Research Methods Handbook

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Introduction

We are all “users” of social research. How we apprehend and absorb information and use our critical faculties feeds what we believe about the social world.

From surveys reported in the media to market research, opinion polling and large scale datasets such as the British Crime Survey. Social Research Methods are the tools used to explain social phenomena and often it is more possible to challenge conclusions if you are at least conversant with the variety of methodologies and tools applied.

What is this handbook about?

This handbook provides an introduction to the reader to a whole range of research methods. It aims to introduce a toolkit of methods, explaining how to use them, their appropriateness and some of the pitfalls of using them in practice. The sections explain in turn:

- What is the method?
- When should it be used?
- What do I need to consider?
- What is the output?
- How should it be analysed?

- Examples from practice
- Pros/Cons
- Further Reading

Who should use this handbook?

This handbook will be useful for those working in local authorities, regeneration partnerships or other public agencies where research is conducted and commissioned. It can help in undertaking research in the selection of appropriate methods, making decisions about the mix of methods, and the planning of a research strategy where it is necessary to make explicit judgements about a hierarchy of evidence, the weight afforded to the various elements, and how they might combine to give a rounded perspective. It can also help in understanding research proposals, and the methodologies presented to address a particular research question.

Types of method

In any form of research, you will be required to either count things and/ or talk to people. We can broadly classify research methods using this distinction. These two types of research method and their output data are classified as:

Quantitative – as the name suggests, is concerned with trying to quantify things; it asks questions such as 'how long', 'how many' or 'the degree to which'. Quantitative methods look to quantify data and generalise results from a sample of the population of interest. They may look to measure the incidence of various views and opinions in a chosen sample for example or aggregate results.

Qualitative – concerned with a quality of information, qualitative methods attempt to gain an understanding of the underlying reasons and motivations for actions and establish how people interpret their experiences and the world around them. Qualitative methods provide insights into the setting of a problem, generating ideas and/or hypotheses.

The following table provides a breakdown of the key features of each of these categorisation of research method and data.

	Quantitative	Qualitative
Aim	The aim is to count things in an attempt to explain what is observed.	The aim is a complete, detailed description of what is observed.
Purpose	Generalisability, prediction, causal explanations	Contextualisation, interpretation, understanding perspectives
Tools	Researcher uses tools, such as surveys, to collect numerical data.	Researcher is the data gathering instrument.
Data collection	Structured	Unstructured
Output	Data is in the form of numbers and statistics.	Data is in the form of words, pictures or objects.

	Quantitative	Qualitative
Sample	Usually a large number of cases representing the population of interest. Randomly selected respondents	Usually a small number of nonrepresentative cases. Respondents selected on their experience.
Objective/	Objective - seeks precise	Subjective - individuals' interpretation of
Subjective	measurement & analysis	events is important
Researcher role	Researcher tends to remain objectively separated from the subject matter.	Researcher tends to become subjectively immersed in the subject matter.
Analysis	Statistical	Interpretive

Quantitative Research Methods

Quantitative methods are research techniques that are used to gather quantitative data, data that can be sorted, classified, measured. This following section outlines the core quantitative research methods used in social research.

Quantitative survey

What is the method?

Surveys are a popular method of collecting primary data. The broad area of survey research encompasses any measurement procedures that involve asking questions of respondents. They are a flexible tool, which can produce both qualitative and quantitative information depending on how they are structured and analysed. In this section we focus on the quantitative use of surveys, and in later sections we explore the more qualitative use of survey methods.

When should it be used?

When you need to generate primary data from a large number of sources to answer your research question. Surveys are a useful a means of gathering data from businesses, community organisations and residents, and survey research is one of the most important areas of measurement in applied social research. However, health warnings need to be attached to the use of quantitative surveys and careful consideration needs to be taken before embarking on any large-scale survey.

What do I need to consider?

In undertaking a survey it is important to understand who you want to survey, how you are going to select them, how you are going to survey them, what you want to ask them and how you are going to organise the task. The following section outlines some key considerations that need to be made before embarking on a large-scale survey.

Population – A number of questions about the proposed population for a survey need to be considered. Such as:

Can the population be counted? Some populations will be easy to count, in a given geographical area there will be secondary data sources that will give you a population count (Census), in a membership organisation there may be a list of all members, however in a newly arrived ethnic community such as the recent arrivals of Polish and Eastern European communities there is less chance that you can obtain a reliable count of the population. A bias in your survey results can occur if the survey sample does not accurately represent the population. Having a count of the population is also important in order to establish the significance of your results to allow a generalisation to the population as a whole.

Are there language issues? Respondents may have varying capacities for being able to complete written surveys or questionnaires. While telephone and street surveys do not require the respondent to be able to read or write in English, postal surveys involve respondents completing the survey or questionnaire themselves. You should consider the offer of help in self-administered surveys for respondents to complete a form either in person or over the telephone, this will help address potential language or basic skills issues. If surveying an ethnic minority population you may wish to translate questionnaires into community languages, or have people who speak the communities' language to assist where necessary.

What are the geographic restrictions? The geographic spread of the population to be surveyed will determine the method used for collecting your data. If you are surveying people from a particular location or organisation it may be possible to conduct a survey using an interviewer, however if you have a population sample that is geographically dispersed then you would look to use a different method, such as a telephone or postal survey.

Sampling

The sample is the section of the wider population that will be engaged in the survey and sampling is the process of identifying who you will aim to contact from that population. The word 'population' is used to describe the target group, and while this may be the national population as a whole, it may also be a smaller group such as lone parents, or business members of a Chambers of Commerce in a particular location. Detailed consideration of sampling needs to be made to ensure the validity of your results, and the following issues need consideration:

Who is the respondent? The first thing you need to understand is who your respondent is going to be. This is the person that will provide the data you are asking for. If the survey is distributed amongst households, who in particular will be filling in the survey? Do you want to specify who the survey is to be completed by? And do you understand why you are specifying this person? The same is true when surveying organisations or groups. A survey will have much greater success if it is directed to the right respondent. Identifying the person best suited to completing a survey will help to increase the response rate and generate more accurate data.

What is your sampling frame? A sampling frame is a list of members of a population from which members of a sample are then selected. A sampling frame needs to be accurate, complete, up-to-date and relevant to the purposes of the survey for which it is to be used. Once you have an established sampling frame, depending on its size you may need to adopt a sampling technique to extract your final sample. For example random sampling, simple random sampling or stratified sampling (see further reading for more details on sampling techniques).

Are response rates likely to be a problem? With any survey, you need to look at the profile of the people who did responded and satisfy yourself that they are about the same as the people who didn't respond – and also, that they're about the same as the overall population that you're sampling. If you send out a survey to a population, which is 50% male, and 50% female, but your responses are 80% from females then your findings will not represent your target population. Response rates can be low for surveys, under 20% for a postal survey is not uncommon. However, all the considerations in this section can help to improve your response rate.

Statistical significance: Understanding your population, sample size, and response rates are important for calculating

interval and confidence levels, which are vital in determining how many people you need to interview in order to get results that reflect the target population as precisely as needed. You can use online calculators to establish this type of information, but it is important to understand the terms and the reasons for doing this (see section on statistical analysis for more detail).

