

Q^{sq} Methodology: A New Market Research Approach for Cost-Effectively Reaching and Engaging Technology Professionals

Michael Hulfactor, Ph.D.

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Technology Professionals are Difficult to Research

An innovative product or service's market success is enhanced when there is input from technology customers during the development of product concepts, features, and marketing programs. However, this is easier said than done. Why?

- The first problem is that many technology customers are technologists, scientists, and executives who have little patience for dull online and telephone surveys. Moreover, most are not interested in or available for focus groups and don't have much time for in-depth – and particularly, face-to-face – interviewing.
- Second, it's difficult to hold the attention of technology customers once they choose to participate in a research study. Many participants, especially those taking surveys, will drop out or provide low quality responses if the questioning is uninteresting or repetitive.

These problems are not merely execution issues, but are fundamental to the research methodologies being used in business-to-business research settings in technology markets. Let me explain why.

- Qualitative approaches – in-depth interviews and focus groups, for example – can engage technology professionals. But getting them to participate is another matter because this kind of approach takes a great deal of participant time and attention which is in short supply in this group. Once in a focus group, it can be tough to get detailed and unbiased input from every participant. In-depth interview participants often cut interviews short because conversations are neither relevant nor stimulating.
- Quantitative approaches – online and telephone surveys and their variations – often fail to engage technology professionals. It's easy and inexpensive to throw together an online survey, but it's likely to be off the mark. Most surveys are developed using incomplete information about the research problem and participants, leading to poor question construction and bias. Many technology customers have suffered through so many poorly done surveys that they'll either refuse to spend time on one more or terminate early.

In spite of these difficulties, I've found that technology professionals all over the globe understand that market research studies can lead to products and services that better meet their needs.

A New Approach to Reaching and Engaging Technology Professionals

The challenge is to make the research appealing and engaging to technology professionals, while, at the same time, to provide necessary research rigor. I've found that technology professionals respond best to studies that offer some tangible future benefit, such as asking for input on a product or service they might consume in the future. Because they are smart and highly educated, technology professionals want a research situation that is intelligent and interesting, and even want to be challenged by something new and different from what they've experienced in the past. Finally, they want a research situation that is personal and respectful of their time and status.

Over the past five years, DecisionTrend has developed¹ an approach that engages technology professionals while, at the same time, incorporating some of the better features of both qualitative and quantitative methodologies. The approach is called Q^{sq} Methodology (derived from Qual * Quant, hence Q^{sq}). The methodology has been refined, tested, and applied to numerous research problems in multiple worldwide business-to-business market studies.

In research jargon, Q^{sq} Methodology combines both in-depth qualitative and scalable quantitative research. Focusing squarely on the technology decision-maker, Q^{sq} is a so-called "bottom-up" research design that can capture information that a pure top-down approach might miss, though it still guided by top-down paradigms.²

Q^{sq} Methodology consists of two complementary components: **Q^{sq} Web-Assisted Interviewing** and **Q^{sq} Analytics**.

Q^{sq} Web-Assisted Interviewing

Q^{sq} Web-Assisted Interviewing combines telephone interviewing with real-time Web-based content, providing stimulating, intelligent, and productive sessions with study participants. Interviews are conducted by moderators who are proficient in a client's technology and sensitive to the nuances of participants' professional and national cultures.

Q^{sq} Web-Assisted Interviewing uses a discussion guide – that can be more-or-less structured as needed – in a conversational setting. The guide provides detailed open-ended questions, as well as closed-ended questions and coding protocols suitable for quantitative analysis. Telephone interviews are supported by a Web-based presentation of a product, service solution, or other kind of concept. Each participant receives exactly the same stimulus with this presentation, so individual responses can be aggregated during analysis to produce quantitative results. The procedure respects participants' time and provides convenient scheduling. This makes it an excellent approach for conducting systematic research with professional and business participants at widely dispersed sites around the world.

