Bias

A survey is **biased** if its outcome has been influenced by factors other than the one being studied. Bias is occasionally overt: the experimenter is not open-minded about the results, and interprets them wrongly. But more often **bias comes from poor survey design**. A typical problem is that of comparing two groups of people that are not really alike. For example, if there are more men than women in one group, and more women than men in another, the responses of the groups to any question will be influenced by the differences between men and women. In many cases these gender differences overwhelm the real subject of the study. Similar problems apply when groups have different age profiles.

The solution to the problem of bias is that of **randomization**. This means picking survey subjects from the population group at random. Bear in mind that if you send out questionnaires and you use all the replies, this is not a random sample of anything. This is because people who take the trouble to respond to the questionnaire are probably not representative of the group you sent them to.

Presentation of Results

When presenting the results of a survey, you should try to include the minimum amount of data that communicates the overall findings effectively. If you are using questionnaires it is not usually helpful to include copies of every response. A summary of the responses is probably enough.

It is quite important that a person reading the outcome of your survey can distinguish easily between factual or numerical results, and the experimenter's **interpretation** of the results. It is perfectly acceptable to conjecture about the reasons for a particular finding, but it is almost never helpful to mix facts and conjecture in a survey report. Bear in mind that the reader is also capable of interpreting your results, perhaps in a different way to you; to do this it needs to be easy to separate the objective results from your subjective interpretation.

The **`traditional'** model for an experimental report has a section titled **`results'** and one titled **`discussion'**. The first of these is for plain, factual results and the second for interpretation and conjecture. This is still a sound way to report on the results of a survey. If you use statistical analysis of your results, you don't need to include calculations, but you do need to include an explanation of the reason for adopting a particular statistical approach.

Here are some general guidelines that summarize it all:

- Decide what the objectives of the study are. Ensure that you can phrase these objectives as questions or measurements. If you can't, *don't start*.
- Decide what to ask in your survey, or what to measure, that will give you answers to the questions you have selected. If the questions prove to be unanswerable, don't start.
- Ensure that you know what population you are studying. Pick a sample group that is representative of the population. If you cannot do this, at least try to estimate the effect that this lack of representatives will have on your final results.
- If you can, pick a sample group large enough to give a result with a desired level of confidence or accuracy. If you can't do this, estimate the confidence or accuracy after the survey. If these are lower than you anticipated, make sure you can explain why.
- When presenting your results, be careful to distinguish between the factual or numerical results, and your interpretations of the results.

"The quality of a survey is best judged not by its size, scope, or prominence, but by how much attention is given to preventing, measuring, and dealing with the many important problems that can arise."
Public opinion survey

How to produce a quality survey:

1. Have specific goals
2. Consider alternatives
3. Select samples that well represent the population to be studied
4. Use designs that balance costs with errors
5. Take great care in matching question wording to the concepts being measured and the population studied
6. Pretest questionnaires and procedures
7. Train interviewers carefully on interviewing techniques and the subject matter of survey
8. Check quality at each stage
9. Maximize cooperation or response rates within the limits of ethical treatment of human subjects
10. Use appropriate statistical analytic and reporting techniques

11. Develop and fulfill pledges of confidentiality given to respondents
12. Disclose all method of the survey to allow for evaluation and replication
13. Have specific goals for the survey.

The objectives of a high quality survey or poll should be specific, clear-cut and unambiguous. Such surveys are carried out solely to develop statistical information about the subject, not to produce predetermined results, nor as a ruse for marketing, fund-raising, changing voters' minds, or similar activities.

In its initial conceptualization, the ideal survey takes seriously the important question of whether or not the information needed would best be acquired by conducting a survey or poll. **A survey generally originates when an individual or institution is confronted with a need for information for which existing data appear to be insufficient.** At this point, it is important to consider if the required information can even be collected by a survey or whether a survey would actually be the best way to acquire the information needed. If a survey is indeed appropriate, then careful attention must be given as to who is to be sampled and what is to be learned about those sampled.

Select samples that well represent the population to be studied.

