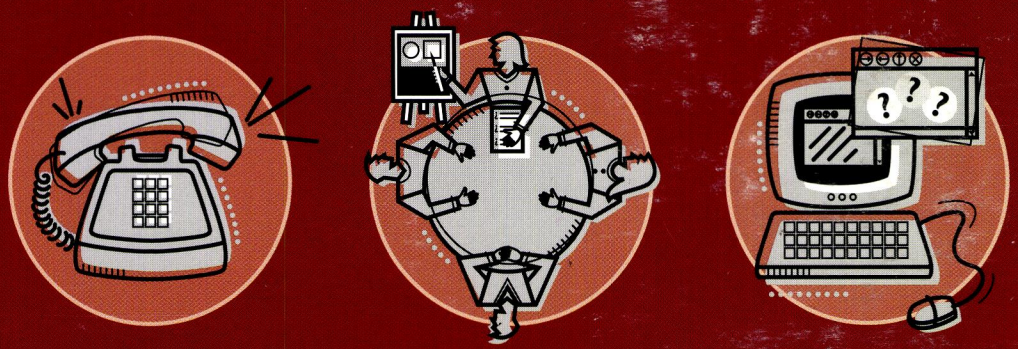
COMMUNICATION CANADA

PUBLIC OPINION RESEARCH

Research Techniques:
Guideposts to Value



Communication Canada

Canada

Public Opinion Research

Research Techniques: Guideposts to Value

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PREFACE

In recent years, the Government of Canada's focus on citizen engagement has been reflected in a number of key initiatives, such as service improvement, public consultation, meeting the needs of Canadians through government-on-line initiatives and measuring client satisfaction levels for government services. Public opinion research is an important tool in the success of these initiatives, and the increase in research activities by departments demonstrates the Government's commitment to engage Canadians and consult with them on its priorities, its policies and its programs.

The purpose of *Research Techniques: Guideposts to Value* is to provide an introduction to or a refresher on research approaches for Government of Canada employees involved in public opinion research. In outlining the advantages and disadvantages of current data collection methods, you will be able to get the best value for money by selecting the most effective approach to meeting your research objectives.

This guide provides information about conventional research methods as well as emerging techniques using the Internet, and provides a brief glossary of key research terms. The Government of Canada definition of public opinion research and the procedures for acquiring research are briefly described in appendices A and B respectively. Appendix C provides an overview of key elements of the research process.

Communication Canada publishes a variety of information tools to assist federal departments in implementing their research projects. For an overview of the public opinion research process in the Government of Canada, you are invited to consult *Public Opinion Research in the Government of Canada: An Orientation Guide*. This publication is designed to inform departments and agencies with a step-by-step guide to acquiring public opinion research. It includes policy requirements and the roles of departments, Communication Canada and Public Works and Government Services Canada (PWGSC) in the research acquisition process.

For more resources on public opinion research, you are invited to consult CommNET, the Extranet site of the Government of Canada's communications community, at http://commnet.gc.ca. It contains best practices in public opinion research and provides a wide range of resources and information, a listing of research undertaken by departments and agencies since 1994, contacts at Communication Canada (listing of advisors) and an electronic version of both guides.

As stated in the Government Communications Policy, Communication Canada is the primary point of contact for departments and agencies seeking to conduct public opinion research. We provide guidance throughout the entire research process to ensure that research meets your needs and is conducted following industry standards and governmental policies. We would be pleased to assist you. For more information, please contact us at (613) 943-5130 or (613) 995-9006, or by e-mail at por-rop@communication.gc.ca.

1 Do I Need a Survey or Focus Groups? Considerations in Selecting a Data Collection Method

Public opinion research uses a number of qualitative and quantitative techniques to obtain information from target populations. These include focus group discussions, in-depth interviews, telephone and door-to-door surveys, self-administered questionnaires using mail or the Internet, exit interviews and mall intercepts, and ***omnibus surveys***.[1] Choosing the most appropriate method for collecting data depends on a number of factors:

- purpose and objectives;
- cost considerations;
- time constraints;
- level of accuracy required;
- sensitivity of the information;
- location of research population(s); and
- other logistic and project-specific considerations.

2 Getting Started

Do I need a survey or ***focus groups***? This is often the first question a researcher or project manager asks when tasked with implementing a research project. Before answering that question, you must establish the research purpose and determine research objectives.

[1]Key research terms are ***highlighted*** when they first appear in the text and a definition for each can be found in the glossary at the end of the guide. Other technical terms, not highlighted in the text, have been added to the glossary for your reference.

Establishing the Research Purpose

As a first step, you, your branch or your client need to establish the purpose of the research. This is crucial since it will guide the remaining steps in the research process. To help you define the purpose, you need to answer the following questions.

- Why is the research information needed?
- How are the findings going to be used?
- What decisions are likely to be made based on the findings?
- Who will use the research information?

Determining Research Objectives

Next, you need to formulate research objectives – the specific information requirements of the project. In contrast to the research purpose, which deals with why information is required, research objectives focus on what is required. You need to specify, in as much detail as possible, the information you are looking for and the question areas that need to be covered (e.g., habits, attitudes, perceptions, demographics, etc.).

There are other steps that you need to think about before implementing a research project. These steps include searching for existing research that could meet your information needs or complement any ***primary research*** that you undertake, and deciding on research parameters, such as ***target population(s)***, scope, budget and timing.

Conducting Secondary Research

Once you have identified your information requirements, you should take the time to review existing sources, such as internal documents, ***syndicated reports*** and reports of similar custom studies. Please consult the Government of Canada database site for a list of reports available at the National Library at http://commnet.gc.ca. Your branch/department public opinion research coordinator

or your Communication Canada advisor can also provide you with other relevant sources of data (e.g., data from other levels of government, other countries, etc.).

Deciding on Research Parameters

Early in the planning of your study, you need to know the following.

- Who is your target population, or whose opinion do you need to obtain?
- What is the scope of the study? Does it need to be national and cover the total Canadian population in all regions of the country, or would a study of more limited scope be sufficient?
- Is there a set budget for this study? Keep in mind that designing a perfect study is usually more expensive than the available budget.
- When do you need to have results?

The importance of these early steps cannot be stressed enough, particularly the identification of purpose and objectives. These key elements of a research study should be established before approaching your Communication Canada advisor. A clear definition of the purpose and objectives is your responsibility as the project manager and is key to the success of your study. It is also critical for you to obtain the involvement and agreement of the user or decision maker in determining the purpose and objectives.

3 Two Fundamental Approaches – Qualitative and Quantitative Research

Your next decision will be to determine which approach is most appropriate for your research project: ***qualitative research*** or ***quantitative research***. There will also be projects where both approaches will be required to fulfill the objectives of the research.

