyers working in other occupations skip this question.
- ***Responses should be mutually exclusive and exhaustive.*** The primary rules of thumb for developing response categories for close-ended questions are that the categories be mutually exclusive (no overlapping categories) and exhaustive (cover all possible responses).
- ***The number of response categories should be limited.*** Generally, the number of response categories should not exceed 10, but that is often far too many, especially on a ranking question. When using interval data categories (e.g., age, income, law firm size), it is not necessary that the category intervals are of equal size. Intervals depend on the expected variation in the data. For example, if most responses are expected to be

clustered at the low or high end of the data, then smaller intervals at those points will capture more detail. For rating scale questions, five is the most common number of response categories used. It is not necessary or desirable in all cases to label every point on the scale, but the two ends of the scale—the anchors—should always be labeled.

OTHER BEST PRACTICES IN SURVEY DESIGN AND MANAGEMENT

- ***Incentives.*** Offering an incentive for responding can boost response rates. The incentive should be meaningful to the respondent, and offering a small incentive to every respondent (e.g., a discount coupon for one of your products or services) is more effective than offering a large incentive to just one or a few respondents (e.g., a drawing for an iPad).
- ***Progress bar in an online survey.*** A bar showing the respondent their current position in the survey and how much of the survey is left to answer can encourage completion unless the survey is very long.
- ***Mandatory questions.*** Making questions mandatory can discourage completion of a questionnaire.
- ***Personalize the invitation.*** Using the respondent's name in the cover letter or email invitation encourages participation. In addition, the invitation should contain: expression of gratitude to recipients; the purpose(s) of the survey; how the results will benefit both the sponsor and the respondent; a *realistic* estimate of how long it will take to complete the survey; information about a response incentive if one is being used; and assurance of confidentiality of responses.
- ***Put the link to an online survey in more than one place in an email invitation.***

- ***Use up to three follow-up reminders.***
- ***Pre-Test the Questionnaire.*** This is an often overlooked step in the questionnaire design process, but having the questionnaire reviewed by peers, colleagues, and potential respondents will help identify problems in question construction, confusing instructions, and other project design problems. It is also a good way to learn how long the questionnaire takes to complete.
- ***Timing of distribution of the survey.*** Avoid holidays. Best days of the week are Tuesday through Thursday, timed to arrive mid-morning through mid-afternoon.

SAMPLING: KEY CONCEPTS

- ***Population.*** The population is the group to which you want to generalize your survey results. The population should be defined when developing the survey's objectives. Examples of a population include: all attorneys who attended one or more of your live CLE courses in 2012; all law firms who purchased a course package from you in 2012; all attorneys in private law practice in your state.
- ***Sampling Frame.*** The frame is the actual list from which you can draw a sample. It is important that a high percentage of the population be included in the frame. As already mentioned, a general guideline for online surveys is to have valid email addresses on at least half of the population you are studying.
- ***Random Sample.*** A random sample is a sample in which each unit in the frame (an individual, a firm, etc.) has an equal chance of being selected.
- ***Margin of error.*** The margin of error (plus or minus n %) is a measure of how precise the sample data is compared with the 'true' value in the population.

- **Confidence Level.** The confidence level (expressed as a percentage, e.g., 95%) is an indicator of how often the ‘true’ value in the population will fall within the margin of error.
- **Non-Response Bias.** Though there are many sources of error in survey research, non-response bias is one of the most difficult to deal with. Non-response bias occurs when a survey has a low response rate, and there are reasons to believe that the respondents and non-respondents differ in ways that influence the survey results. Some authorities believe that a presumption of non-response bias exists when survey response rates are lower than 50 percent.

It is often very difficult to determine the extent to which survey results are biased by non-response, but the ability to compare your survey respondents to the study population on factors you believe to cause variation in the study results is important to design into the study. This requires having good basic demographic information on the population and the same information from the survey respondents. For example, if you believe an attorney’s occupation will influence their CLE delivery mode preferences (e.g., preferences for live vs. online programs), then it is desirable to know the percentage of attorneys in the major occupational groups in the entire population of attorneys under study and to also ask that question in the same format on the survey. In this way, you can compare the percentages in the population against the respondents, and draw some conclusions about possible bias in the results related to occupation.

- **Sample Size.** It is very common for the sample size of an Internet based survey to be very large because it is so easy and inexpensive to survey large numbers of people online.

A better approach is to gain some understanding of how to calculate sample size to achieve a desired margin of error and confidence level, and sample accordingly.

There are also less formal ways to determine a good sample size for a survey. One of these is to determine in advance the number of major and minor breakdowns of the data you would like to have in the analysis. Plan to have at least 100 or so respondents in each of the groups for a major breakdown (e.g., men vs. women), and 20-50 in subgroups (e.g., men in rural areas vs. men in urban areas). When looking at the number of respondents you will need in the major and minor breakdowns, be sure to take into account a projected response rate, and increase the sample size accordingly.

Beyond a certain number of responses (as defined by statistical theory) and the numbers needed to perform the important cross-tabulations of the results, there is little to be gained by having a huge number of responses, especially if the respondents are largely self-selected and there is a good chance for non-response bias in the results. When non-response error is large, it is not appropriate to calculate and report a margin of error, as by definition, the survey sample is no longer random.

SOURCES:

Internet, Mail, and Mixed-Mode Surveys: The Tailored Design Method. Don A. Dillman, Jolene D. Smyth, and Leah Melani Christian. John Wiley & Sons, 2009.

Designing and Conducting Survey Research: A Comprehensive Guide. Louis M. Rea and Richard A. Parker. John Wiley & Sons, 2005.

Questionnaire Design: How to Plan, Structure and Write Survey Material for Effective Market Research. Ian Brace. Kogan Page, 2008.

Online Surveys For Dummies. Vivek Bhaskaran and Jennifer LeClaire. John Wiley and Sons. Kindle Edition, 2010.

University of Michigan, Population Studies Center, Institute for Social Research.

<http://www.psc.isr.umich.edu/dis/infoserv/tools/surveyresources.html>

Council of American Survey Research Organizations (CASRO). <http://www.casro.org>