A replicable or **repeatable** plan is developed to randomly choose a sample capable of meeting the survey's goals. Sampling should be designed to guard against unplanned selectiveness. A survey's intent is not to describe the particular individuals who, by chance, are part of the sample, but rather to obtain a composite profile of the population. In a bona fide survey, the sample is not selected haphazardly or only from persons who volunteer to participate. It is scientifically chosen so that each person in the population will have a measurable chance of selection. This way, the results can be reliably projected from the sample to the larger population with known levels of certainty/precision.

Critical elements in a survey are:
To ensure that the right population is indeed being sampled to address the questions of interest; and b to locate or "cover" all members of the population being studied so they have a chance to be sampled. The quality of the list of such members the "sampling frame" whether it is up -to-date and complete is probably the dominant feature for ensuring adequate coverage of the desired population to be surveyed. Where a particular sample frame is suspected to provide incomplete or inadequate coverage of the population of interest, multiple frames should be used.

Virtually all surveys taken seriously by social scientists, policy makers, and the informed media use some form of **random or probability sampling**, the methods of which are well grounded in statistical theory and the theory of probability. Surveying a carefully constructed sample of a population can make reliable and efficient estimates of needed statistics, provided that a large proportion of the sample members give the requested information. The latter requires that careful and explicit estimates of potential non-response bias and sample representatives be developed.

Use designs that balance costs with errors.

For example, allocating a survey budget to support a very large sample size, but with insufficient attention to follow-up of non respondents to produce a good response rate generally yields results that are less accurate than surveying a smaller sample with a higher response rate. Similarly, allocating most of one's funds to provide a large sample size but with little or no resources devoted to interviewer training would not be prudent. Although sampling errors can be readily estimated using probability sampling methods, they do not reflect the total error of a survey statistic or estimate, which is a function of many different features of a given survey. Survey professionals practicing at their best carefully seek to balance these various types of error in the design and conduct of a particular survey, in order to minimize the total error given the budget or resources available.

Take great care in matching question wording to the concepts being measured and the population studied.

Based on the goals of a survey, questions for respondents are designed and **arranged in a logical format** and order to create a survey questionnaire. The ideal survey or poll recognizes that planning the questionnaire is one of the most critical stages in the survey development process, and gives careful attention to all phases of questionnaire development and design, including: **definition of topics, concepts and content; question wording and order; and questionnaire length and format**. One must first ensure that the questionnaire domains and elements established for the survey or poll fully and adequately cover the topics of interest. Ideally, multiple rather than single indicators or questions should be included for all key constructs.

Beyond their specific content, however, the manner in which questions are asked, as well as the specific response categories provided, can greatly affect the results

of a survey. Concepts should be clearly defined and questions unambiguously phrased. **Question wording should be carefully examined for special sensitivity or bias.** Techniques should be developed to minimize the discomfort or apprehension of both respondents and interviewers when dealing with sensitive subject matter. **Ways should be devised to keep respondent mistakes and biases** e.g., memory of past events to a minimum, and to measure those that cannot be eliminated. To accomplish these objectives, well- established cognitive research methods e.g., paraphrasing and "think aloud" interviews and similar methods e.g., behavioral coding of interviewe r-respondent interactions should be employed with persons similar to those to be surveyed to assess and improve all key questions along these various dimensions.

Pretest questionnaires and procedures to identify problems prior to the survey.

High quality surveys and polls always provide adequate budget and time for pre-testing questionnaire(s and field procedures. **A pretest of the questionnaire and field procedures is the only way of finding out if everything "works" especially if a survey employs new techniques or a new set of questions.** Because it is rarely possible to foresee all the potential misunderstandings or biasing effects of different questions or procedures, it is vital for a well-designed survey operation to include provision for a pretest. All questions should be pre-tested to ensure that respondents understand questions, can be properly administered by interviewers, and do not adversely affect survey cooperation. In circumstances where one is uncertain about the best design or any critical component of such a design, split sample experiments, which systematically compare the effects of two or more alternatives, should be included either prior to or as part of the pre-testing process to select the most appropriate or effective designs or co mponents.

Train interviewers carefully on interviewing techniques and the subject matter of the survey.