Qualitative research is a widely used exploratory technique. Its purpose is to gain insight into people's behaviour and perceptions, and explore their opinions on a particular topic in more depth than is possible in a survey. It is used for generating ideas and hypotheses where it is not clear how an issue is perceived by the target or where options for addressing an issue are undefined or not well understood. It is widely used to ***pre-test*** advertising concepts and other communications materials.

The most frequently used qualitative techniques are focus group discussions and individual in-depth interviews. Qualitative research relies on semi-structured or even unstructured interviews where the ***moderator*** or interviewer works with a discussion guide or interview guide developed with the client. Unlike surveys, qualitative research does not use a set questionnaire, and the researcher has latitude to adapt the discussion guide or interview guide according to ***participants'*** individual experiences and responses. The researcher can eliminate question areas that are yielding little useful information and add those that are more promising.

Qualitative methodologies do not yield statistical data, and the **findings cannot be extrapolated to the broader population**, given that the research sample is not representative or necessarily random. For this reason, **qualitative data cannot be conclusive** and should never be reported as percentages or numbers. The utility of qualitative research should not be underestimated, however. A skilled moderator or interviewer can solicit valuable information and insights by ***probing*** how participants relate to an issue or process information provided to them.

Quantitative research, by contrast, uses a systematic approach to collecting and analyzing information obtained from a sample of the population to provide **statistically valid results**, typically reported as percentages. Currently, the most widely used method for administering survey questionnaires is the telephone. In cases where all members of the population need to be interviewed, the survey is called a ***census*** survey. However, given the time and resources involved in interviewing all members of a given population, most quantitative studies include only a proportion of the population. This is called a ***sample survey***, and ***respondents*** are selected according to the principles of ***sampling*** theory to **ensure that their responses can be projected to the entire population**. Quantitative research yields results with a known level of ***sampling error*** and is used when conclusions need to be drawn about the target population.

Example

An example from advertising research may serve to illustrate the essential differences between the two approaches. A quantitative approach to evaluating people's assessment of a TV advertisement would ask the following ***closed-ended question***.

Assuming that the question is asked in a telephone survey, the interviewer would read the questions followed by the response categories. The respondent would be asked to choose only one.

"Overall, did you like this ad?

- A great deal ( )
- Somewhat ( )
- Not very much ( )
- Not at all" ( )

Using a qualitative approach, the focus group moderator might first play the ad for the group, and then ask a similar ***open-ended question***.

"Overall, did you like this ad?"

However, the flexibility of qualitative research allows the moderator to follow up on participants' initial reactions with probing questions (probes) such as:

- "What did you like about this ad?"
- "How is it 'catchy'?"
- "Fun how?"
- "When you say 'It's a nice ad,' what specifically comes to mind to make you say it's nice?"
- "What did you dislike about the ad?"
- "What would it take to make this ad more interesting for you?"
- "What impression of the Government did this ad leave you with?"

And so on. The wording and the number of probing questions to obtain in-depth reactions are constrained only by the skill of the moderator and what the client needs to know. A skilled moderator or interviewer will use different questions and probes to get at the underlying feelings, opinions and attitudes that add to/enhance the richness of qualitative data.

To summarize, the key differences between qualitative and quantitative research are as follows.

Table 1: Contrasting the Two Approaches to Research

Qualitative	Quantitative
• Directional only, cannot be projected to broad population • Purpose is to investigate and explore • Open questions with no predetermined response categories • Relatively unstructured discussion • Small number of people, large amount of in-depth information • Illustrative • Interpretative – how and why	• Conclusive, can be projected to broader population • Purpose is to measure and evaluate • Mostly closed questions with predetermined response categories • Structured questionnaire • Large number of people, limited number of questions • Numerical data can be easily aggregated • Statistical – what and how many

The next few pages offer a closer look at various qualitative and quantitative approaches, beginning with conventional methods, followed by the emerging techniques made possible by advances in technology. We also look more closely at what you need to take into account in deciding which method is best suited to your project needs.

Qualitative Research

Qualitative research can be used on its own. (Company X conducts a taste test to gauge consumer reaction to a new fruit-filled snack bar in advance of mass production, for example.) Or, it can be used as a complement to quantitative research.

Qualitative research can lay the groundwork for further research. If you don't know what the possible options might be in response to a particular set of conditions, or what the answers might be to a particular question, then you probably should consider first using qualitative research. For example, can you

say with certainty what Canadians would be willing to trade off to improve the environment? If you can, then you would consider asking a series of questions for inclusion in a survey. If not, then you probably need to have an open discussion (qualitative research) that will elicit possible options from the public. These options could then be tested in a survey to determine more precisely the level of support or opposition to various possibilities.

Qualitative research is also excellent for testing the specific wording and placement of questions for future surveys. For example, Statistics Canada tests potential new census questions qualitatively to better understand how wording is interpreted and what answers are provided, depending on how questions are asked and where they are placed in the questionnaire. With this information, they can fine-tune questions before they are asked of households across the country.

Qualitative research can also be used as a follow-up to a quantitative study to gain insight into an unexpected outcome or to further explore particular survey findings.

Qualitative research often generates new ideas or ways of looking at an issue because, by definition, the process is open-ended – participants' responses are not restricted to yes, no or multiple-choice answers.

Qualitative research can be used to...

- generate new product, program or service concepts;
- learn about clients' experiences with a service, product or program;
- explore ideas about improving a program or service;
- obtain preliminary reactions to a new policy, program, service or product;
- explore people's knowledge or perception about a public policy issue;
- learn the client's language and vocabulary around a particular subject;
- explore how to position a product or service;
- pre-test creative concepts for an advertising campaign;
- test clarity, comprehension, content and format of publications or Web sites; and
- generate hypotheses for further testing.

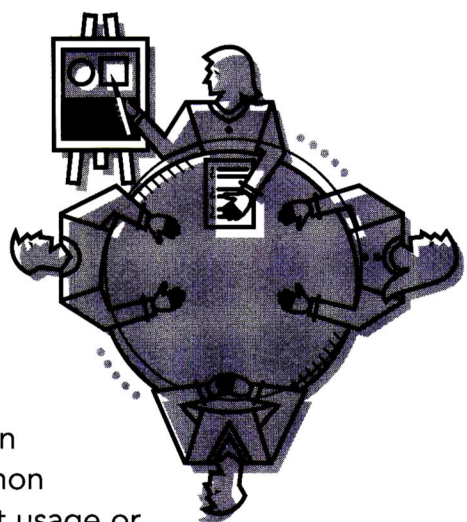
Qualitative research uses two main techniques: focus group discussions and individual in-depth interviews, also called "one-on-ones." Focus groups can be traditional (eight to ten people attending), or one of several variations such as dyads (two people) or triads (three people), mini-groups of four to six people and maxi-groups of 15 people or more.

There are no hard and fast rules for choosing groups or individual interviews. The choice may depend on a number of factors, such as subject matter, number of ***segments*** in the target audience, age of participants, geographic proximity or availability of prospective participants, budget and timing.