Format

It is important to understand what format of survey you are looking to undertake. There are broadly two survey formats that you may use and it is important to understand which you are using:

Cross-sectional surveys are used to gather information on a population at a single point in time. An example of a crosssectional survey would be a questionnaire that collects data on peoples' experiences of a particular initiative or event. A crosssectional survey questionnaire might try to determine the relationship between two factors, like the impact of a programme of activity on the level of benefits claims for example.

Longitudinal surveys gather data over a period of time. This would allow analysis of changes in the population over time and attempt to describe and/or explain them. The three main types of longitudinal surveys are trend studies, cohort studies, and panel studies (for more details see further reading). A longitudinal study will also seek to determine the relationship between factors, but the difference is that the examination will be of a change in factors over time, so for example the relationship between health and employment.

Questions

There are a whole range of questions to be asked in survey design, such as: What types of questions can be asked? How complex will/can the questions be? Will screening questions be needed? Can question sequence be controlled? Will lengthy questions be asked? Will long response scales be used? Here we outline the main types of questions used in quantitative surveys:

Closed questions – these have a number of possible answers in a list for respondents to choose from (e.g. a closed question about the sources of funding for a community project would ask respondents to choose from a list of categories, such as New Deal for Communities, Neighbourhood Renewal Funding and so on). Usually, closed questions include an 'other' option to enable respondents to add any categories that have been omitted;

Ranking scales – these are most commonly used when trying to ascertain the level of importance of a number of items. A list of choices are provided and respondents are asked to put them in order (e.g. when undertaking a feasibility study for a new town centre, a question using a ranking scale may show a list of items that are commonly found in town centres and ask respondents to rank which ones are most important to them);

Sliding scales – these are used to discover respondents' strength of feeling towards an issue. Respondents are given a series of statements and asked how much they agree or disagree with the statement by using a sliding scale where numbers represent different strengths of feelings. For example, 1 = strongly agree and 5 = strongly disagree.

Write questions that are clear, precise, and relatively short

Because every question is measuring something, it is important for each to be clear and precise. Your goal is for each respondent to interpret the meaning of each survey question in exactly the same way. If your respondents are not clear on what is being asked in a question, their responses may result in data that cannot or should not be applied in your survey findings.

Do not use "loaded" or "leading" questions

A loaded or leading question biases the response given by the respondent. A loaded question is one that contains loaded words. Loaded or leading questions may hint to the respondent how you expect the question answered, for example 'Do you think your neighbourhood is still run down?', by including the word 'still' a bias is introduced as it presupposes that the respondent thought the area was previously run down.

Ambiguous or compound questions can be confusing, leaving respondents unsure as to how to answer. Compound questions are ones that ask several things which might require different answers, for example 'Would you like to see more community support officers on the streets, allowing a reduction in investment in CCTV?'. The respondent may wish to provide multiple answers to this question, answering yes to having more community support officers, but disagreeing with the reduction in investment for CCTV. See the section on further reading for more information on question types and constructing survey questions.

Administration

The costs, required facilities, time, and personnel needed to conduct an effective survey are often underestimated. The most common resource underestimated is time. You need to factor in time to pilot or test your survey, time to deliver your survey, time to give respondents to complete surveys and then have them returned (this may be via mail and therefore take time to return), and you also need to factor in the time required to analyse surveys. When conducting a large scale survey, inputting data to generate your analysis can be very time consuming. The best approach is to often work up your timeline backwards from when you need your results, calculating the time required for each step, this way you can establish when things need to start by.

How Should It Be Used?

Selecting the type of survey you are going to use is one of the most critical decisions in many social research contexts. In a similar way to interviews, surveys can be delivered in a variety of ways:

- postal surveys;
- telephone surveys;
- email/internet surveys;
- street surveys/administered surveys.

The delivery method for any survey should be carefully considered, and in many ways will be decided by consideration of factors listed above, such as population, sample size and respondent. Having a good understanding of these will inform the best method of delivery. For example, if the survey is to be distributed to a particular local authority officer role across the country, then a postal or email survey would work best, as it is likely there will be over 350 in the population, geographically dispersed and literate.

It is vitally important to conduct a trial run or pilot of any survey, as those that have designed a survey and are close to its subject, may take for granted that the questions and layout will work as a survey with the wider intended population. A survey may be piloted with colleagues or friends that have the same level of involvement in the subject you are surveying as the wider intended population. Feedback should be sought on the ease upon which the survey can be followed and completed. A pilot survey may also be conducted with a subset of the selected sample. This would give opportunities to detect and resolve problems before they obscure or distort the result of the wider survey.

	Pros	Cons
Postal	Can reach a large geographical area	No clarification available during completion.
	People are used to completing paper-and-pencil surveys	Need a motivated population to return the survey
	Can take the survey with you and complete it anywhere and anytime	Respondents must be able to read, see, and write

	Great for sensitive issues	
Telephone/ administered	Information is obtained immediately	Possible bias from the administrator
	Can explore answers with respondents	Higher level of resources
email/internet	Negligible distribution costs	Respondent must be "online"
	Only "acceptable" answers can be allowed (validation)	Respondents must be able to use a computer, a mouse, and/or keyboard
	Require the question to be	Respondent must be able to use a
	answered	web browser
	Can give respondent links that give additional explanation	Reliant on technology that can fail

What is the output?

Survey data is the question answers, such as ‘yes’ or ‘no’ or perhaps a number, where a person has ranked a question on a scale. The survey data output will depend on the way in which the survey was constructed, it will be shaped by the survey questions asked, the format of the survey itself and the method in which data was collected. For example, if the survey was completed by the respondent, in a written form, then you will have a collection of written documents which require analysis of the question answers. If the survey has been completed by a re-searcher, then a more sophisticated method of data collection may have occurred e.g. tallies and counts of responses. If using an internet or email survey, a computer programme may have collected the data in a format which can easily be analysed. Consideration of the output needs to be made at the outset of the process, and time considerations need to be given as to how this data will be collected and analysed.

> ***SurveyMonkey***
> *SurveyMonkey is an online survey tool that enables people of all experience levels to create their own surveys quickly and easily.*
> *It has an online survey designer, which contains many questions and formats. It collects responses and analyses them in real time, producing charts and graphs with available information. All responses can be downloaded in a variety of formats to allow further statistical analysis in computer packages such as SPSS.*
> *www.surveymonkey.com*

How should it be analysed?

Before you can input your data in a computer program or application you will need to undertake a process of coding. This involves assigning a code (often numeric) to each possible answer in your survey. So if question 1 in your survey asked the gender of the respondent, you may seek to code the answer ‘male’ with the number 0, while you may seek to code the answer ‘female’ with the number 1. Establishing these ‘codes’ on the distributed questionnaire can help at data entry time, but obviously has the downside of putting numbers on the questionnaire that are of no relevance to the respondent and therefore could make the questionnaire look more confusing than it needs to.

Web based programmes

Internet based survey tools can distribute your survey via email and also collect your results, often allowing you to view your results as they are collected in real-time. You can download live graphs and charts of the responses, and often filter the responses and dig down to get individual responses. While this offers significant benefits there needs to be careful consideration of the pros and cons of email or internet surveys and whether this method of collection suits the population you are targeting.

