
OPEN-END QUESTIONS:
EXPLORING THE QUALITATIVE NATURE OF OUR QUANTITATIVE
STUDIES

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The role of research in forensics is a wide and varied one. As with most social science research methods, the trend in forensics has turned from primarily case study/observational research to a mass of empirical data. Our quantitative studies have many problems from sample and questionnaire design to inappropriate or inaccurate statistical analysis. One of the basic reasons that these problems abound is that non-researchers are assigned the task of research. While it would be impossible to tackle all of the problems in the quantitative surveys done in the field of forensics, one of the best ways to improve the overall analysis of any given study would be a better exploration of the qualitative side of our quantitative studies through the use of open-end questions. After defining a few relevant terms we must explore the need for open-end questions in all forensic surveys and then we must examine when to use open-end questions, how to properly write an open-end question and finally how to analyze the data received from both a qualitative and quantitative perspective.

DEFINITION OF TERMS

Since survey design and analytical models used in social science research tend to mimic those used in the field of market research, the definitions and terminology that I will be using come primarily from market research texts. According to David A. Aaker and George S. Day in their text *Marketing Research*, qualitative research is defined as "research designed primarily for exploratory purposes, such as getting oriented to the range and complexity of consumer activity, clarifying the problem, and identifying likely methodological problems."¹ The need to understand the range and complexity of issues involved in forensic research is no less important. Various qualitative methods include observational study, in-depth interviews and focus group dis-

cussion. It is the goal of qualitative research to make sure that the researcher understands the issue(s) being researched. It is with this knowledge that the researcher can begin the survey design. One of the major steps in constructing a questionnaire is determining the types of questions to ask. There are basically just two types of questions and they are open-end questions and closed-end questions. Patricia Labaw in her book, *Advanced Questionnaire Design*, defines open-end questions as "questions which allow the respondent to give a totally free answer."² This is as opposed to a closed-end which Labaw defines as a question in which "the actual answer categories are provided to the respondent, and the respondent is expected to choose the answer category which comes closest to or best represents his feelings, beliefs, attitudes, opinions, behavior, or knowledge of a situation."^{2A} The 1-5 or 1-10 attitudinal scales which are so commonly used on forensic surveys are an example of a closed-end question. Robert A. Peterson in his text, *Marketing Research*, notes that "The advantages of open-end questions are usually the disadvantages of closed-end questions and vice versa. Still, it is more meaningful to consider the question types as complementary. Neither question type is unequivocally superior to the other for all research situations. Most marketing research situations, and even most questionnaires, contain both types."³ Unfortunately most of the surveys used in forensic research only use closed-end questions possibly due to the ease of quantifying closed-end data.

JUSTIFICATION FOR THE USE OF OPEN-ENDS

One might wonder if closed-end data is so easy to quantify and analyze, why then should open-end questions be used. While many market research texts do indeed give the use of open-end questions some bad press the need for open-ends is essential to forensics research for one basic reason. In market research much qualitative research is done prior to survey design. This does not seem to hold true for most social science research including research done in forensics. According to Aaker and Day, "Seldom is enough known about a marketing problem or situation for the researcher to be able to proceed directly to the design of a structured study yielding representative and quantifiable results."⁴ They go on to say that extensive qualitative research needs to be done before the survey design is complete. Similar types of exploratory research are needed in designing questionnaires for forensic research but time and monetary constraints often limit, if not curtail, such background research. Studies are often fielded with only closed-ended questions which contain the bias of the person or people doing the study. This is a major problem noticed in survey design and it leads to inaccurate analysis and conclusions. One of the ways to avoid this problem is through the use of open-ended questions which have the capacity for revealing aspects or complexities of the research issue which the researcher may have overlooked. According to Patricia Labaw in *Advanced*

Questionnaire Design, open-ended questions "are indispensable to a thorough understanding of complex issues and topics."⁵ As Labaw notes open-end questions are "the only way the researcher can give the respondent the opportunity to 'have his own say.'"⁶ By allowing the respondent to have "his own say", open-ended responses can signal bias in closed-ended questions as well providing nuances that the researcher may not have considered when designing the questionnaire. In forensic research they can provide the qualitative data that many of these studies lack. In short data collected in open-end questions can illuminate the meaning of the numbers and provide a correct path of analysis. Despite the extensive background research done on many studies, market researchers still make use of open-ended questions and those who are serious about forensic research should do the same.

WHEN TO USE OPEN-ENDS

Now that we understand why we should use open-end questions we must understand when and how to use them. Although they discourage heavy open-end usage, Aaker and Day provide these circumstances as appropriate for the use of open-ends:

1. As an introduction to a survey or to a topic.
2. When it is important to measure the saliency of an issue to a respondent.
3. When there are too many possible responses to be listed, or they cannot be foreseen.
4. When verbatim responses are desired to give the flavor of people's answers or to cite as examples in a report."⁷

Each of these circumstances indicate the qualitative aspects of the open-end. To see this more clearly lets go item by item.

Item 1: As an introduction to a survey or to a topic.

In the introduction to a survey the open-end is important for a variety of reasons. First of all it allows the respondent the opportunity to really become involved in the survey. Also, it allows the respondent to give his/her opinions about a general topic area without the influence of any bias that may exist in the body of the survey. This "top of mind" answer may point up important issues or ideas that the researcher did not think of and could influence the overall analysis of the survey results.

Item 2: When it is important to measure the saliency of an issue to a respondent.