The most common qualitative techniques, along with their advantages and potential drawbacks, are explored in the next few pages.

Traditional Focus Groups

Focus groups follow a standard framework for gathering qualitative data. These include:



- set time limits, usually 90 minutes to two hours long;
- usually two focus groups per location to maximize efficiency;
- trained moderator;
- semi-structured or open format discussion;
- eight to ten participants;
- researchers usually strive for some homogeneity in the group's composition (participants typically share some common characteristics – demographics, product usage or life experiences);
- participants do not know each other in advance of the group;

- participants may know the general topic to be discussed, but are given no specifics in advance;
- participants generally receive a monetary incentive for their participation;
- discussions usually take place in specialized facilities which allow unobtrusive observation by the client and audio and videotaping of the discussion;
- transcriptions of the audio tapes (tape ***transcripts***) facilitate report writing.

Note: Government laws and policies (see *Privacy Act*), and industry standards require that participants' confidentiality be assured at all times, and that participants' consent be given for both the presence of observers and for the audio/videotaping of sessions. With respect to videotaping, specifically, participants must be told the full extent of the related research purpose, what the tapes will be used for and must sign consent forms. It is a joint research firm–client obligation to ensure the safekeeping of information that could identify particular individuals.

Focus group discussions are used when interactions from participants will trigger new thoughts or ideas, when the subject matter is not sensitive, when cost and/or turnaround time are critical and an appropriate number of the target audience can be assembled in one location at the same time.

In spite of its popularity, the focus group technique must be carefully employed to ensure effective results. It requires rigorous recruitment procedures to ensure the right mix of participants and the elimination of "professional" participants (people who attend groups frequently and become experienced participants, thus questionable representatives of the larger target group).

Successful groups also depend on an experienced moderator able to establish rapport quickly and remain in charge of the discussion. A good moderator:

- demonstrates tact and is empathetic;
- is able to neutralize group influence and dominant individuals while encouraging contribution from more passive, less vocal members;

- is not wedded to the discussion guide, but demonstrates flexibility in adapting the discussion flow to the experiences and directions of the participants, while still covering the issues and gathering the information that the client needs to know;
- is not satisfied with brief or shallow answers, but is skillful at probing for deeper underlying attitudes and eliciting the wealth of information that is possible from a well-run focus group;
- captures a broad spectrum of opinions on an issue and does not make sweeping generalizations based on comments from one or two participants, which can lead to misleading results and a waste of the client's time and money.

Dyads and Triads

Other group techniques are similar to standard focus groups, but they vary in the number of participants and/or length of the discussion. In recent years, the use of dyads (groups of two participants) and triads (groups of three participants) has been on the rise. These smaller-group techniques can help to overcome one of the potential flaws of traditional focus groups, that is, undue influence of the group on individuals' responses. Many qualitative researchers emphasize the value of these techniques (as well as individual interviews) to test creative concepts and finished advertisements. Dyads and triads are sometimes used instead of traditional focus groups to make optimum use of the research budget when there are several segments of the target population that need to be heard from, or as replacement for one-on-one interviews to reduce the research schedule. These smaller groups are also useful with children and teens, because they allow smaller age spreads and minimize the disruptive behaviours.

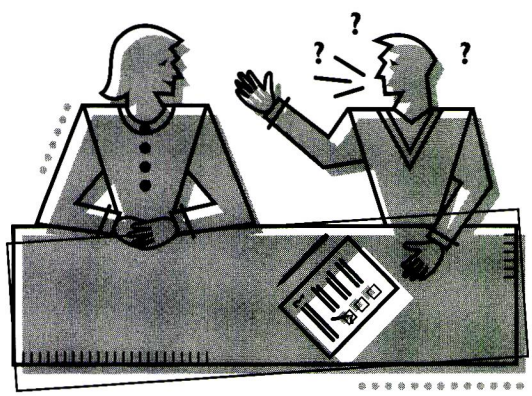
Although these methods are no more statistically projectable to the general population than traditional focus groups, when conducted by a skilled moderator, they can collect useful findings on issues, products and services. These smaller group interviews vary from 30-minute sessions to all-day events and are customized to the client's needs.

Individual In-Depth Interviews

For certain studies, it might be more appropriate to use individual interviews rather than group interviews. Such instances could include the following occasions.

- The topic is too personal or sensitive to be discussed in a group.
- A person's opinion can easily be influenced by others in the group.
- It is as important to learn what people don't know about a subject as what they do know. In a group setting, knowledgeable participants may inhibit less knowledgeable ones, making it difficult to explore areas of ignorance or misperception.
- The participant must accomplish a task, such as navigating a Web site or operating a voice-activated telephone system.
- Logistic problems make groups impractical. Participants are geographically dispersed and travel time and costs are prohibitive.
- Confidentiality of the participant is required.
- The interview subjects are executives from competing firms who would be reluctant to open up in a group situation.
- It is important to interview the participant in a particular environment.

Typically, this technique is employed when conducting "executive" or "elite" interviews with decision makers or opinion influencers or with participants known to have been involved in a particular experience. A trained interviewer uses an established list of mostly open-ended questions to be asked in-person or by telephone. The in-depth interview provides participants with considerable latitude in expressing their views. Interviews typically last from 15 to 40 minutes, but they can last longer, depending on the participant's interest in the topic. This technique allows the researcher to obtain detailed descriptions of individual experiences.



How Many Groups or Interviews Do I Need?

For each technique described above, an important decision that you will need to make is the number of groups or individual interviews that should be conducted to meet the study objectives. The more segmented your target population, the more groups or interviews you need, if you want to maintain the homogeneity usually required for an effective group. That is, each group should reflect a single segment for the most insight into that segment's views and behaviours. Other factors that can determine the number of groups could include the following.

- Income and education: Avoid a wide range of different economic and education levels in the same group.
- Level of expertise in the subject matter: Try to keep the knowledgeable or experienced separate from the novice or beginner (e.g., Internet users).
- Product use: Try to keep users and non-users in separate groups (e.g., heavy smokers vs. occasional smokers vs. non smokers).
- Gender: You might not include men and women in the same group if the subject matter is gender sensitive.
- Age: If possible, children and teen groups should not have more than a two-year age span.

The best test to determine the number of groups is to identify how many segments are necessary to obtain all perspectives surrounding the subject matter. You must also assess whether or not regional perspectives are expected to vary.

The last 15 years have seen an increasing use of qualitative approaches. In fact, there is a tendency to automatically think of focus groups whenever research is contemplated, perhaps because this method for collecting information is interesting to clients, and focus group studies can be organized quickly and usually for less cost than most sample surveys. However, qualitative research, including focus groups, is inherently unscientific and cannot be statistically significant, no matter how many participants or groups are used. Qualitative techniques must be used selectively and when they are the most appropriate approach to a research problem. **They should never be used as a substitute for quantitative research**.