Excel

Microsoft Excel is useful for data summary, presentation, and for other basic statistical analysis. The program provides a set of data analysis tools called the Analysis ToolPak which you can use to save steps when you develop complex statistical analyses. You provide the data and parameters for each analysis and the tool uses the appropriate statistical macro functions and then displays the results in an output table. Some tools generate charts in addition to output tables. The Analysis ToolPak is not loaded by default, instructions for installing it, along with guides on how to use it can be found on the Microsoft website.

SPSS (Statistical Package for Social Scientists)

SPSS is among the most widely used program for statistical analysis in social science. This is a data analysis package for quantitative research. It is particularly useful for the analysis of survey data as it covers a broad range of statistical procedures. There are other packages available such as SAS, Stata or Minitab however all are expensive to purchase, especially if only to be used for a one off survey. It may be possible to work with an academic institution to utilise their statistical packages, and organisations such as the Cathie Marsh Centre for Census and Survey Research (CCSR) provide training on the use of these packages.

For more detail on data analysis see section on Statistical Analysis.

Further reading

A practical guide to sampling, National Audit Office

Question Bank is an information resource, in the field of social research, with a particular emphasis on quantitative survey methods. http://qb.soc.surrey.ac.uk/

A general introduction to the design of questionnaires for survey research, University of Leeds top2.pdf

The Centre for Applied Social Surveys, University of Southampton – runs a programme of short courses in survey methods across the UK. programme.php

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Secondary data collation and analysis

What is the method?

This method refers to the review of existing information, and in the quantitative context may involve the manipulation of statistical data.

It differs from primary research techniques in that the researcher does not collect the data directly and cannot control the actual data collected, but can bring to bear new insights through interpretation or presentation. Managing large data sets and large amounts of quantitative material does require some specialist skill. The Policy Action Team Reports in the early Blair Administration described the lack of availability of relevant datasets in order to support neighbourhood working, and over the last decade more statistics have been made more readily accessible to a wider range of people.

When should it be used?

The collection of secondary data can be an important first stage. The main use for this sort of information is that it can provide a starting point for an evaluation or analysis to gain some background knowledge and understanding. Secondary data collection is also useful for contributing to the analysis and commentary throughout a research report.

What do I need to consider?

What types of data sources are there?

There are a number of different types of secondary information. Some of the most common types are identified as follows:

Official statistics – This refers to national data sets relating to issues such as population, employment and unemployment and businesses. Much of this information can be acquired from the Office for National Statistics and www.neighbourhood.statistics;

Other statistics – A wide range of other types of numerical data can be drawn on for evaluation purposes. e.g. project monitoring information of beneficiaries, funding information, service data.

Key principles

There are a number of key principles it is useful to follow when collecting and analysing secondary information.

1. Think about the key issues and topics that need to be addressed. Having a clear idea of what information is required will make the collection of secondary information a lot easier;
2. Search for the information and data sources;
3. Having collected the information, the next step is to read it and analyse it;
4. Collate information from secondary data into key headings.

Referencing

A key issue when using secondary data is ensuring that all information is properly referenced and that it is clear where the information has come from. You must be very careful that comparisons are genuine and meaningful.

What is the output?

The information gathered from secondary data analysis can produce various outputs depending on the type of information collated and reviewed. Some of the most common types include statistics, data tables and charts and maps.

The information may show how changes have occurred over time in a particular area. It could also be comparative, which allows the researcher to make comparisons between a number of different areas.

How should it be analysed?

Secondary data can be analysed using the same techniques as for primary data. See the following section on statistical analysis for more details.

Case study: Using secondary data to create a baseline

Baseline assessments refer to a number of headline indicators or statistics for a specific area at a particular moment in time e.g. the percentage of unemployed economically active males in Newcastle-upon-Tyne in 2002. Baselines are particularly useful when measuring the impact of a regeneration project or programme, as by knowing what the area was like before it commenced, it enables an evaluator to gauge the extent the project/ programme has changed an area.

Working with baseline data relating to local social, economic, cultural and environmental conditions is a core feature in many policy interventions. In developing and updating a baseline, you may need to:

- access secondary data (as detailed above) for establishing and updating baselines;
- develop baselines retrospectively. This entails deciding key indicators and collecting data for a period of time in the past (e.g. the start of a regeneration programme);
- revise existing baseline indicators to ensure they reflect local priorities and are SMART;
- recommend new baseline indicators where gaps exist and devising entirely new baseline assessments where one exist;
- review and aligning baseline indicators with those used nationally (e.g. Quality of Life indicators, Best Value Performance Indicators, Public Service Agreement (PSA) indicators and National Floor Target indicators) whilst maintaining a local focus;
- identify the best sources of data, frequency of updates and lead responsibilities for collection to aid future baseline updates;
- collect and collate primary (e.g. survey) data to inform the baseline assessment.

Pros	Cons
Robust, accurate data enabling comparison across time/area	Health warnings around use of statistics – need to make sure of appropriateness in context
Very credible and clear picture can emerge when presented well	Using only national statistics can suggest overly clear picture - reality is often messier.
As part of mixed method strategy can provide bedrock" for field of enquiry and suggest other appropriate techniques/interventions	You have no direct control over what is collected, only how it is presented and manipulated

Further reading

How official statistics are collected has improved a lot in recent years, the **neighbourhood statistics** website is very user-friendly and uses maps, graphs and tables for a wide range of official statistics, presenting data at many scales, from the smallest unit of data collection; the Super Output Area (population 1000-1500) to Parliamentary Constituency level, Local Authority level or regional Government Office Area.

The **Office for National Statistics** website is also excellent and contains all census and official data as well as population projections and a wealth of data on the economy.

Oxford Consultants for Social Inclusion are experts in manipulating datasets in order that they can help to inform decision making. They specialise in map data.

Statistical analysis

What is the method?

Statistical analysis is a mathematical method of interrogating data.

This is done by looking for relationships between different sets of data. Statistical analysis can be complex, and this following section aims to explain some of the basic considerations, to an audience without an assumed mathematical background. At the end of this section there are a wide variety of links to further reading, which can help you through the process of statistical analysis.

There are two types of statistics:

- Descriptive statistics: numerical summaries of samples (what was observed);
- Inferential statistics: from samples of populations (what could have been or will be observed).

It is important to understand which type of statistics you are working with before embarking on analysis.

When should it be used?

The general idea of statistical analysis is to summarise and analyse data so that it is useful and can inform decision-making. You would analyse descriptive statistics if you wanted to summarise some data into a shorter form, where as, you would use inferential statistical analysis when you were trying to understand a relationship and either generalise or predict based on this understanding. Statistical analysis, through a range of statistical tests, can give us a way to quantify the confidence we can have in our inferences or conclusions.

Statistical analysis should only be used where there is a clear understanding of the reasons for doing so. The use of statistical tests (as detailed above) will provide you with valuable findings if you know how to interpret the results and use them to inform your research.

What do I need to consider?

Variables

A variable is any measured characteristic or attribute that differs for different subjects. Quantitative variables are measured on an ordinal, interval, or ratio scale, whereas qualitative variables are measured on a nominal scale (note in SPSS the Interval and Ratio levels are grouped together and called scale). There are a range of variables that need to be understood, dependent/independent, controlled/continuous/discrete in the application of statistical tests. The independent variable answers the question “What do I change?”, the dependent variable answers the question “What do I observe?” and the controlled variable answers the question “What do I keep the same?”. A variable which can have any numerical value is called a continuous variable (e.g. time). A variable which can only have whole numbers (integers) is called a discrete variable (e.g. the number of people in a group). It is important to understand the variable you have for analysis of data in statistical packages such as SPSS.

