**Survey Methods
White Paper Series**

Four Survey Methodologies:
A Comparison of Pros & Cons

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Before the Internet boom in the early 1990s, making decisions for collecting the best information, such as length of survey, sample size, timing and budget, were much simpler than today. This paper will explore the pros and cons of four basic types of quantitative survey methodologies: mail, telephone, online, and in-person to guide you in choosing the best methodology for your study. As telemarketers disguised as marketing researchers are proliferating and as getting respondents for legitimate research is becoming more difficult, we will also mention some hybrid techniques used today to help increase your survey response rate.

Method #1: Mail

According to author Thomas Magione in <u>Mail Surveys: Improving Quality</u>, it is a good idea to consider mail surveys "when your sample (or respondents) is spread out geographically and your budget is modest." In survey design, Magione mentions that there are two broad classes of questions – open-ended questions and close-ended questions. With close-ended questions, the respondent is given a series of alternatives to pick the answers. However, in an open-ended question, no specific categories of responses are given and the respondent must answer the question in their own words. When designing a mail survey questionnaire, the questions should be designed with close-ended answers. Also, since mail surveys are convenient for respondents to complete in their own place and time, its anonymity and privacy makes mail surveys the most appropriate methodology for sensitive information.

Mail Surveys

Pros	Because they use paper and pencil instruments, mail surveys are the least expensive way to collect data from large number of people. Also, because of the convenience of completing the survey at their own pace, a longer questionnaire design is plausible.
Cons	Since mail surveys are self-selected and self-administered by the respondent, there's no follow-up from the researcher. They also have the least amount of control over all other survey methodologies in terms of questionnaire design and clarification of questions. The time getting back the survey by mail, the time entering the data, and time analyzing the data are extensive. Completion rate is very low.

Method #2: Telephone

When discussing telephone survey methodology, we cannot overlook the sampling methods associated with it. Unlike mail surveys, where self-selective bias is high, telephone surveys provide a more accurate result to the study due to the random dialing feature. In telephone

methodology, sampling methods consist of list-assisted, random digit dialing (RDD) or multiple-frame sampling methods. In early telephone sample design or list-assisted design, researchers used telephone directories because they were readily available and considered to be a general representation of the U.S. household population. However, with increased levels of unlisted numbers, (Los Angeles being on the extreme side of 56% unlisted numbers, Survey Sampling Inc., 1989) concerns about the accuracy of the sample became prevalent. Defined by James M. Lepkowski in Telephone Survey Methodology, RDD can reach both listed and unlisted numbers by generating telephone numbers at random. Multi-frame sampling method, introduced by Lepkowski in 1993, combines both list-assisted design and RDD to generate telephone numbers in a select sample frame. An important point to note for RDD is that the sampling frame used for RDD can have a significant impact on cost and scope of the study if a substantial portion of households from random generated telephone numbers are ineligible to take the survey.

With a good telephone sample, either from a customer database or multi-frame sampling, surveys are conducted by trained interviewers with computer-assisted telephone interviewing (CATI) software. CATI can display the questionnaire to the interviewer with skip patterns and rotation of the questions. As investigated by Groves and Mathiowetz in 1984, collecting quantitative data using CATI results in "higher quality" data when a complex set of questions is surveyed on both types of paper and pencil and CATI methodologies. Other capabilities of CATI system include sending emails on the fly during an interview or redirecting a respondent to an IVR system. An IVR, Interactive Voice Response, telephone survey is administered by the respondent answering pre-recorded questions using touch-tone key pad to record their answers and there is no live interviewer. For those still using dial-tone telephones, the system can also capture and digitally store their voice responses. For open-ended questions, responses are recorded and then transcribed and included in the research report.

IVR is most commonly used to measure customer's reactions to service they just received, also known as a transactional survey. For example, you may be asked if you'd like to take a short survey at the end of the call with an agent. When the service is complete, the agent disconnects the caller, and the caller is transferred to a survey. Common IVR applications, other than for marketing research, include bank balance inquiry, call center routing, stock lookup and quotes, order entry and tracking, and Movie schedules. IVR is one example of a hybrid methodology. For example, a restaurant or retail store will give receipts with a toll-free number encouraging customers to take a survey for a discount or coupon incentive.

Although IVR surveys have a high fixed cost, there is very little variable cost. Western Wats, Polaris' telephone partner for telephone data collection, can have 2,000 lines available 24/7, which can be used to collect large volume data quickly and on a budget since a pre-recorded voice surveys the respondent. IVR's speed of data collection is its most striking advantage. Within 5 minutes after a service interaction is finished, a company can get feedback from the customer about his experiences. Also, although there is no interviewer bias, the question design is very limited to simple scale questions.

With both CATI and IVR systems, respondents who have unresolved issues and/or request immediate attention, can request for contact or Action Report at the end of the survey. Action Reports provide an excellent opportunity to mend dissatisfaction and turn these contacts into successful long-term relationships.