Table 2 provides you with a ready reference of the advantages and disadvantages of different qualitative research techniques.

Table 2: Qualitative Techniques: Advantages and Disadvantages

Qualitative Technique	Relative Advantages	Potential Disadvantages
Traditional focus groups	• Group dynamic produces new ideas, unexpected insights • Lower cost than one-on-ones • Fast turnaround time • Flexibility: allows client to observe; permits modification of study design while in progress	• Inappropriate screening of participants can skew results • Dominant or submissive participants reduce effectiveness (group dynamics) • Requires special research facility or remote video set-up for observers • Quality of the information relies heavily on moderator's skills • No statistical validity
Dyads and triads	• Minimizes the negative influence of group dynamics • Facilitates homogeneity of participants; allows for collecting views from several segments when study population is fragmented • Effective with children/teens • allows segregation by gender and narrow age ranges • More moderator control • Lower cost than one-on-ones • Fast turnaround time • Flexibility: allows client to observe; permits modification of study design while in progress	• Less group dynamics than traditional focus groups • More time consuming than focus groups for moderator and client observer • Quality of the information relies largely on moderator's skill • No statistical validity

One-on-ones	• Useful with hard-to-reach target audience (executives, professionals, dispersed participants) • Flexibility in choice of techniques (i.e., face-to-face or telephone) • Permits modification to study design while in progress • Discretion, confidentiality • Pure responses (no group influence) • Permits greater depth of response per individual • Few recruitment problems • No need for specialized facilities • Useful for questions of knowledge, communication or comprehension	• High cost per interview • Requires experienced interviewers • No group dynamics • Can be more time consuming • Limited client involvement; less opportunity to observe • No statistical validity

Quantitative Research

Quantitative research gathers data about people's knowledge, opinions, attitudes and behaviour through surveys. Data can be collected from each member of the study population as Statistics Canada does every five years when it conducts the census. Most typically, however, data are collected from a sample that is selected to represent the population of interest, in which case the collection is called a sample survey or simply a survey.

An example will illustrate the basic difference between the treatment of results from a census and results from a survey. Suppose you want to survey the 2,000 employees working in a particular office building to find out how many used the bus to come to work that morning. If every employee is interviewed and 1,000 are found to have come by bus, then one can state as a fact that 50% of employees of that building used the bus to come to work that

morning. However, if only 1,500 are interviewed and 750 are found to have come by bus, the result is still 50%, but this would be an estimate, not a statement of fact.

The basic question then becomes: is the result obtained from a census very different from the result obtained from only a proportion of the population? The answer to this question lies in sampling theory and the ability to compute the sampling error, the error due to the fact that data are collected from a sample only.

Using rigorous techniques and systematic procedures, researchers can use the results of a survey based on a random sample to make conclusions about the population validity. In other words, in a well-designed survey with a representative sample of the target population, survey results can be extrapolated to the whole population. Findings are usually accompanied by the survey's ***margin of error*** (described, for example, as "accurate within plus or minus 2.5%, 19 times out of 20"), allowing you to gauge how much confidence you can have in the results. The quality and usefulness of survey results depend heavily on the researcher's skill in selecting the sample and designing the survey instrument or questionnaire.

Quantitative research can be used to...

- evaluate the effectiveness of a program or service;
- ***post-test*** an advertising campaign;
- measure customer satisfaction;
- track changes in public attitudes, opinions or behaviour over time;
- validate findings discovered in qualitative research;
- gather baseline data as the basis for policy or program development;
- identify market segments;
- measure product/brand usage; and
- determine the client profile.

The most common quantitative techniques, along with their advantages and disadvantages, are explored in the next few pages.

Telephone Surveys

The quantitative method most used is the telephone survey because of its speed, control over data collection and cost. Using a structured questionnaire, interviewers contact each member of the selected sample (households, companies, organizations, etc.) by telephone and ask to speak with the selected respondent, that is, the person who best fits the criteria of the target population. Every attempt should be made to reach the selected respondent. Some survey firms acknowledge that they now have to make up to 10 follow-up calls (***callbacks***) to reach the appropriate respondent and maximize response rates. Even so, in the last several years, response rates have been declining, which is a major concern of the survey industry. Over time, this decline could result in less valid survey findings.

Once the respondent is reached and agrees to participate in the survey, the interviewer records the respondent's answers to the questions. Telephone survey questionnaires can include yes/no, multiple-choice, simple rating or ranking and open-ended questions, and checklists.

Most telephone interviews are now computer assisted. The use of a ***CATI*** (computer-assisted telephone interviewing) system allows the interviewer to enter respondents' answers directly in the computer, avoiding the need to print a large number of questionnaires, enter responses manually and edit, ***code*** and tabulate completed questionnaires. The flexibility of CATI allows for the administration of complex question patterns and reduces human errors inherent in paper and pencil questionnaires.

Complicated questions should be avoided in a telephone survey, because there is no visual stimuli or face-to-face contact with the interviewer. Moreover, as a general rule, telephone surveys should be limited to 15 to 20 minutes in length. Beyond this, the rates of refusal to participate and early termination increase. Respondent fatigue can also set in making the results less likely to be valid.

Telephone surveys are particularly useful for measuring next-day recall of advertisements, the impact of a newly announced governmental policy or governmental response to changes in the public environment (e.g., unforeseen events and natural disasters).

Telephone surveys are less expensive than personal in-home interviews, and faster than either in-home or mail surveys. They can be conducted from a central location, allowing for monitoring of interviewers and thus more control over data collection. Clients can listen in and should do so.

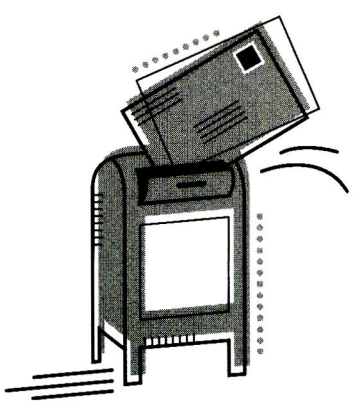
Problems associated with telephone surveys revolve around a number of factors, such as:

- decreasing response rates due to ease of refusals, telemarketing activities, increasing use of cell phones, residential caller ID, call screening and answering machines;
- the inability to show visual stimuli;
- the limited rapport between the interviewer and respondent, and ***coverage error*** which results from cases where people have no phones or have unlisted numbers.

Mail Surveys

Mail surveys use questionnaires sent to a sample of respondents with a request that they complete and return the questionnaire within a specified time.