By using an open-end to measure the saliency of an issue to a respondent one of the most common errors made in forensic research can be avoided. In many forensic studies the respondent is asked to provide information or ratings on issues that are not important to him/her. When this happens the respondent will often be careless in responding thus giving misleading information which can seriously jeopardize the validity of any study. By allowing a respondent

the opportunity of explaining what is important, the researcher will have a gage by which to measure the validity or significance of the data received.

Item 3: When there are too many possible responses to be listed, or they cannot be foreseen.

Due to the lack of extensive background research, the researcher often cannot foresee all of the important issues or their corresponding answers. This is especially true in forensics where strong regional differences do exist. If an important response category is omitted and a closed-end is used then the respondent is forced to give an answer that may not be completely accurate from the respondent's point of view. In the analysis of such a flawed closed-end the respondent's views will be misrepresented and incorrect conclusions may occur. Also in broad or general questions there may be too many possible responses to list or predict, therefore generalized questions should always be asked in an open-end form. Specific closed-ends can then be used to follow-up on some of the possible issues relevant to the research objective.

Item 4: When verbatim responses are desired to give the flavor of people's answers or to cite as examples in a report.

In papers written to report research results the researcher should support the research findings with actual quotations from respondents. Such quotations will strengthen any report and may provide insight into findings that my otherwise seem odd or inappropriate to the casual observer. As you can see the qualitative aspects of the open-end can make its use invaluable to the type of research we do in forensics.

TIPS ON WRITING OPEN-ENDS

Now that we know why and when to use open-end questions, it becomes important to understand how to properly write an open-end. Fortunately an open-end is perhaps the easiest type of question to write. The key to writing an open-end is to keep it as simple as possible and to include relevant probes or follow up questions. By keeping an open-end simple the researcher can prevent any bias in the question and encourage thoughtful responses from the respondent. For example, "What are the benefits of forensic competition to your students? (PLEASE BE SPECIFIC)" followed by "(PROBE) What other benefits?" could be a good introductory open-end in a study designed to determine how students can benefit from forensic competition. Writing open-ends in pairs such as likes/dislikes or best/worst can often provide the full range of a respondent's ideas on a topic. For example, "What do you like best about forensics? (PROBE) What else?" followed by "What do you like least about forensics? (PROBE) What else?" would provide data on both the positive and negative side of the issue. When an open-end is used as a follow-up to a closed-end, it might be written as simply as "Why? (PROBE) Why else?" or "Why do you feel that way? (PROBE) Why else?". It is also important to always phrase an open-end in such a way that it cannot be easily an-

swered "yes" or "no." "Do you have any comments?" or just "Any comments?" are examples of very bad open-ends that have appeared on forensic surveys. Finally, since most of the questionnaires used in forensic research are self-administered the format is also important. Respondents will perceive the importance of an open-end by the amount of space left to record the answer. They will stop writing when the space is filled even when they have more that they would like to say. Most market research surveys tend to leave between three and eight double spaced lines. As we can see open-ends are very easy to write so don't be afraid to use them.

ANALYSIS OF OPEN-END DATA

Open-ends are equally easy to analyze from a qualitative perspective but are difficult to analyze quantitatively. To analyze open-ends qualitatively simply requires that the researcher read the answers to determine general trends in the answers as well as important nuances or issues not covered in the closed-end questions. This task is especially easy in forensic research where the sample size tends to be small thus generating relatively few completed surveys. While reading these answers the researcher should select representative quotations to be used in the final report. Quantitative analysis is a bit more difficult and presents many problems which could confuse rather than enlighten. Quantitative analysis of open-ends should only be done by professionals or those well versed in research methods, but if the researcher insists on quantifying the data it can be done. The first step is to code the answers. Coding is a system in which the researcher or coder creates categories or codes to which numbers are assigned. The coder then reads every open-end and assigns them the numbers which correspond to the closest answer or answer category on the code. These numbers can then be tabulated and percentaged accordingly. In the coding process any nuances in the responses will be lost. Coding also requires that answers be interpreted as to meaning which is often difficult if not impossible to do. Many single mention responses will also be lost in the coding process. It is very easy to make mistakes in coding which can further make the tabulated numbers meaningless and if misinterpreted will lead to incorrect analysis. These are just a few of the many problems which make quantifying open-end data impractical for anyone except research specialists.

CONCLUDING REMARKS

Despite the difficulties involved with the quantitative analysis of open-ends, the use of open-ends can be invaluable to the proper analysis of quantitative data. This is especially true in forensic research where proper qualitative research is not done prior to designing the study. The information gained from open-ends can signal any problems in the survey design as well as provide additional information. If our survey research in forensics is to be taken seriously then more care needs to be taken to ensure the integrity of the

research results. One of the ways to improve the overall quality of forensic research is to include properly written open-ends in all surveys. Researchers are not perfect so we must never forget to explore the qualitative aspects of our quantitative studies through the use of open-ends.

ENDNOTES

- ¹David A. Aaker and George S. Day, Marketing Research (New York: John Wiley & Sons, Inc., 1983) 699.
 - ²Patricia Labaw, Advanced Questionnaire Design (Cambridge, Massachusetts: Abt Books, 1980) 131.
 - ^{2A}LaBaw, 131.
 - ³Robert A. Peterson, Marketing Research (Plano, Texas: Business Publications, Inc., 1988), 204.
 - ⁴Aaker and Day, 111.
 - ⁵Labaw, 132.
 - ⁶Labaw, 132.
 - ⁷Aaker and Day, 180-181.
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