In-depth interviews suitable for qualitative analysis are often 50 to 60 minutes in length, and, if the participant gives his or her permission (with confidentiality guaranteed), can be recorded and transcribed so that verbatim and top-of-mind responses can be reviewed. In

¹ I am indebted to Vesna Swartz who provided the motivation for creating the methodology, and to Janie Chang, who contributed key ideas in the early stages of development.

² All research is guided by top-down paradigms (or models), whether they are explicit or not. One paradigm that's useful for assessing market adoption of innovative technology is the Paradigm for Advanced Technology Market Acceptance discussed at the www.decisiontrend.com website.

my experience, with careful participant selection, “directional”³ results are possible with sample sizes of 15 to 35 or so.

For quantitative analysis, larger numbers of interviews, typically 20 to 30 minutes in length, are conducted with suitable coding protocols. The interviews are moderately structured, and allow the interviewers the freedom to explore items with participants. Statistically useful results are possible with sample sizes of 60 to 100.

Some international clients have been initially skeptical of Q^{sq} Web-Assisted Interviewing, predicting that an approach other than face-to-face interviewing will fail, particularly in emerging geographies. My colleagues have successfully used Q^{sq} Web-Assisted Interviewing not only in the U.S., Canada, and Western Europe, but also in Mexico, Brazil, Japan, China, and India.

Q^{sq} Analytics

Q^{sq} Analytics consists of painstaking and rigorous analytical procedures that are designed to reveal insights from interviews. For qualitative, in-depth interviews, results are abstracted and presented in a useful format for analysts. In every instance, study findings can be tracked back to individuals or groups of participants.

For quantitative analysis, verbatim responses are recorded, coded, and unscripted responses flagged. Results are also given standard statistical treatments. Either descriptive or inferential statistics (e.g., regression) can be used with confidence.

Comparison: Q^{sq} Methodology and Focus Groups

Comparing Q^{sq} Methodology to the traditional focus group approach can illuminate the strengths and weaknesses of each. The chief benefit of focus groups is centered around the occasion. Getting a group of participants together in a large city, with managers and other professionals from a sponsoring company sitting behind a glass wall, is a compelling event. But from a methodological standpoint, focus groups have serious flaws and application limitations that have been increasingly pointed out by social scientists and practitioners.⁴ Q^{sq} Methodology overcomes many of these limitations.

Q^{sq} and traditional focus groups are compared below in the areas of sampling and participant suitability, methodological rigor, results interpretation, logistics, and costs.

Sampling and Participant Suitability

Target population type and size most appropriate for a methodology and how likely the desired population is represented.

Q^{sq} Methodology

Ideal for small to moderately large business populations, and suitable for larger populations; appeals to busy technology professionals

Focus Groups

Better suited to larger rather than smaller populations; busy technical and executive decision makers usually not willing to participate

³ By directional, I mean not statistically testable due to small sample size, but results are suggestive of trends in the larger population. A carefully chosen sample can capture representative information from a larger population, and provide excellent contextual detail.

⁴ For more in-depth discussions of some of these limitations, see for example, Calder, “Qualitative Marketing Research,” in Bagozzi (ed.) *Principles of Marketing Research*, Cambridge MA, Backwell (1994); Gibbs, “Focus Groups,” *Social Research Update*, University of Surrey, 19: Winter 1997; Gross, “Lies, Damn Lies, and Focus Groups,” *Slate*, Oct 10, 2003.

Sampling and Participant Suitability (*continued*)

Q^{sq} Methodology

Excellent geographical reach, as participation is limited only by telephone and Internet access

Many participants "untainted" by prior research so researchers can have confidence that participants aren't gaming the system

The approach is highly respectful of participants' time, position, and expertise; interviews are scheduled at participants' convenience

Very good participation rates; interviews can be rescheduled if necessary

Greater likelihood that research reflects the population of interest than focus group research

Focus Groups

Limited geographical scope, as participants are concentrated in larger urban areas

Participants often from lists maintained by focus group facilities or recruiting firms and have participated in groups many times before

Interviews not scheduled at individuals' convenience

No-show problems and inability to reschedule participants

Researchers have less confidence that focus groups will represent the population of interest

Methodological Rigor

Details about the methodology that ensure that it is likely to capture desired information (in technical terms, the measurement model's ability to capture constructs of interest).