Insisting on high standards in the recruiting and training of interviewers is also crucial to conducting a quality survey or poll. **For high quality data to be collected, interviewers in telephone or in person surveys must be carefully trained to do their work properly through face-to-face** "classroom" or telephone training, self-study, or some combination of these. Good interviewer techniques should be stressed, such as how to make initial contacts, how to deal with reluctant respondents, how to conduct interviews in a professional manner,

and how to avoid influencing or biasing responses. **Training should also involve practice interviews to familiarize the interviewers with the variety of situations they are likely to encounter.** Time should be spent going over survey concepts, definitions, and procedures, including a question-by- question approach to be sure that interviewers can deal with any misunderstandings that may arise.

Construct quality checks for each stage of the survey

Excellent surveys and polls are those that collect information carefully, and check and verify each step of the research process. **To assure that the proper execution of a survey corresponds to its design, every facet of a survey must be looked at during implementation.** Checks must be made at every step to ensure that the sample is selected according to specifications; that the interviewers do their work properly; that the information from questionnaires is edited and coded accurately; that computer data entry is done correctly; and that the computer programs used for data analysis work properly.

Sloppy execution in the field, in particular, can seriously undermine results. **Controlling the quality of fieldwork is done by observing/monitoring, verifying and/or redoing a small sample of the interviews**. At least some questionnaire-by-questionnaire checking including interviewer "edits" and a review of frequencies to monitor questionnaire performance while in the field are also essential to detect omissions e.g., skip errors or other obvious mistakes in the data before it is too late to fix them.

Maximize cooperation or response rates within the limits of ethical treatment of human subjects.

Non-response occurs when members of the sample cannot or will not participate in a survey. **Careful sample management and control to ensure that a large proportion of sample members provide the information requested is essential to good survey practice.** A low cooperation or response rate does more damage in rendering a survey's results questionable than a small sample, because there may be no valid way scientifically of inferring the characteristics of the population represented by the non-respondents. Proper sample management and control entails such things as adding sample in correctly formulated replicates, tracking the disposition of all cases, monitoring the sample while in the field for potential problems, and "metering" or rationing resources to ensure the collection of data from harder-to-reach respondents.

Interviewers must also be carefully equipped through training with effective responses to deal with concerns that reluctant respondents might express. Specific procedures designed explicitly to stimulate survey cooperation or participation should also be considered, such as where possible) sending advance letters to sample households or individuals to inform them of the pending survey, offering monetary i.e., cash or non -monetary some other valued reward incentives to encourage participation, and sending reminders or making follow-up calls to those who do not respond initially. Failure to follow up non-respondents and refusals, in particular, can severely undermine an otherwise well-designed survey.

To deal with this possibility:

a)Visits or calls to sample households are scheduled with careful attention to such considerations as the best time of day to call or visit; b allowance is made for repeated attempts e.g., callba cks at different times and days to thoroughly work the selected sample in not-at home and related situations; and c) special efforts i.e., reworking refusals with an experienced interviewer) are made to persuade persons who are inclined not to participate to respond. In mail surveys, it is usually necessary to send reminders and conduct several follow- up mailings, and at times to contact at least a sub-sample of the remaining non-respondents by telephone or personal visit. Where possible, specific efforts to directly observe or measure the characteristics of non-respondents should also included in the overall survey design.

Use statistical analytic and reporting techniques appropriate to the data collected.

Excellence in the practice of survey and public opinion research requires that **data analysis and interpretation be competent and clear, and that findings or results be presented fully, understandably, and fairly**. The information collected should be critically examined in a search for meaning processed, refined, and thoroughly analyzed. Routine reliability studies should be conducted for all key measurements.

Special codes should be provided for missing items, indicating why the data are not included. And, ideally, the "filling in" or imputation of these missing data items based on rigorous and well validated statistical methods should be undertaken to reduce any biases arising from their absence. Statistical tables should be clearly labeled, including identification of questionnaire source, and the un -weighted

number of cases forming the base for each cross-tabulation. Sampling errors should be included for all statistics presented, rather than only the statistics themselves.

Findings and interpretations should be presented honestly and objectively, with full reporting of all relevant findings, including any that may seem contradictory or unfavorable. Sampling and non-sampling errors including coverage, measurement and reporting errors, response variance, interviewer and respondent bias, non-response, imputation error and errors in processing the data should explicitly be taken into account in the analysis of survey data and interpretation of survey results, in a comprehensive effort to assess error from each perspective. Conclusions should be carefully distinguished from the factual findings, and great care should be taken to be sure that the conclusions and the findings presented are consistent.