Inference

If working with inferential statistics you need a sound understanding of your population (the set of individuals, items, or data, also called universe) and your sample (a subset of elements taken from a population). See the section on quantitative surveys for further discussion on populations and samples. We make inferences (conclusions) about a population from a sample taken from it, therefore it is important that population and sampling is well understood, as any error will influence your inferences (conclusions). In some situations we can examine the entire population, then there is no inference from a sample.

Confidence & Significance

- **The confidence interval** is an interval estimate of a population parameter, this is the plus-or-minus figure reported in, for example, newspaper or television opinion poll results. If you use a confidence interval of 4 for example, and 54% percent of your sample picks one answer, you can be “sure” that if you had asked the question of the entire relevant population, between 50% and 58% would have picked that answer (plus or minus 4). There are three factors that determine the size of the confidence interval for a given confidence level. These are: sample size, percentage and population size (see below).
- **The confidence level** tells you how sure you can be that this inference is correct. Most social science researchers use the 95% confidence **level**, which means you can be 95% certain; while the 99% confidence level means you can be 99% certain. When you apply the confidence level and the confidence **interval** together, you could say that you are 95% sure that between 50% and 58% would have picked that answer.

In statistics, a result is called statistically significant if it is unlikely to have occurred by chance. In statistics, “significant” means probably true, and not ‘important’. The findings of your research may be proved to be ‘true’ but this does not necessarily mean that the findings are ‘important’. In social science, results with a 95% confidence level are accepted as significant.

Factors that affect the confidence interval

The confidence interval is affected by three factors. These are the sample size, percentage and population size.

Sample Size

The larger your sample, the more confident you can be that their answers truly reflect the population. The relationship between the confidence interval and sample size is not linear. An example can be found below:

	Survey 1	Survey 2
Sample	1,000	2,000
Population	20,000	20,000
% of respondents answering 'yes' to a specific question	50%	50%
Confidence Interval	+/-3.02	+/-2.08

Percentage

The confidence interval is also determined by the percentage of the sample that provides the same answer. The confidence interval increases the closer the percentage is to 50%. In survey 1 (above) the confidence interval for a value of 50% is 3.02. This confidence interval would fall to 0.6 if the survey returned a value of 99% or 1%.

It is important that the survey sample size is considered for statistics where 50% of the population answer both ‘yes’ and ‘no’ as this is when the confidence level is broadest and so provides the general level of accuracy for a sample.

Population Size

The population size refers to the number of people within a group that have a similar characteristic. This could be the total number of people living in a town or the number of people with a more specific attribute such as suffering from a disability or residents from a specific ethnic group. Population size is of greatest importance when the population is relatively small and is known.

> ***Examples***
>
> *Confidence A survey of 1,000 households has been completed, in a town of 20,000 households. 54% of households felt that crime had the largest impact on their quality of life. Using a 95% confidence level a confidence interval of 3.01 can be assumed. So you can say that between 51% and 57% of the town'ss population feel the crime has the largest impact on quality of life.*
>
> *Significance A survey is distributed to all 20,000 households in a town, there are 1,000 responses to the survey, equal to a 5% response. In accepting an interval level of 3, the sample size needed for significant results at the 95% confidence level is 1013, therefore the response rate is just short of significance at the 95% level.*

The significance of change over time in survey findings

In measuring the confidence interval of survey data when survey results are compared over time, it is important to understand if, for example, economic activity has changed over time or if the change in results is caused by survey error. To understand whether actual change has taken place, this requires the confidence interval of the difference between the two means to be tested (see further reading for a link to a web tool for measuring the confidence interval between two means).

> ***Example***
>
> *Survey 1 finds that economic activity stands at 49% using a sample of 1,000 residents. Another sample is selected one year later. Survey 2 finds that 51% of residents are economically active. In this case the 95% confidence interval is from -0.05 to 0.03 meaning that we cannot be sure whether the economic activity rates have actually increased or whether this is a result of survey error. This is because the 95% confidence interval has values which are either side of zero.*
>
> *If economic activity increases to 55%, the 95% confidence interval is from -0.09 to -0.01 meaning we can be 95% confident that economic activity has actually increased.*
>
> *Considerations: Both surveys must be based on a sample that is representative of the population. The sample used in survey 2 also needs to be independent from the sample used in survey 1.*

Cross-tabulation

Cross-tabluation is about taking two variables and tabulating the results of one variable against the other variable. This can be done quite simply in data analysis tools such as Microsoft Excel or SPSS. A crosstabulation gives you a basic picture of how two variables inter-relate, so for example you may have a question in your survey about employment, by running a cross tabulation of the survey data obtained for this question against that of age or gender for example (or both), would give you a table showing the employment status of both males and females, broken down by the age ranges you coded in your survey. This can provide quite powerful levels of information and is a useful way of testing the relationships between variables.

Statistical tests

For more complex statistical analysis there are a range of statistical tests that can be applied to your data. To select the right test, you need to ask yourself two questions:

1. What kind of data have you collected?
2. What variables are you looking to establish a relationship between?

Choosing the right test to compare measurements can be a tricky one, as you must choose between two families of tests: parametric and non- parametric:

- Parametric tests – include Mean, Standard Deviation, t test, analysis of variance (ANOVA), Pearson correlation, regression (linear and non linear);
- Non-parametric tests – include Median, interquartile range, Spearman correlation, Wilcoxon test, Mann-Whitney test, Kruskal-Wallis test, Friedman test.

Choosing the right test

Choosing between these two families of tests can be difficult. The following section outlines some of the basic rules for deciding which family of tests suits your data.

- You should choose a parametric test if your data is sampled from a population that follows a normal distribution (or Gaussian distribution). The normal distribution is a pattern for the distribution of a set of data, which follows a bell shaped curve. This means that the data has less of a tendency to produce unusually extreme values, compared to some other distributions.
- You should choose a non-parametric test if the population clearly does not follow a normal distribution. Where values may be “off the scale,” that is, too high or too low to measure, a non-parametric test can assign values too low or too high to measure.

What do these tests tell you?

Parametric tests

Mean – The mean is more commonly called the average, however this is incorrect if “mean” is taken in the specific sense of “arithmetic mean” as there are different types of averages: the mean, median, and mode.

Standard Deviation – The standard deviation measures the spread of the data about the mean value. It is useful in comparing sets of data, which may have the same mean but a different range.

t test – The t-test assesses whether the means of two groups are statistically different from each other. This analysis is appropriate whenever you want to compare the means of two groups.

Analysis of variance (ANOVA) – This is used to test hypotheses about differences between two or more means as in the t-test, however when there are more than two means, analysis of variance can be used to test differences for significance without increasing the error rate (Type I).

Pearson correlation – This is a common measure of the correlation between two variables. A correlation of +1 means that there is a perfect positive linear relationship between variables. A correlation of -1 means that there is a perfect negative linear relationship between variables.

Regression (linear and non linear) – A technique used for the modelling and analysis of numerical data. Regression can be used for prediction (including forecasting of time-series data), inference, hypothesis testing, and modelling of causal relationships.