Q^{sq} Methodology

Interviews part of participants' daily routine because they occur at their job sites

Captures behavior from conversational cues, but is not observational

Individual interview with entire session allocated to the participant

Confidentiality provided, so frank responses to questions can usually be achieved via mutual trust between interviewer and participant

A skillful interviewer can probe meanings and understandings, seeking cues in spoken responses

Ability to assess what questions mean to participants, so can modify discussion guide accordingly

Focus Groups

Focus group facility is an artificial laboratory-like setting

Can observe participant behavior, which is valuable for some types of group exercises; excellent approach for examining interaction between individuals and group

Each participant will have only a little time to talk; often subject to "group-think," where some participants in the group will dominate and sway the discussion

Lack of individual confidentiality, so some participants unlikely to share thinking; critics are concerned that what participants say in focus groups can't be entirely trusted

A skillful interviewer can probe meanings and understandings; can allow exploration between what people say and how they behave since behavior is observed

Less ability to modify discussion guide

Results Interpretation

How results are interpreted and presented, and what kinds of confidence observers can have in them.

Q^{sq} Methodology

Individual level of analysis; results can be easily aggregated

Focus Groups

Individual responses difficult to aggregate; problems of disentangling individual from group

Results Interpretation (continued)

Q^{sq} Methodology

Results interpretation highly structured, and findings less susceptible to interviewer interpretation and bias

Many findings can be coded, aggregated, and presented in charts and graphs in much the same way as quantitative studies

Discussion guide and concepts modifiable to respect local cultures; some cross-cultural uncertainties

Up to a high level of contextual detail along with meaning, language used by participants

Abstracted and "scrubbed" detail available that are helpful for company managers in understanding contextual detail

Interviews can easily be reanalyzed for new information of interest

Focus Groups

Approach somewhat open-ended in nature, so findings susceptible to interviewer interpretation, judgments, and biases

Findings generally not coded, except for some highly structured exercises; results typically presented in text and bullets

Discussion guide and concepts modifiable to respect local cultures; some cross-cultural uncertainties

Low-to-moderate level of contextual detail

Transcripts and recordings (video, audio) available; less helpful to company managers due to multiple participants and complexity

Reanalysis difficult

Logistics and Rapidity to Results

Resources, time, and effort to carry out the methodology.

Q^{sq} Methodology

Participant recruiting and interviewing can be done from the U.S. or in geographies of interest as appropriate

Rapid time to results, since travel arrangements and facilities don't have to be booked

Focus Groups

Travel arrangements, facilities, native speaker interviewers have to be arranged well in advance

Results can take many weeks or months from time project starts depending on geographical scope, number of groups, who moderates them, back-translations, etc.

Costs

Cost of carrying out the methodology.

Q^{sq} Methodology

Highly cost-effective; typically a fraction of focus groups costs since many costs such as facilities, and travel are avoided

Focus Groups

Moderate to very expensive due to logistical complexities; few economies of scale in using groups compared to individual interviews

Online Focus Groups

Online focus group approaches also leverage the Internet. Like Q^{sq}, this approach is more cost-effective than traditional sit-down focus groups because it uses the Web to avoid logistical headaches like travel and facilities charges. Unlike Q^{sq}, online focus groups are essentially extensions of chat-rooms, and are controversial. Not only do they have the methodological problems of traditional focus groups, but online focus groups have additional issues that include concerns about participants' actual identity, a written format versus talking format, and disconnections between writing and behavior.

Suitable Market Research Problems and Applications

As is the case with all methodologies, there are some market research problems and applications for which Q^{sq} Methodology is more suitable than others. Continuing my comparison with focus groups, Q^{sq} Methodology is at par or superior, and typically more cost-effective, than focus groups for many applications. It is particularly effective for market segment dynamics and features prioritization, especially if results from multiple segments or geographies are required.