Carefully develop and fulfill pledges of confidentiality given to respondents.

Establish clear intentions and meticulous procedures to assure the privacy of respondents and the confidentiality of the information they provide. Unless the respondent explicitly requests otherwise, or waives confidentiality for specified uses, one should hold as privileged and confidential the identity of individual respondents and all information that might identify a respondent with his or her responses.

Exemplary survey research practice requires that one literally do "whatever is possible" to protect the privacy of research participants and to keep collected information they provide confidential or anonymous. **One must establish clear intentions to protect the confidentiality of information collected from respondents, strive to ensure that these intentions realistically reflect one's ability to do so, and clearly state pledges of confidentiality and their realistic limitations to respondents.** That is, one must ensure that the means are adequate to protect confidentiality to the extent pledged or intended, that procedures for processing and use of data conform to the pledges made, and that appropriate care is taken in dealing with directly identifying information i.e., using such steps as destroying this type of information or removing it from the file when it is no longer needed for inquiry.

Interviewers and other research staff must be carefully trained and indoctrinated to uphold and maintain the confidentiality of respondents' identities and the information they provide and take/sign an explicit oath or pledge of confidentiality

to do so before beginning work. In the verification of information, one must protect the identity of respondents from outside disclosure.

One should also assure that appropriate techniques are applied to control for potential statistical disclosure of respondent data. Individual respondents should never be identified or identifiable in reporting survey findings: all survey results should be presented in completely anonymous summaries, such as statistical tables and charts, and statistical tabulations presented by broad enough categories so that individual respondents cannot be singled out.

Disclose all methods of the survey to permit evaluation and replication.

Excellence in survey practice requires that survey methods be fully disclosed and reported in sufficient detail to permit replication by another researcher and that all data subject to appropriate safeguards to maintain privacy and confidentiality be fully documented and made available for independent examination. Good professional practice imposes an obligation upon all survey and public opinion researchers to include, in any report of research results, or to make available when that report is released, certain minimal essential information about how the research was conducted to ensure that consumers of survey results have an adequate basis for judging the reliability and validity of the results reported.

Readership Survey

Most surveys waste time and space asking questions that shouldn't be asked in the first place because you shouldn't need your readers to tell you how to do your job.

Here are some of the questions that show up in many surveys questions that should never be asked:

- How would you rate the frequency of the publication? They probably don't even know the frequency of your publication. As the editor, you have to judge frequency. You know which vehicles you have at your disposal; you know how much news is rolling through the organization; you know how many initiatives the company has going right now that you need to communicate.
- How would you rate the format and design of the publication? You are the communication professional. Pick an appealing design that allows you to communicate your messages. Make sure it's readable and clean, and don't let your designers bully you by doing "anti-reader design tricks"--like shading

text to the point that people can't read it, or running words in a circle "for effect."

- How would you rate the photos in the publication? Don't bother asking questions about photography unless you're prepared to bring in a professional photographer to make things better.
- How much of the publication do you read? They are not paying attention to how much of the publication they read! Asking that question is a waste of your time--and theirs.
- What types of articles do you like to read? This question is asking for trouble. What are you going to do when they tell you they want more photo contests and recipes, and less of that "strategic stuff"? This question only works if you give them a list of strategic, business focused topics to choose from.
- How easy is the writing to understand? If you're writing clear, concise stories, then you shouldn't need to ask this question. And if you're not doing that ... well, then, deep in your black little heart, you already know that, don't you? You are a writer. You don't need a security guard to tell you?

Conducting Readership Surveys

Surveying readers is one of the most vital activities of any magazine publisher. Results of a well-conducted survey can tell you what editorial subjects will interest your readers and help convince advertisers that your magazine or newspaper is the right choice for them.

Elements of an Effective Survey

1. A sample size large enough to be representative of all readers and allow for cross-tabulations of data
2. An easy-to-understand questionnaire, calling for multiple-choice responses
3. Survey timing planned to take advantage of the best response rates for your industry

What Survey Results Will Provide

1. An indication of readership interest, based on the percentage of replies received
2. General trends of your readership. For example, do your readers prefer financial articles to industry news? Do picture stories score better than straight text?
3. Answers to marketing questions, such as demographic data
4. Competitor analyses - how are you doing in comparison?