Non-parametric tests

Median – The median is the middle of a distribution: half the scores are above the median and half are below the median. The median is less sensitive to extreme scores than the mean and this makes it a better measure than the mean for highly skewed distributions. The median income is usually more informative than the mean income for example.

Interquartile range – The interquartile range (IQR) is the distance between the 75th percentile and the 25th percentile. The IQR is essentially the range of the middle 50% of the data. Because it uses the middle 50%, the IQR is not affected by outliers or extreme values.

Spearman correlation – Spearman's Rank Correlation is a technique used to test the direction and strength of the relationship between two variables. In other words, it's a device to show whether any one set of numbers has an effect on another set of numbers.

Wilcoxon test – The Wilcoxon test compares two paired groups of data. It calculates the differences between each set of pairs, and analyses the list of differences.

Mann-Whitney test – The Mann-Whitney test is a non-paramet- ric test for assessing whether two samples of observations come from the same distribution, testing the null hypothesis that the probability of an observation from one population exceeds the probability of an observation in a second population.

Kruskal-Wallis test – A non-parametric method for testing equality of population medians among groups, using a one-way analysis of variance by ranks.

Friedman test – The Friedman test is a nonparametric test that compares three or more paired groups.

What is the output?

The output of statistical analysis will depend on the statistical test you apply to your data, a detailed understanding of the test is required to be able to interpret the results. The output will most probably be further tables of data, with a number of things being reported. It is important to understand the information you need from a table of results, as you may only require a single figure, but be presented with a range of information which may be confusing if you are new to statistical analysis.

How should it be analysed?

Microsoft Excel

Microsoft Excel includes a collection of statistical functions, within the add-on Data Analysis ToolPak. Excel can analyse descriptive statistics at a simple level and when used effectively, can be very useful in the exploratory analysis of data, cross tabulations (pivot charts), viewing data in graphs to detect errors, unusual values, trends and patterns and summarising data with means and standard deviations. However, Excel is of very limited use in the formal statistical analysis of data unless your experimental design is very simple. The Analysis ToolPak is also no easier to use than more formal statistical packages, however there are plenty of guides and tutorials to be found on the internet.

Formal Statistical Packages (SPSS, SAS, Stata)

Inferential statistics are more often analysed in specialist statistical packages such as SPSS which provide greater functionality compared to Excel. The package used by the researcher often depends on which

package the researcher is familiar with and has access to. ‘ttese formal statistical packages can summarise data (e.g. frequencies), determine whether there are significant differences between groups (e.g. t-tests, analysis of variance) and examine relationships among variables (e.g. correlation, multiple regression). Further, these packages can produce charts, graphs and tables from the results of the analysis.

Formal Statistical Packages

	Pros	Cons
Microsoft Excel	Commonly used and widely available	It is not possible to see a record of the analysis you have previously conducted
	Easy to use for basic data analysis	Statistical analysis is only possible if data is sorted or in blocks
	Easy to import information from other packages.	Limited by space - MS Excel has a size limitation of 256 columns and
	Creating and amending charts is simple	over 65,500 rows meaning it has limited capacity for analysing larger datasets
Formal	Widely used.	Expensive to purchase.
Statistical Packages (SPSS, SAS, Stata)	More recent versions are more user friendly than earlier versions (menus to select rather than having to use syntax)	Need to buy add-ons to get full functionality
	Allows a wider range of statistics test to be conducted compared to Excel	Output isn't user friendly for beginners
	Easy to analyse survey / questionnaire responses	Charts are poor quality and difficult to amend - need to copy information into Excel
	File size is only dependent on your computers capacity	
	Survey data can be given assigned labels	
	It is easy to analyse sub groups of a large dataset	

Further reading

Guide to Good Statistical Practice – ‘ttis resource is based at the Statistical Services Centre, University of Reading and consists of a series of guides on good statistical practice, intended primarily for research and support staff in development projects. Guides can be downloaded in HTML and PDF on subjects such as Data Management and Analysis. Links include: training courses and workshops; consultancy; resources (such as publications, software, external links)

Introduction to Central Tendency, David Lane – A useful guide explaining some basics to Statistical Analysis.

Statsoft Electronic Textbook,

http://www.statsoft.com/textbook/stathome.html – ‘this Electronic Statistics Textbook offers training in the understanding and application of statistics

Simple Interactive Statistical Analysis,

http://home.clara.net/sisa/ – SISA allows you to do statistical analysis directly on the Internet. User friendly guides are available for statistical procedures.

Excel For Statistical Data Analysis,

Raynald’s SPSS Tools – A website offering tools and tips for users of SPSS software, the site offers an archive of 400+ sample SPSS syntax, scripts and macros classified by purpose, as well as an FAQ, tips, tutorials and a Newbie’s Corner. It invites contributions from other SPSS users to create a shared, open-source resource.

Choosing the correct Statistical Test

Confidence interval between two means – the following link provides a tool for measuring the confidence interval between two means

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Qualitative Research Methods

Qualitative methods are generally associated with the evaluation of social dimensions. Qualitative methods provide results that are usually rich and detailed, offering ideas and concepts to inform your research. Qualitative methods can tell you how people feel and what they think, but cannot tell you how many of the target population feel or think that way as quantitative methods can.

Social survey/questionnaire

What is the method?

Social surveys are a questionnaire-based method of research that can produce both qualitative and quantitative information depending on how they are structured and analysed. This section focuses on the use of surveys to collect and analyse qualitative data. Many of the issues and considerations are the same as for the quantitative use of surveys, and more detail can be found in the earlier section of this handbook.

When should it be used?

Questionnaire surveys can be used in a wide range of settings and to gather a variety of different types of information. You may be evaluating a programme in which a wide range of projects have been commissioned, and want to gather the views of a wide range of project managers, or you may be measuring the impact of an initiative on the business community in a specific geographical area. A small-scale qualitative survey may be conducted to explore in more detail the findings of qualitative research.

What do I need to consider?

Many of the considerations for a social survey are the same as for a quantitative survey, however we define a social survey as one where less statistical rigour is required, where sample sizes are not as large, and with results not expected to be significant of the wider population. A social survey may have a greater focus on collecting rich and detailed qualitative data.

Population

A number of questions about the proposed population for a social survey need to be considered. Such as are there language issues? And what are the geographic restrictions? These are the same issues as for quantitative surveys.

Sampling

The sample is the section of the wider population that will be engaged in the survey. Detailed consideration of sampling still needs to be made even when not striving for statistical significance. It is still important to understand who the respondent is and what your sampling frame is going to be.

Format

A social survey will usually be a cross-sectional survey used to gather information on a small sample population at a single point in time.

An example of a cross-sectional survey would be a questionnaire that collects data on peoples' experiences of a particular initiative. However, a qualitative survey could equally be used in a longitudinal study, perhaps returning to particular individuals over time to measure the impact of an intervention on the direction of someone's life.

Questions

There are a whole range of questions to be asked in relation to survey design, such as: What types of questions can be asked? How complex will the questions be? Will screening questions be needed? Can question sequence be controlled? Will lengthy questions be asked? Will long response scales be used? A social survey will be more interested in qualitative findings, in recording peoples' opinions and perceptions, and therefore will make more use of open questions where respondents can give their own responses to a set question. Open questions will begin with what, why, how, or describe, to elicit rich qualitative information.