Mail surveys are useful for collecting information from members of organizations or defined groups, such as magazine subscribers. They are also useful when visual stimuli, such as advertisements, posters or other written material, are used. Mail surveys can gather a large amount of data at a relatively low cost but are generally not considered as accurate as telephone surveys, because of the potential for low return rates, high non-response on individual



questions (particularly open-ended questions), literacy issues and errors in completion. On the one hand, the absence of an interviewer removes one source of error, that of interviewer bias; on the other hand, it reduces the level of control on a number of issues, such as:

- who completes the survey – the addressee or someone else, such as an assistant or a spouse;
- whether the respondent understands the questions; and
- whom the respondent consults for assistance in completing the questionnaire. Because there is no interviewer to clarify confusing questions, many mail survey respondents return partially completed questionnaires.

Nonetheless, mail surveys provide respondents with the opportunity to complete the questionnaire at their convenience, thus allowing for more thoughtful answers.

Some potential disadvantages of mail surveys can be reduced by avoiding questionnaires with complex skip patterns, ensuring that questionnaire content and format are well designed, conducting a rigorous pre-test, enclosing a letter from the client requesting the respondent's assistance in completing the survey (and pointing out the benefit to the respondent), sending out timely reminder cards and/or screening respondents in advance using a short telephone interview, explaining the purpose and obtaining respondents' agreement to participate.

Personal Interviews

Personal (face-to-face) interviews can be conducted in respondents' homes, offices, in pre-arranged central locations, such as auditoriums, or at events. Questionnaires used in personal interviews are similar to those used in mail surveys but, instead of being completed by the respondent, they are filled out by the interviewer during the course of interviews with survey respondents.

Personal interviewing allows for the administration of lengthy and/or complex questionnaires with relative ease. The interaction between interviewer and interviewee can help boost interest in participating in the survey, thereby increasing response rates. Personal interviews are useful when:

- a large amount of information is needed;
- questions are complex;
- questions involve tasks (e.g., sorting cards into piles);
- the study involves the evaluation of visual materials, such as product concepts, commercials or mock-ups of advertisements; and
- observation of a particular respondent characteristic is important (e.g., obesity in a nutrition study).

As with qualitative research (focus groups and one-on-one interviews), the interviewer selection process for face-to-face quantitative data collection is critical.

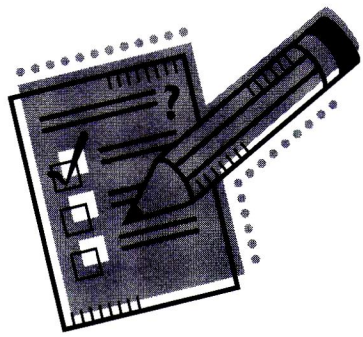
In-Home (Door-to-Door) Interviews

This is an expensive research approach, but one that offers accuracy in terms of both sampling and recording information. It allows for accurate selection of respondents since the interviewer can ask to speak to the selected respondent directly and, in general, respondents are more co-operative than for other forms of interviewing. However, there are fewer and fewer door-to-door surveys being conducted in Canada for a number of reasons.

- The cost can be prohibitive for most budgets, especially if conducted in rural areas.
- There are security concerns for interviewers and respondents. Some survey companies will not allow their interviewers in certain urban areas.
- Door-to-door surveys are time consuming and, given the logistic challenges of interviewer selection, training, control and travel, they can be administratively difficult to execute.

Exit Interviews/Mall Intercepts

Exit interviews and mall intercepts are especially appropriate where immediate feedback is required from respondents. An example is the evaluation of a customer/client experience. Respondents who have just completed a transaction or made an inquiry are approached by an interviewer on their way out of a store or office and complete a short (maximum five-minute) questionnaire about that experience. Similarly, exit surveys can be used to obtain respondents' immediate reactions to particular events, such as fairs, exhibits or movies that they just attended, or to measure attendance at such events. The respondent may be able to provide a more accurate assessment of the quality of service received or reaction to the event than if telephoned at a later time, when recall may be less accurate.



Increasingly, mall intercepts are being used as a substitute for the more costly in-home surveys. The major drawbacks of intercepts or exit surveys are that respondents are seldom representative, and response may be low since people may not want to participate in a survey when they are busy shopping or rushing to get somewhere. As a result, statistical inferences can seldom be drawn from this type of research, and the reliability of the results is somewhat limited. However, this drawback can be minimized with special sampling procedures that take into account selection of shopping centres, location of interviewers and interview schedule.

Table 3: Quantitative Techniques: Advantages and Disadvantages

Qualitative Technique	Relative Advantages	Potential Disadvantages
Telephone survey	• Sampling accuracy • Possibility of callbacks to increase response rates • Less expensive than in-home interviewing • Speedy execution and results • Less potential for interviewer bias than personal interviewing • Monitoring of interviews/quality control • Questionnaire flexibility • Interviewer can clarify questions	• Decreasing response rates • Restricted questionnaire length • Question limitations (i.e., complex questions or ideas cannot be explored over the telephone) • No opportunity to get observational data or responses to visual materials • Coverage error – excludes people without phones or with unlisted numbers unless random dialing is used
Mail survey	• Cost • Can present exhibits, visual aids • Convenience for respondents • Allows for more thoughtful answers • Questionnaire scope and length – respondents more willing to answer a range of questions anonymously on topics of interest • No interviewer bias • Access to hard-to-reach respondents	• Low return rates • Poor quality control due to absence of interviewer • Not suitable for complex question patterns • Errors in completion • Literacy issues • Data entry is time consuming • It takes time for returned questionnaires; clients must wait to hear back from respondents
Personal interviews	• Sampling accuracy • Interviewer–respondent rapport boosts response rate and completion rate • Questionnaire flexibility and versatility • Use of exhibits • Observation of respondent	• Expensive • Security concerns for in-home interviewers • Difficult to administer • Time consuming • Data entry needed unless portable computer used to enter respondents' answers

Exit interviews/mall intercepts	• Interviewer can clarify questions • Convenience • Instant recall of experience of interviewee • Relatively low-cost substitute to personal interviews • Use of visual materials • Observation	• Complex sampling design • Operationally difficult to control • Low response rate • Seldom representative of the target population

4 SHARED-COST TECHNIQUES

Omnibus Surveys

Many research firms conduct omnibus surveys at regular intervals (weekly, monthly, quarterly, yearly). These are usually large-scale telephone surveys conducted for the use of several clients. Omnibus in-home, mail and on-line surveys are also available. Clients can purchase a limited number of questions and have exclusive access to the results for those questions. They may, however, share the results to their own questions as they desire. Clients usually have to supply the fully developed questions they want asked, and they receive ***data tables*** with little analysis and interpretation from the research firm. Question design and analysis services are usually available at extra cost.

Syndicated Reports

Syndicated reports provide the results of studies conducted on specific topics, such as public affairs issues. Interested clients purchase these reports as subscriptions. Subscribers are prohibited from sharing, copying or distributing findings from syndicated reports without the express authorization of the firm producing the report. Some of the subscriptions also offer omnibus services. Clients can add a limited number of their own questions on the study topic, either as part of their subscription fee or for additional costs.