Computer Assisted Telephone Interviewing (CATI)

Pros	High quality control with trained interviewers and CATI technology to assist in complex questionnaire. Clarification of unfamiliar words and questions are carried out by interviewers. Data collection is quick and less prone to errors. It's easier to reach "low incidence" respondents, as in a segment of population that is small in size. It is also less prone to "non-response" bias and more likely to represent the true opinions of the population than any other methodology.
Cons	In general, the telephone survey needs to be short, usually less than 15 minutes, for respondents to be engaged and to complete it. It's difficult to ask sensitive and personal questions. Hurdles such as FTC's Do Not Call List for telemarketers and inexpensive gadgets like TeleZappers make reaching respondents more difficult. Cost per telephone interview can be expensive if the completion rate and response rate is low. There's also possibility of interviewer bias when probing for answers.

Interactive Voice Response Surveys (IVR)

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Pros	No interviewer results in low cost and no interviewer bias. Convenient for respondent to dial in anytime at his convenience. Used in transactional surveys, IVR provides fastest feedback after interaction with an agent/company.
Cons	Survey needs to be very short, 5 minutes or less. It tends to have low initial cooperation rates and high break-off rates. No clarification of questions and probing for reasons by interviewer.

Method #3: Online Surveys

With more companies trying to reach international markets, online surveys fill the need for sampling an array of languages and populations. Web questionnaire design can vary from complex skip logic to placing images, videos, and sound-clips for new brand concepts and designs. Unlike telephone interviews, there is no interviewer bias or even interviewer dialects/accents that can lead to misunderstanding the questionnaire. Data

collection is quick and easy, and tracking where respondents break-off in the survey is possible due to data piping-in to a database in real-time.

The obvious downside of online surveys that most expect is the problem of skewed data. Only the participants with Internet access are expected to respond with these respondents being in the Gen Y or Gen X generation. However, in a recent article by Pew Research Center "Generations Online in 2009," "the biggest increase in Internet use since 2005 can be seen in the 70-75 year-old age group. While just over one-fourth (26%) of 70-75 year olds were online in 2005, 45% of that age group is currently online." The following chart is a representation of Americans online by age.

Probing in online surveys is also a concern with this methodology. However, new software integrated with online surveys, such as iModerate and SurveyGuardian, are able to use interactive chat features, like a pop-up window during the survey, by a trained e-interviewer to probe for more clarity and accuracy of answers from the respondents in real-time.
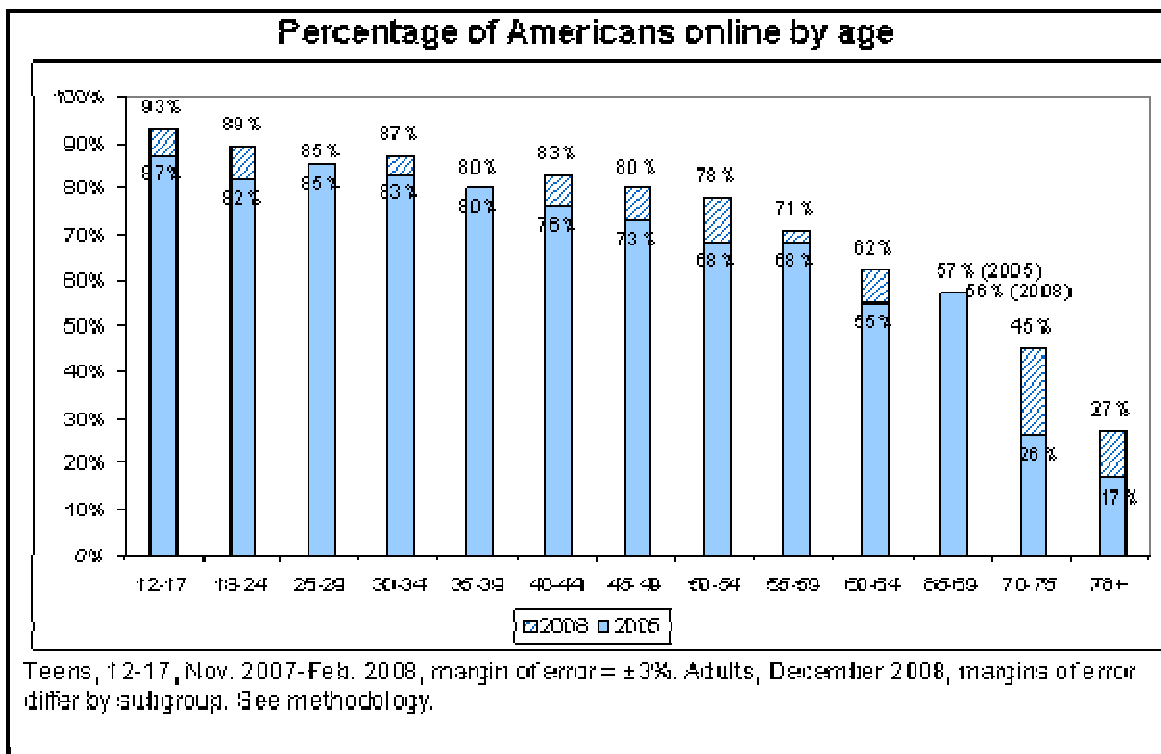
Like telemarketing, SPAM-mail is a hurdle in this methodology. Because email invites for survey are sent through software in large email batches at a time, it can trigger a respondent's mail box to label it as "junk" or SPAM mail. To overcome this hurdle and increase response rate, sending an initial email about the survey from a trusted address domain is important. Mail invites, rather than email invites, with incentive offers are also used to initiate respondents to log on to online surveys.