Usage	Example
As a follow-on from closed questions, to develop a	If answering yes to question 7, please provide the
more detailed response.	reasons for this'
To find out more about a person, their thoughts, needs, problems, etc.	Why is that so important to you?
To get people to realise the extent of their problems.	What effect does this have on your family life?
To get people to reflect on the impact of something or some change.	How has this made a difference to you?

Administration

The costs, required facilities, time, and personnel needed to conduct an effective survey are often underestimated, even when it is not on a large scale. There should be an administrative system in place to deal with the questionnaires for when they are returned/completed. This may include numbering the questionnaires, recording what action has been taken with them, entering the results into a spreadsheet/database etc.

How Should It Be Used?

Surveys can be carried out by phone, post, email, website or face-to- face, for detailed pros and cons of these delivery methods see the earlier section on qualitative surveys. In collecting rich qualitative survey data, the most effective method would be via face to face, administered surveys, as the researcher would be able to use prompts to encourage people to give more detailed answers. This does however introduce a bias, which needs to be understood and controlled as much as possible, i.e. by using standard prompts. In qualitative surveys, it is necessary that the interviewer conduct the interview with total objectivity, so that respondents are not influenced by any outside source in their responses. For this reason, interviews should be conducted by well- trained and qualified interviewers.

What is the output?

The data that a social survey can produce is very much dependent on how the questionnaire is constructed. However, the data can be very useful for providing an overall picture of the way in which a project or programme is being implemented and how effectively it is impacting upon its target audience. Qualitative data output will be in a text, audio or picture format, and each answer may be very different from another. This can make collection of data more difficult, and a way of collating data needs to be considered early in the process.

How should it be analysed?

The Quantification of Qualitative Survey Data

Surveys can be analysed by collating the frequency of responses to each of the questions on the survey form. This can be done manually using a

“frequency table”, which can be easily set up on an Excel spreadsheet to analyse descriptive statistics.

QSR NUD*IST and NVIVO are qualitative data analysis packages, which enable non-statistical information from interviews, group work, observations, audio, video, pictures or documents to be analysed according to chosen criteria. For example, it is possible to use the package to ‘pull out’ all material relating to key words or phrases (e.g. neighbourhood renewal) and then sub-divide the data into more specific areas of analysis (e.g. statement of use, problems, projects). This is a powerful piece of software that can provide clarity to wide range of often complicated written or media materials.

> ***Case study: Using surveys to evaluate a project***
>
> *A programme targeted on helping young people back into work through training wants to evaluate how well it is achieving its objectives. It uses a survey to canvas the views of young people who have been on the programme to date. The survey asks them closed questions about what training they have attended and how useful they have found the training (on a scale of 1:4). The survey also uses open questions to ask young people about what their plans are for the future as a result of the training (i.e. has it helped them to consider applying for full time work? Or further education opportunities?). The qualitative data is analysed and this shows that the young people have gained in confidence, are looking to go into further education or training or have already secured job interviews*

> *in a range of occupational fields, however there is a distinct focus on work in the field of construction.*
>
> *The results of the survey are analysed and this provides conclusions about overall success of the programme, which allows the programme manager to draw conclusions and consider design issues for making the programme more effective in the future.*

Further Reading

See **Question Bank** for details of question design –

Computer Assisted Qualitative Data Analysis (CAQDA) –

http://caqdas.soc.surrey.ac.uk/ – provides practical support, training and information in the use of a range of software programs designed to assist qualitative data analysis. Also provides various platforms for debate concerning the methodological and epistemological issues arising from the use of such software packages.

Research Observatory, University of the West of England – the site is divided into topic areas with each topic area containing a number of learning units and a collection of resources about a particular subject related to research.

Interviews

What is the method?

One of the most popular and frequently used methods of gathering information from people about anything is by interviewing them. It is also the most popular method used within the social sciences. There is a continuum of formality around interviewing and it covers a multitude of techniques, from informal “chats” maybe arranged as “vox-pops” right through to highly structured, formal interviews, taped and transcribed.

The different types and styles of interview elicit very different types of information. Conducting interviews is an interpersonal process and as an investigator you must be very aware of your own behaviours and assumptions in the context. Interviews are not “neutral” social spaces and you must be respectful and maintain appropriate boundaries at all times.

What do I need to consider?

Interviews are a qualitative method of research often used to obtain the interviewees’ perceptions and attitudes to the issues. The key issue

with interviewing is making decisions about who are the key people to talk to and what type of interview are you going to use.

Interview Style

There are three clearly identifiable styles of interview- structured, semistructured and unstructured:

Structured – Follows a set of specific questions, which are worked through systematically. This type of interview is used when the researcher wishes to acquire information where the responses are directly comparable.

Semi-structured – This is a more commonly used interview technique that follows a framework in order to address key themes rather than specific questions. At the same time it allows a certain degree of flexibility for the researcher to respond to the answers of the interviewee and therefore develop the themes and issues as they arise.

Unstructured – This method of interview does not follow any predetermined pattern of questions or themes. Rather, the interviewer will address the issues as they emerge in the interview. The method is useful when the researcher wishes to explore the full breadth of a topic.

Interview Type

These are some of the types of interviews:

Fact finder – This type of interview is used to obtain specific information from an interviewee and usually includes structured or standardised interview questions (the wording of the questions and the order in which they are asked is the same). It is used when some information is already known and there is a need to gain a more in-depth insight. An example of when a fact finder interview would be appropriate is when interviewing a project officer as part of an evaluation of their project. Quantitative (or 'hard') information is usually already known (such as outputs and funding data), therefore the interview could be used to discover qualitative information that the hard data cannot portray, such as the 'softer' outcomes of the project.

Idea generator – In many respects, this type of interview is the opposite of the fact finder interview. It is used when the interviewer has no preconceptions about what might be discovered over the course of the interview and results can be used to set the parameters or framework for the study. Interview questions are loosely structured allowing maximum flexibility to explore a range of issues. Idea generator interviews are usually applied at the start of a research project in order to discover and explore issues from a particular group or community. For example, in order to develop a community cohesion strategy, idea generator interviews may be used to find out what community cohesion means to different groups in the community.

Exploratory – These are the most frequently used type of interview as they are relevant to most types of research project. They are usually conducted with representatives that have a strategic role to play in the research. These types of interview require some degree of prior knowledge about the research subject as they are about testing hypotheses, making connections between other elements of the research, ensuring the strategic fit and progressing the findings of the research forward (e.g. senior officials from a local authority may be interviewed using this method in order to find out future plans and priorities and how they fit in with others' plans and priorities).

Experiential – This type of interview aims to draw out people's feelings, perceptions and experiences over a specific period of time (e.g. the duration of a regeneration programme or project). This provides rich, in-depth material about how the subject under investigation has affected an individual's life on a personal level. Experiential interviews may be used to elicit information from people who have benefited from a community project or who live in an area that has received regeneration monies. Therefore these interviews can map the feelings and impressions that any changes have made and add a 'story' to the quantitative or 'hard' data.

	Pros	cons
Face to Face	People can be very generous with their time and expertise	Appropriateness of setting
	Interpersonal dynamics and establishing trust may yield insights	Balance responsibility to your interviewees and needs of investigation
Telephone	In-depth examination of topic possible	Can be time intensive
	Can do more without travel-time, from your desk	Less opportunity to establish rapport

When should I use this method?