As an alternative to ***custom surveys***, omnibus and syndicated studies can be economical data collection methods when information needs are limited to a small number of questions. They can also be useful in measuring trends over time and, by accumulating data from successive surveys, to capture data from low incidence populations. Some of the drawbacks involve:

- limitations on the number of questions;
- less flexibility in the design of questions and the impact of where the questions are located in the overall questionnaire; and
- rigidity in the timing of the study.

Note that Government of Canada departments purchasing omnibus questions or questions on syndicated studies must follow established procedures for the public dissemination of the results of their questions according to the Government Communications Policy. That is, departments are responsible for releasing only the questions they have purchased.

Table 4: Shared-Cost Techniques: Advantages and Disadvantages

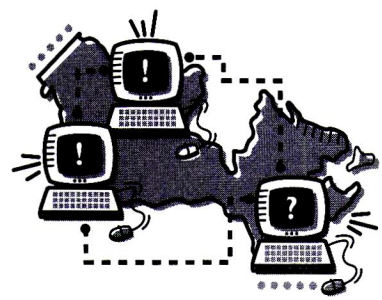
Technique	Relative Advantages	Potential Disadvantages
Omnibus survey	• Economical – shared overhead costs • Quick results • Cost-effective capture of trend data • Useful to capture data from low incidence populations • Can share report findings	• Restrictions on number of questions • Less flexibility on question design and placement • Rigidity in schedule • Extra costs for design and analysis
Syndicated reports	• Economical – subscribers can obtain a lot of information on a topic of particular interest at a fraction of the cost of a custom study • Trend data	• Sharing of report findings is prohibited • Restrictions on number of questions • Less flexibility on question design and placement • Rigidity in schedule • Extra costs for design and analysis

5 Emerging Techniques

With advances in technology and the adoption of the Internet by more Canadians, on-line research techniques are becoming more prevalent. On-line research can provide important benefits: rapidity and cost savings, for example. Two on-line techniques, along with their advantages and disadvantages, are explored in the next few pages.

On-Line Qualitative Research

On-line qualitative techniques use the Internet to bring together a moderator and participants in an on-line discussion. Currently, there are two main applications: ***virtual chat groups*** and ***virtual bulletin boards***. There are many names used for these techniques including on-line focus groups, cyber groups, e-groups and virtual groups. These techniques have several elements in common with traditional focus groups: a moderator who facilitates the session, a discussion guide to anchor the discussion and recruitment of participants. However, these techniques are distinct from traditional focus groups and result in different group dynamics. They cannot necessarily be used in place of traditional focus groups.



In an on-line chat group, the moderator and several participants log on at the same time and proceed to a "discussion" or chat, with the moderator entering questions and responding to participants' reactions. Participants' access to the group is controlled by a user name and password. The comments can be captured instantly in a database.

The on-line bulletin board involves inviting people to a specific Web site where a discussion topic is posted for an extended period of time, usually from three to seven days. While the bulletin board is active, participants can see what others have written and respond to them at their convenience. On-line

bulletin boards have the advantage of overcoming the problem of differing time zones. Furthermore, the research schedule can be reduced by running several bulletin boards simultaneously.

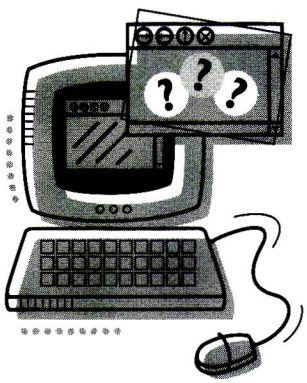
On-line qualitative techniques offer a number of advantages. Provided participants are suitably equipped, multimedia resources may be used as aids where, in testing creative elements, for instance, there is a critical audio or visual component to the research. Unlike conventional focus groups, electronic transcripts are available immediately after each session. The cost of conducting on-line groups is lessened as clients and moderators do not need to travel to specific locations where groups are being held. On-line groups are particularly appropriate when geographically dispersed participants are being targeted. Indeed, this may be the only feasible method when the cost of bringing geographically dispersed respondents to the same location is prohibitive and a group dynamic is required to fulfill the research objectives. Design, recruitment, moderating, analysis and reporting costs are similar to traditional (face-to-face) focus groups, but the costs of tape transcripts and travel expenses of moderators and observers are avoided.

Virtual chat groups and bulletin boards do, however, have certain pitfalls of which the client needs to be aware. It is more difficult to determine if participants are truly who they claim to be and that they fulfill demographic and other criteria for membership in the specified target group. **Participants are also restricted to those in the population who are computer literate and who have access to the technology required to participate in the group**. With the introduction of technology comes the requirement that people be able to type. Some are "hunt and peck" typists and it may take them longer to provide answers to the questions being asked in the group. It must be noted that, because of these restrictions, **on-line participants are seldom if ever representative of the Canadian population as a whole**. Computer users tend to be skewed in terms of age, income and education level. Therefore, on-line techniques may not be appropriate for general population research.

Furthermore, moderating such sessions requires a very specific skill set. **It is critical, therefore, that moderators with appropriate experience and training in conducting on-line focus groups be selected**.

On-Line Quantitative Research

On-line surveys can be valuable tools for obtaining feedback on programs or services or to survey employees or populations that are hard to reach using other methods. A questionnaire posted on a Web site can offer a very good impression of site users. Furthermore, on-line surveys provide advantages similar to those of mail surveys, such as:



- the use of visual materials;
- convenience for respondents; and
- the absence of interviewer bias.

However, there are issues that users of on-line data must consider in the planning and design of Web-based studies, and the use of such results. Concerns have been raised about the impact of overall survey error on the reliability of the findings.

One of the biggest problems with Web-based surveys is that **they are not representative of the Canadian adult population**. Although Internet penetration has grown at an astonishing rate, as noted earlier, significant segments of the population, including older and lower-income people, do not have access to the Internet. Consequently, it is difficult to construct probability samples of general populations for Web surveys. Furthermore, there is the mistaken assumption that conducting Web-based surveys and thus obtaining large numbers of completions necessarily results in greater reliability. Research findings can only be generalized to the whole target population if probability-based sample methods are used. Statistical inference is only possible with probability-based methods. With Web surveys, this is rarely possible for any target population and never possible for the general population.

Self-selection bias is another problem related to sampling: who is completing the survey, and how do they differ from non-respondents? The most dependable on-line survey is one where the whole target population is known in advance, and randomly selected respondents are invited to participate and are given a password. The least reliable, from a statistical perspective, is the one where the

general public has unrestricted access to the questionnaire, such as survey questionnaires on departmental Web sites, allowing for self-selection bias to influence results along with multiple responses.