However, advances in online surveys are not limited to clicking a survey link from an email invite or typing in a web address from a mail invite. "People are just not paying attention to their email like they used to," said Mark Houston, PeanutLab's Vice President for Marketing. Companies like Peanut Lab are targeting respondents of specific web communities or social networks, such as facebook.com, where incentives to taking surveys on your facebook page is fake online money for games and applications. The method used by Peanut Lab also can be used for recruiting an online panel, since social networks include demographic profiles used to segment respondents.

There's also an option to online surveys where you do not need an actual sample. For example, a "pop-up survey" window can be programmed to appear every n:th time the web site is visited. This online survey method can be used in order to avoid self-selection bias and to gain a little more control over the sample visiting the website. This method allows a good number of completes in a short period of time if the site has a lot of traffic. However, this type of methodology has been reported somewhat annoying to web users.

Hybrid methods are also used with online surveys to help you attain better, faster, and more responses. Respondents are recruited, screened, and instructed by a phone interviewer to go onto to a web page for the actual survey. Bill MacElroy in the article "Measuring response rates in online surveys," however, mentions a downside to using hybrid methods for telephone-recruit to web. He states that "telephone pre-recruitment can cost up to 70 percent of the cost of doing the entire interview over the phone, so there has to be a very compelling reason to use the Internet if you must call ahead of time."

Online Surveys

Pros	Although there is a high software and hosting start-up cost involved with launching your own online survey (unless professional marketing research firm like Polaris is used), the cost of online is less expensive than a CATI survey overall. Time collecting data is greatly reduced since data is automatically entered in a database and can be exported to other programs. Online surveys are as powerful as CATI, cover international population, and can display many different media types.
Cons	Coverage that is representative of the population is still inferior to telephone sampling. Email invites can end-up in junk mail boxes and people are paying less attention to emails as they used to. There's still self-selection bias unless pop-up surveys are used.

Method #4: In-Person/Household Surveys

Until the 1970s, face-to-face survey was the dominant methodology for data collection. However, with technology to cut down cost of interviewer's travel expenses, time, and training, why would you need to conduct face-to-face surveys? In the article "Intensive One-on-One Surveys" by Granite Bay, in-person or household surveys are most commonly used when interviewer and respondents are discussing personal situations with extensive probing and exploration. Respondents are able to reveal themselves and tell a story that is more genuine and pointed. The interviewer can record the responses into a computer or tape the interview while determining whether the respondent is giving false answers to the questions from his facial expressions and body language, etc.

In-Person Surveys

Pros	The completion rate is high. Respondent is unlikely to "drop off" before completion. The interviewer can acquire more qualitative data, and explore answers with respondent. It's optimal for difficult to reach populations
Cons	Cost is very high due to interviewer training, traveling, and offering respondent incentives. Face-to-face surveys have almost become extinct due to cost compared to telephone or online methods. It has the highest degree of interviewer bias, in verbal and also in this case, non-verbal. Also, respondents may feel reluctant to share truthful answers to sensitive topics and give a more socially acceptable response to the interviewer

Now that you have the knowledge of four basic survey methodologies, we have to ask general, but insightful questions to determine which approach is most appropriate for your situation:

1) Depending on what you want to know, who should be in your sample and who should respond to the survey? Do you have the phone numbers, addresses, or email to reach your respondents?

2) Do you need the results right away? Time frame is an important factor to methodology consideration. Do you need to consider hybrid techniques and increase your cost to collect the data you need and as soon as possible?

3) How complex are your questions? Do they require probing from the interviewer? Does your survey need to show graphics and/or audio?

4) How many responses do you need to feel confident about the results? For example, at a 95 percent confidence level, the margin of error of n=200 responses is ±7 percent. This means that if 60 percent of your respondent answered to having a preference to Coke over Pepsi, you can be 95 percent sure that 53 – 67 percent of your entire sample population actually does prefer Coke over Pepsi. Depending on your ideal confidence level, you can increase or decrease your sample (n) to increase or decrease the margin of error.

All these factors taken into consideration not only affect the accuracy of your study, but also your budget. However, budget should never overweigh selecting the best option to achieving your research objectives.

For more information about survey research methods, please visit our website at
http://www.researchlifeline.com/ or call us at 1-855-244-3500.

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