The two approaches are compared below in the areas of segment dynamics and validation, consideration and purchase, features prioritization, and benefits and positioning.

Market Segment Dynamics

Assesses the condition of a market segment and its ability to support a technology product or service. Relevant factors might include concentration, growth, and operational characteristics relevant to a product or service. Decision processes and competitive environment are also important.

Q^{sq} Methodology

Excellent for market segment dynamics research since decision-makers at various levels of an organization can be reached

In-depth discussions reveal not only organizational and decision-making dynamics, but provide participant assessments of trends

Focus Groups

Not particularly good for exploring segment dynamics as the right kinds of participants may be difficult to obtain and place into group settings

The group format glosses over many important segment details

Consideration and Purchase

Part of market validation research, consideration and purchase identifies how decision-makers go about considering similar products and services, what's important and not important to them, and why they have purchased. Can involve both unprompted and tested attributes.

Q^{sq} Methodology

Very good for consideration and purchase since in-depth discussions can reveal brand impressions, reasons for considering and purchasing technologies, and future consideration

Attribute exercises can be conducted via the Web; individual responses easily aggregated

Focus Groups

Good methodology since brand impressions, reasons for considering and purchase can be explored

Attribute exercises can be conducted, but it's difficult to aggregate results since individual responses may be lost or biased by the group

Product/Service Features Prioritization

Another part of market validation research, for new or extended product or service concepts. Tests and identifies major features that are relevant and not relevant to decision-makers, and why.

Q^{sq} Methodology

Very good for features prioritization since in-depth discussions possible and the interviewer can demonstrate and test them using the Web

Very good for early design stages where product concepts can be tested

Valuable for presenting new technology products or services to decision-makers who would buy and use them in new markets or emerging fields

Focus Groups

Good methodology since product ideas can be shown to the group in-person, but may be difficult to aggregate results since individual responses may be short and influenced by the group

Good for early design stages where product concepts can be tested

Valuable for presenting new technology products or services to decision-makers who would buy and use them in new markets or emerging fields

Benefits and Positioning

Final part of market validation research, identifying chief benefits of a product or service, those benefits that are not important, and the product or service's relationship to the competition. Positioning can include packaging and sales channels.

Q^{sq} Methodology

Good for benefits and positioning, with discussion and exercises after Web presentation of technology features

Valuable for validating benefits to existing markets and testing in new markets

Focus Groups

Excellent methodology since product ideas can be shown to group in-person, and benefits tested; opportunity to test several exercises; shared group input may be of use

Valuable for validating benefits to existing markets and testing in new markets

Conclusions

Q^{sq} Methodology combines features of well-understood qualitative and quantitative approaches with the capabilities of the Internet to reach and engage technology customers. It addresses the problems that have made this group difficult to research by 1) providing an appealing and convenient way for technology customers to participate in studies; and 2) once in a study, participants are engaged in an intelligent and interesting setting. The methodology is particularly effective in multi-segment and global studies because it relies on the telephone and Internet, which are becoming more ubiquitous worldwide among technology professionals.

The methodology can supplant and supplement many existing market research approaches. It is exceptionally well-suited for qualitative in-depth studies, and can be used for small-to-moderate scale quantitative studies. Q^{sq} is a good substitute for focus groups. When compared to traditional focus groups, Q^{sq} outperforms the approach in the areas of sampling and participant suitability, methodological rigor, results interpretation, logistics, and cost. Finally, the methodology is an excellent supplement to large-scale quantitative studies by informing their design and providing the kind of detail that makes participant answers more meaningful.

Q^{sq} Methodology's ability to reach and engage hard-to-research technology professionals, combined with its methodological rigor, should appeal to professional market researchers who are concerned about validity and reliability, as well as to corporate managers who need results quickly and cost-effectively.

Michael Hulfactor, Ph.D.

Michael is managing director of DecisionTrend Research LLC (www.decisiontrend.com), a company that specializes in research for high technology companies. He has managed over 75 major proprietary studies over 15 years for global companies as well as early stage category creators. His Ph.D. is from Stanford University.