Interviews are typically used when seeking the views and opinions of people with a specific perspective. They can be conducted by phone or face to face. They offer particular advantages in terms of acquiring information, which might not otherwise be shared in a group setting.

What type of data is produced?

The nature of the data will vary depending on the specific type of interview undertaken by the researcher. Some people prefer to take their own notes, others prefer to tape and transcribe verbatim, a lot depends on the preference of the interviewer.

How can I analyse and use the data?

The information obtained from interviews can be used in two key ways:

Thematic generation – identifying and drawing upon common themes across the interviews;

Citation – directly quoting parts of the interview in the main body of the report.

Quotes have to be referenced properly. For example, you may wish to refer to the title of the interviewee in identifying who made the quote (eg project manager). Remember that some information provided during interviews may be confidential. In such cases, you should only refer to the broad theme or argument being made rather than identifying who said it.

Further reading

Top tips for interviewing – Research Observatory, University of the West of England

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Discussion groups

What is the method?

Discussion groups (also known as ‘focus’ groups) are an example of a technique imported into social research from market research. They have been widely used in political circles to “road test” policies. A discussion groups consists of a number of individuals you invite to discuss their views on a particular topic, typically involving between 6 and 12 people, which is conducted specifically to get a group of people’s views on a subject. Groups can be constructed in order to attempt to recreate demographics.

When should it be used?

Discussion groups are best applied when rich, in-depth material from a number of people is required. Being part of a group often creates a more relaxed atmosphere than a one-to-one interview. Therefore, information gathered from discussion groups is often more varied than if participants had been interviewed on a one-to-one basis. Another advantage of using discussion groups, as opposed to one-to-one interviews, is that they provide in-depth information from a number of individuals simultaneously, making it a time effective method of gathering data.

What do I need to consider?

Practical issues

Discussion groups usually last one hour or so and include between six to twelve participants. Participant recruitment is very important and can be done through a range of methods, including client contact lists, existing networks and databases, advertising in appropriate public places and via the media, and 'hanging around' places asking people to join in. These varied methods of recruitment mean that discussion groups can be targeted at different participants, including groups traditionally considered 'hard to reach', such as young people and people from Black and Minority Ethnic (BME) backgrounds. Incentivising participants for their time requires some ethical consideration. However, expenses for travel should always be provided, as well as food and sometimes vouchers or cash payment.

Decide on the make up of the groups – identify the key groups and individuals that you need to speak to depending on what you need to find out. Identify the individuals you need to contact. You may know of people directly or you may require the assistance of others to provide you with a 'route in' to finding participants (eg project staff, community champions). If this is the case, simply outline what you intend to do and enquire as to who they think the best people to involve in the focus group would be. However, be aware that you should try to attract a range of participants with different views and experiences and that relying on one person to find all of your participants may limit this taking place.

Arrange a location – ideally the discussion group should be held in a location that is familiar to the participants, as this familiarity reduces the anxiety of the participant. The next step is to contact all potential participants to invite them to the group, tell them what it is about, and inform them of the time, location etc. Ensure that you have more contact names than you need for the discussion group as some people may not wish to be involved.

Questions

The types of questions that could be asked during a discussion group can be similar to interview questions, such as fact-finding, idea generating, exploratory and experiential. The main rationale for choosing to undertake group discussions as opposed to interviews should not be the type of questions you are asking, rather to whom you are asking the questions. Within group discussions having things to show or to demonstrate can really help the discussion as people interact with each other and the stimulus provided.

Facilitation

Focus group facilitation is a very specific skill, groups are notoriously susceptible to dynamics and can be quite difficult to "control", consequently if your requirements or parameters are very tightly defined then a focus group may be inappropriate. Some people find such situations intimidating and do not contribute as much as they would in a one-to-one situation whilst some people may affect the dynamics by dominating proceedings.

- In preparing for the discussion, it is worthwhile having a shortlist of questions, ideas and thoughts on the topic. The list could be useful in starting the discussion and ensuring it flows continuously.
- Ask relevant and open questions so that the discussion has breadth. It is important that the group has a discussion rather than a question and answer session. Therefore try to steer clear of questions that are narrow and can be answered easily without discussion.
- Encourage group interaction and participation. All members of the group should make a contribution to the discussion. Try to avoid just one or two people dominating.
- Pursue, capture and develop emerging issues. A good facilitator should spot issues that are emerging in the discussion and try to get the group to discuss them in more detail.
- Try to ensure that the discussion remains focused on the key themes or issues.

Recording the discussion

This can be done either through the use of a tape recorder or by taking notes. Tape recording the discussion is useful in ensuring that no important points are missed and enables the facilitator to focus on

guiding the discussion rather than taking notes. However, you will need to make sure that you have a good quality tape recorder in order to pick-up the group discussion. A good alternative is to have a note-taker sit in on the discussion.

How Should It Be Used?

Discussion groups are used when seeking the views, perceptions and opinions of people in an open forum. They are often used when more in-depth information is required than that which can be gained from a questionnaire. Compared with interviews, they can be used when confidentiality is not an issue and where it is felt that participants are more likely to contribute within a group setting rather than on a one-to-one basis. 'ttey can often be used to explore issues emerging from other types of research (eg interviews, surveys) in more depth.

What is the output?

The discussion group produces qualitative data about thoughts, views, experiences etc.

How should it be analysed?

Use the information from interviews to identify the relevant themes that emerge from the discussions to put into your evaluation report. There are also statistical packages that you can use to analyse this type of data including:

NUD*IST: a qualitative data analysis package which enables non statistical information from interviews, group work, observation etc to be analysed according to chosen criteria. For example, it is possible to use the package to pull out all material relating to key words or phrases (eg neighbourhood renewal). If recorded, you may not need to transcribe the whole discussion but just make relevant notes from the tape. 'ttis will enable you to quote directly from the discussion within your evaluation report, remembering to adhere to any issues of confidentiality.

Pros	Cons
You select and recruit group members	Lack of interest in group could make recruitment difficult
You can control the topic	Participants do not have much to say or some participants dominate discussion
Interaction between participants may prompt new insights	May be unsuitable for researching sensitive issues

Further reading

Moderating focus groups – ^e national centre for social research provides training courses in moderating or facilitating discussion groups –

Facilitating Workshops – Practical Tips for Workshop Facilitators, Seeds for Change

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Workshops

What is the method?

Workshops are a group-based method of research in which there is an emphasis on activity-based, interactive working. The focus is on everyone participating and undertaking the work. Therefore, when using this type of research technique, the researcher acts as a facilitator, rather than leading the discussion or activity.

When should it be used?

There are a variety of reasons why it would be appropriate to hold workshop sessions, including:

Raising awareness (e.g. about a new funding stream and how to apply);

Capturing views and information (e.g. about local service provision);

Building consensus (e.g. to take forward a draft strategy or action plan);

Developing skills and capacity (e.g. on how to implement emerging government policy).

What do I need to consider?

Planning

Workshops need to be well planned, this will often involve establishing the date/time/location of the workshop as early as possible; inviting potential participants to the workshop by letter/email and requesting confirmation of their attendance; distributing background papers and the objectives/required outcomes of the workshop in advance; and preparing practical aids for use in the workshop itself (e.g. photos, maps, flipcharts, presentations, models).