Non-response is another major problem with on-line surveys. Low response rates can be due to a number of factors. For example, technical difficulties such as slower modems, unreliable connections, low-end browsers and, in some cases, charges for long distance Internet services, could hinder a person's ability to receive or complete a questionnaire. Confidentiality concerns with respect to electronic mail and computer literacy levels are also factors that could prevent a person from completing a questionnaire. Questionnaires need to be designed with the less skilled computer user in mind.

Measurement error can be exacerbated in on-line questionnaires. For example, it can result from:

- comprehension problems;
- ease of clicking on an answer without really understanding the question;
- poorly worded questions; and
- variations in people's computers (age, power), operating systems, software, browser settings, monitor size and screen configuration, and user preferences, which can lead to situations where the questionnaire viewed by the respondent is different from what the questionnaire designer intended.

For these reasons, the pre-test of a Web-based questionnaire becomes critical.

Finally, the accuracy of results and the quality of the data of a Web-based survey are open to question because it is difficult to prevent abuse, such as multiple responses by the same person. This problem has been addressed to a certain extent for very specific surveys (e.g., employee surveys, surveys of members of associations) through the use of passwords connected with individual respondents. Once the password has been employed, the respondent cannot access the questionnaire again. Nevertheless, the possibility of multiple responses by the same individual is still an issue for many Web-based applications, and it is important that users of Web-based data understand the limitations of data collected via various Web-based approaches.

Table 5: Emerging Techniques: Advantages and Disadvantages

On-line Technique	Relative Advantages	Potential Disadvantages
On-line qualitative	• Easy to reach dispersed or specialized audiences • Convenient for participants • Cost – saves on transcripts and travel expenses • Electronic transcripts available immediately • Bulletin boards can overcome challenges of different time zones • Fast turnaround time • Flexibility – clients can follow chat and make private observations to moderator	• Will not generate same group dynamics as face-to-face • Participants require good literacy, typing and computer skills • Difficult to ascertain if participants are those that were recruited • May not be appropriate or feasible for general population research • Requires virtual facility which can involve significant costs • Quality of information influenced by moderator's skills and Internet expertise
On-line quantitative	• Useful for employee surveys, hard-to-reach populations (e.g., students) • Lower cost • Quick turnaround time • Use of visual materials • Convenient for respondents • No interviewer bias • Instant data capture	• Coverage error – excludes people without access to Internet • Impossible to construct probability samples of general populations • Statistical validity seldom achievable unless defined population lists and proper sampling methods are employed • Self-selection bias • Non-response due to: - confidentiality concerns - computer literacy levels - technical difficulties • Literacy issues/comprehension problems • Poor quality control due to absence of interviewer, unless e-mail or 1 800 number support is offered to respondent • Easy to click on answers without understanding questions • Errors in completion • Easy to terminate without completion • Repeat entries

6 Qualitative or Quantitative?

The following scenarios illustrate why choosing the appropriate research approach is important to the success of your project, and the considerations that should guide that choice.

Scenario 1 - A Project Where Qualitative Research Is More Appropriate

Hypothetically, Health Canada is planning revisions to the Canada Food Guide to Healthy Eating. The department needs to understand Canadians' knowledge, attitudes and behaviour with respect to nutrition and healthy eating. Qualitative research is required to aid in understanding what Canadians mean by healthy eating (e.g., eating a balanced diet? eating with moderation? avoiding fast foods? eating recommended serving sizes?) and provide in-depth investigation of their views on nutrition. The findings from this research could then contribute to the development of subsequent quantitative research.

Scenario 2 - A Project Where Quantitative Research Is More Appropriate

A car manufacturer is concerned about the loss of market share for its top-of-the-line automobile. There is disagreement between the product VP and the marketing VP as to the cause of declining sales. The product VP blames poor after-sale service, while the marketing VP thinks the car needs a major redesign. Since redesign has major cost implications, the manufacturer needs hard data on satisfaction levels from current model owners. A quantitative approach is called for in this case, since it is necessary to have findings that can be extrapolated to the population owners of that particular model.

Scenario 3 - A Project Where Both Methods Should Be Used

Assume the Government of Canada is co-ordinating intergovernmental efforts by provincial governments to reduce violence among youth. To this end, the Government is planning an advertising campaign to reduce the incidence of bullying among youth aged 12 to 19. As a first step in the development of the campaign, a survey among a representative sample of youth is conducted to obtain baseline data. Such data could include awareness of bullying tactics, incidence/frequency of bullying events, attitudes of youth toward this behaviour, etc., against which the effectiveness of the campaign in reducing bullying will eventually be evaluated.

Using findings from this baseline survey, themes and creative concepts are developed and tested using a qualitative approach.

Final executions of the most promising creative concepts are then assessed with a representative sample of 200 youth in individual or paired interviews.

At the end of the campaign, a quantitative post-test is conducted with a random sample of youth to measure recall, awareness, message comprehension, relevance and credibility of the advertisements. The results of the post-test are then compared to the baseline data to determine if the advertising has influenced attitudes, increased knowledge and awareness, or changed behaviour.

There are a number of ***best practices*** associated with the conduct of public opinion research. Please consult Communication Canada's Web site: www.communication.gc.ca or the CommNET Extranet site: http://commnet.gc.ca.

Appendix A: What Is Public Opinion Research?

The Government of Canada systematically gathers information on a wide range of topics to facilitate decision making. Public opinion research is one of the methods used to understand the points of view and expectations of citizens and various other audiences. The use of public opinion research allows the Government to consult with and engage Canadians and other audiences in the fields of communications, governmental policies and program development, as well as in the evaluation of services.

It is often mistakenly believed that the sole aim of public opinion research within the Government of Canada is to collect data from the general population. However, the definition of public opinion research, taken from the Treasury Board Contracting Policy and the Communications Policy, has a much broader meaning. In the Contracting Policy, it is defined as follows:

> *The planned gathering, by or for a government institution, of opinions, attitudes, perceptions, judgments, feelings, ideas, reactions, or views that are intended to be used for any government purpose, whether that information is collected from persons (including employees of government institutions), businesses, institutions or other entities, through quantitative or qualitative methods, irrespective of size or cost.*

Much more than the actual target group, it is the nature of the data being sought and the manner in which it is gathered that determine if a research project is considered to be public opinion research. Any collection of primary data on opinions, feelings, ideas, views or reactions is considered to be public opinion research.

Source: *Public Opinion Research in the Government of Canada: An Orientation Guide.* Communication Canada, April 2002.

The definition can include, but is not restricted to:

- policy research and market research;
- communications research, including advertising research;
- quality of service and customer satisfaction studies;
- on-line surveying and Web site testing;
- omnibus surveys (placement of one or more questions); and
- syndicated studies.