5. Who is reading your magazine? Classifying readers can help you to direct efforts to the right audience.

National Readership Survey Key Findings

Press adds 34 million readers in the last 2 years.

Press continues to grow, adding 21 million readers between 2002 and 2005.

Over the last 3 years the number of readers of dailies and magazines put together among those aged 15 years and above has grown from 179 mn to 200 mn - a growth of 4% every year.

There is still significant scope for growth, as 314 million people who can read and understand any language do not read any publication.

There are nearly as many as rural readers as urban readers

Of the 200 mn readers, as many as 98 mn are from rural India and 101 mn from urban India.

Newspapers add substantially to the reader base

The reader base for dailies/ newspapers increased from 155 mn in 2002 to 176 mn this year - an increase of nearly 14% over three years.

However the growth in reaches of dailies is less than the literacy growth of 21% in the same period.

The highest read Hindi Daily in India now surpasses a readership of 21 mn.

A list of top 10 dailies and magazines is enclosed. As many as 7 of the top 10 dailies have consistently improved their rankings in the last three years.

Dainik Jagran has taken the top slot even though the previous year's No.1 Dainik Bhaskar has also grown handsomely. This is because the number of literates in UP, Bihar and Jharkhand strong Dainik Jagran marke ts has grown explosively - while Dainik Bhaskar has not been as fortunate in its strong markets.

Decline of audience for magazines

Magazines overall show a decline in the reader base, both in urban and rural India. The reach of magazines has declines from 86 mn in 2002 to 69 mn in 2005. Magazines have lost 19% of their reach since 2002.

The time spent on press medium has increased over the years

An urban adult now spends on press and TV an average of 17 hours a week; on press 4.9 hours and TV 11.8 hours. The time spent on radio is 10 hours a week. The time spent by the average rural adult on press and TV together is 14 hours a week and that on radio is 9 hours a week

Press increases its share of urban media day

Today the average urban adult spends 42 minutes per day reading dailies and magazines and 1 hour 42 minutes watching TV. The average reading time used to be 32 minutes and the average viewing time 1 hour 40 minutes 3 years ago.

Contrary to expectations, press has increased its share of the day at the expense of TV - it accounts for 30% of the time spent, up from 24% three years ago.

The growth in C&S penetration is more than twice the growth in TV owning homes

Television now reaches 108 mn Indian homes, which means it crosses the 50% mark of all homes for the first time and reflects a growth of 32% since 2002.

Homes with access to C&S jumped from 40 mn in 2002 to 61 in 2005. The growth of 53% is far higher than the growth of the TV market.

C&S subscription has now penetrated 56% of all TV homes

Colour TV outstrips even the rapid pace of cable and satellite growth>

Homes with colour TV have doubled 29 mn to 58 mn in 2005. The increment of 43% is in line with the growth in C&S. While in 2002 a little over half the C&S homes had colour TV, today more than two-thirds 70% do. This obviously makes the viewing pleasure of satellite channels more attractive than ever before.

TV and Cable & Satellite dominate in the Southern States

Tamilnadu, Karnataka and Andhra Pradesh dominate the markets with TV reach of 77%, 68% and 74% respectively. These States also have high penetration of Cable & Satellite i.e. 55%, 44% and 55% respectively.

Internet now exceeds 10 mn

The number of individuals aged 12 years and above who accessed the Internet in the last 3 months increased to 11 mn in 2005. While 8 mn of these are in urban India, nearly 3 mn Internet users reside in rural India.

The home is the new access point for Internet

As reach of Internet increases, office is no longer the main place of access. As many as 34% of users now surf from home and 32% go to a cyber cafe. Only 16% of Internet users access it from the work place.

Radio is still stagnant

Radio reaches 23.1% of the adult population - marginally more in rural 23.5%

Share of FM increases in a stagnant urban market

Among the 183 mn adults who listened to radio in last 3 months, 43% or 96.8 mn, now tune on to any FM station - an increase of more than 100% over 2002.

FM has larger audience base than Vividh Bharati 15.7% compared to 11.3% in Urban India.

Mobile phones: a new medium emerges

Among the fast growing tribe of mobile phone owners, 13.9% access value added features like downloads, accessing news and Cricket scores, SMS etc. The figure is higher at 24.7% in 35 metros.