For example, public opinion research is often used in the field of communications to test advertising messages, concepts, tools and Web sites, but it is also used in defining scientific issues, in developing governmental policies and programs, and in evaluating services. Increasingly, it is used as a cost-effective means of engaging Canadians in the decision-making process of government. Given the implications for resources, both human and in dollar terms, public opinion research is frequently relied upon as one among several decision-making tools, to ensure governmental decision makers have an accurate reading of the public environment prior to launching particular initiatives. It is also a valuable tool in evaluating the success or effectiveness of governmental efforts.

Appendix B: Government of Canada Procedures for Acquiring Public Opinion Research

Following are the key steps to acquire public opinion research in the Government of Canada.

1. Determine information needs.
2. Contact departmental public opinion research coordinator.
3. Check existing information sources.
4. Contact Communication Canada.
5. Prepare research summary.
6. Discuss contracting options.
7. Select research supplier.
8. Obtain project registration number.
9. Brief supplier.
10. Data collection.
11. Analysis.
12. Accept final report.
13. Pay invoices.
14. Send final report to Communication Canada.
15. Assess follow-up research needs.

To obtain more information, please consult the publication, *Public Opinion Research in the Government of Canada: An Orientation Guide*, or refer to the list of advisors on http://commnet.gc.ca.

Appendix C: Steps in the Research Process

1. Problem Definition

- Establishing research purpose
- Determining research objectives
- Reviewing existing research/conducting secondary analysis
- Deciding on research parameters: research population(s), scope, budget, timetable

2. Research Plan

- Selecting the research approach
- Designing the data collection instruments
- Designing the analysis plan

3. Data Collection

- Designing the sample and selecting research subjects
- Training interviewers/briefing moderators
- Collecting the data

4. Data Analysis

- Processing the data
- Tabulating the data/coding open-ended questions
- Analyzing the data

Glossary of Key Research Terms

Callbacks: Repeated attempts to reach the selected respondent in a telephone survey.

CATI (computer-assisted telephone interviewing): CATI is a computerized system intended to assist interviewers in performing basic data collection tasks. It allows for the integration of a questionnaire and responses from a telephone survey, coding and some edits into a single process.

Census: A census involves obtaining information from each member of a given population (target group), as opposed to a survey of a sample.

Closed-ended question: A question that includes a predetermined list of possible answers that are given to the respondent. The respondent is required to choose among the given answers.

Code: The process of allocating answers to questions in response to categories and assigning a numerical code to each category so that a computer can analyze the data.

Coverage error: Coverage error arises from the failure to give some units in the target population any chance of being included in the survey (non-coverage), from including ineligible units in the survey, or from having some target population units appear several times in the list of target population units (over coverage).

Custom survey: A survey commissioned by a single client, as opposed to shared-cost surveys such as omnibus or syndicated surveys.

Data collection: One of the key elements of the research process, this involves obtaining information from the survey population.

Data tables: Computer output resulting from data processing that provides the tabulated answers given by all respondents to a survey.

Focus group: A group of individuals selected according to specific criteria to participate in a discussion about a particular topic introduced by a discussion leader called a moderator. Participants are encouraged to offer their opinions

about the topic of interest and to react to comments from others in the group. Ten to twelve participants are usually recruited to ensure that eight to ten show up.

Margin of error: Statistical formula that allows for the calculation of the level of precision of survey results. The margin of error accounts only for errors associated with sampling.

Measurement error: Error that results from the difference between the information that is being sought and the information actually obtained by the measurement process; the error may be caused by a number of factors, such as respondents' inability or unwillingness to respond, poor question wording, inappropriate question sequence, interviewer bias or failure to record responses accurately.

Moderator: Describes the role of the qualitative researcher who leads the focus group discussions.

Non-response error: Error due to the difference between individuals who respond to the survey and those individuals who were selected for the sample and who do not respond or who refuse to be surveyed.

Omnibus survey: A survey comprising questions on a variety of subjects from several clients. Compare to custom survey.

Open-ended question: A question that allows respondents to reply in their own words rather than choose among predefined response categories.

Participant: Refers to individuals from whom information is sought in qualitative research; typically, it is the term used to designate a member of a focus group.

Post-test: Refers to the evaluation of the effectiveness of an advertisement or other communication product after it has been launched to its intended audience.

Pre-test: (a) In quantitative research, a pre-test is a trial run to assess how well a questionnaire flows, is understood by respondents and whether it elicits the required information. It may also be used to assess how long the questionnaire takes to administer as well as the incidence rate of the target population. (b) In qualitative research, a pre-test usually refers to the evaluation of advertisements or other communication products still in development or before they are released to the public.

Primary research: Refers to projects where new data are collected to meet the specific research objectives of a current research problem.

Probing: In market research, this refers to asking follow-up questions to explore a particular answer or comment so that the researcher better understands the answer.

Qualitative research: This refers to information obtained about some members of a target population through unstructured or semi-structured procedures, such as discussions, observations or interviews. No projections of results to the target population can be made from this type of research.

Quantitative research: This refers to information obtained about some or all members of a target population through structured procedures, such as a census or a survey, allowing conclusions to be made for the total target population.

Respondent: Refers to individuals from whom information is sought in quantitative research (i.e., the person chosen for the survey interview).

Sampling error: Error that results when information is obtained from only some, and not all, members of the target population.

Sample survey: The process of collecting information from a small proportion of the target population as opposed to collecting information from the total target population. Compare to census.

Sampling: The method of selecting members of the target population for inclusion into the subset of individuals (sample) who will be contacted for an interview or to receive a questionnaire. Sampling methods can be probabilistic or non-probabilistic.
Probability sampling refers to a sample where all units of the population have a non-zero and known probability of being selected. Examples of probability samples are simple random, systematic, stratified, cluster and multi-stage.
Non-probability sampling refers to a sample in which units of the population are selected by factors other than random chance. Examples of non-probability samples are convenience, judgmental, snowball and quota.

Secondary research: Refers to the search and analysis of existing information that may be relevant but has not been collected specifically for the present research purpose.

Segment: In market research, segments refer to subgroups of the target population that share some characteristic relevant to the research purpose; subgroups can be segmented by age, income, education, occupation, lifestyle, media habits, product use, etc.

Syndicated reports: Report on the study of a particular topic conducted by research firms, usually at regular intervals, sold as subscriptions to multiple clients.

Target population (also referred to as the universe): The population for which the information is required; note that the target population may be different than the survey population (i.e., the population actually covered by the survey).

Transcripts: Written records of the audio tape recordings of focus group discussions or personal interviews to facilitate report writing.

Virtual bulletin board: A virtual facility accessed by a large number of participants, often 15 or more, through a user name and password; participants log on at their convenience over the course of several days, reply to a few questions posted by the moderator each day and interact virtually with other respondents.

Virtual chat group: A virtual facility accessed by a small number of participants, usually from five to eight, through a user name and password. Participants log on at the same time as the moderator and the "discussion" is in real time, as questions posted one at a time by the moderator are discussed more or less simultaneously among participants.