Workshops vary in size according to the nature of the subject, the specific group involved and the required outcomes of the session. Workshops can contain as few as 4 participants and as many as 25.

The length of the workshop will vary depending on factors such as the planned activities, the time available and the required outcomes. Workshops can range in duration from one hour to full day sessions. However, it is important to be aware of the time pressures under which people work and to ensure that the scheduling and duration of the workshop(s) is appropriate.

Interactive

The emphasis during workshops is on participation. This can be encouraged through stimulating debate (e.g. posing questions) and encouraging collaborative working (e.g. group activities). A variety of mechanisms can be employed to encourage interaction, including:

- Brainstorming;
- Model making;
- Physical and mental mapping;
- Ranking and prioritisation;
- Drawing and photography;
- Role play.

The techniques selected need to be tailored according to the specific group of participants (e.g. strategic decision makers, project staff, young people) and the outcomes required.

Outcome focused

It is imperative that workshops have clear objectives and are grounded in the required outcomes of the session. Key to the achievement of this are the pre-workshop activities that are undertaken to design, plan and prepare for the workshop itself (see above). The emphasis on outcomes is important for all concerned – it enables a gathering of information, perceptions and responses to contribute to the overall research, whilst enabling participants to understand the focus of the session, which, in turn, allows them to play a full role. If your participants understand your aims for the workshop, then the session is likely to be more productive.

What is the output?

The output of a workshop will be dependant on the types of activities undertaken, but may include flip chart material, drawings and diagrams and lists of factors, possibly ranked. It is important that all materials and notes from the workshop are collated, analysed and fed into the research findings.

How should it be analysed?

QSR International's NUD*IST & NVIVO computer packages enable non-statistical information from group work, observations, audio, video, pictures or documents to be analysed according to chosen criteria. These are powerful pieces of software that can provide clarity to a wide range of often complicated written or media materials (see section on qualitative survey analysis).

Further Reading

Computer Assisted Qualitative Data Analysis (CAQDA) – http://caqdas. soc.surrey.ac.uk/ – provides practical support, training and information in the use of a range of software programs designed to assist qualitative data analysis. Also provides various platforms for debate concerning the methodological and epistemological issues arising from the use of such software packages.

Facilitating Workshops – Practical Tips for Workshop Facilitators, Seeds for Change

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Observation

What is observation?

Observation, sometimes referred to as "participant observation" or "ethnography" is the key method of anthropology and in itself can consist of a mix of techniques; informal interviews, direct observation, participation in the life of the group, collective discussions, analyses of personal documents produced within the group, self-analysis, and life-histories, notes, diaries and transcripts are often kept and the observation method can generate a lot of written material which the investigator must synthesize.

Participant observation is usually undertaken over an extended period of time, ranging from several months to many years. An extended research time period means that the researcher will be able to obtain more detailed and accurate information about the people he/she is studying.

When should it be used?

Observation is more appropriate when seeking to uncover:

Observable details

Like daily time allotment. For example, the popular management consultancy technique of the "time and motion study" is a version of observation. The investigator watches the activities and actions of people involved in a process and works out the specific time allocation devoted to every single step, with the objective of improving efficiency by cutting out unnecessary or time consuming steps.

Group dynamics

If the subject of your enquiry is a collective, in this context more likely to be a partnership board or steering group rather than a tribe or sub-culture, then close attention to the dynamics of the interaction between the people involved can be very illuminating. The observation method highlights interpersonal relationships and the investigator can reflect upon social proximity and distance, observe relationships and explore body lanuage and other behaviours.

More hidden details

Like taboo behaviour. Observation can be effective in exploring or exposing secrets or the underlying realities of situations, researchers can discover discrepancies between what participants say – and often believe – should happen (the formal system) and what actually does happen, or between different aspects of the formal system; in contrast, a one-time survey of people's answers to a set of questions might be quite consistent, but is less likely to show conflicts between different aspects of the social system or between conscious representations and behavior.

What do I need to consider?

Observation as part of a mixed methods approach

Observation may be appropriate as a part of your research strategy but it is unlikely that it would "stand alone" in the research contexts that we have been describing. It is also worth remembering that it relies very heavily upon the judgements, assumptions and prior knowledge and experience of the observer themselves.

Reliability vs Validity

Participant observation (whether overt or covert) is not the most reliable research method. Such studies, by their very nature, are impossible to repeat and reliability can be further questioned in terms of the extent to which the presence of the observer actually changes the behaviour of those being studied. As soon as you do or say anything at all, you have slipped from the role of observer to participant, this boundary can be very hard to maintain.

Participant observers study people in their natural environment, gaining a depth of insight into behaviour that comes not simply from close, detailed, observation but also from the researcher's own experiences within the group being studied – a technique that provides first hand insights into why people behave as they do. Participant observation does not prejudge issues and events (in the way a questionnaire may, for example) and, for these reasons it is possible to argue that such a method provides data that has a high level of validity.

Skills required

Participant observation requires a great deal of skill and commitment from the researcher. The success or failure of the research will hinge

on such factors as the ability to fit-in with the people being studied and the ability to communicate with groups members on their level and terms. It will also, at different times, require tact, clear and careful observation, the ability to separate the role of participant from that of observer and so forth. In other words, before committing yourself to participant observation you need to be certain you have the time, resources and skills required to carry this type of research.

What is produced?

A key feature of participant observation is that data should be collected in ways that cause as little disruption as possible to the ordinary activities of the research context. The recording of information largely depends on the research situation. Fieldnotes are generally kept and sometimes it is possible to use tape recorders and video recorders. Whichever methods of recording information are used it is important to be detailed and to devise a system that allows easy retrieval of information.

How should the data be analysed?

Analysis and interpretation of data is undertaken in a similar way to analysing and interpreting data gathered by other qualitative research methods, as detailed in other sections of this handbook.

	Pros	Cons
Observation	Deep and nuanced picture can emerge	Relies on observer to read social reality "accurately"
	A flexible method that can react to events / ideas, follow leads, pursue avenues of research that had not been considered	Hard to maintain observer role
	Gives a researcher insights into individual and group behavior period and it may allow them to formulate hypotheses that explain such behavior	Can a significant time need

Further reading

Collecting data through observation, Web Centre for Social Research Methods – Understand the advantages and disadvantages of observational research compared to other research methods.

Visual techniques

What is the method?

Visual techniques in social research offer an interesting, stimulating and interactive approach to gathering information. They are appropriate in a variety of situations, as they fulfil numerous functions. Visual methods such as drawing, painting, video, photography and hypermedia offer increasingly accessible and popular resources for research.

Types of visual research that you might want to consider:

Cartoon test – presented with a picture of a cartoon depicting a specific situation, the consultees are then asked what they think the character would do, say or think in response to another character.

Completion technique – using the cartoon test above, the character is shown thinking or saying something but the sentence is left uncompleted. Participants are given the opportunity to make suggestions to complete the sentence.

Collage/concept boards – uses a range of images that can be used to represent or describe the subject for discussion (e.g. services, project, issues etc). In this way, the participants can identify the subject with a range of feelings and moods. There are two ways to approach this technique; either the participants respond to prepared boards or they construct their own collage or concept boards.

Ideas board – this board invites participants to jot down their ideas on post-it notes and add them to the board which is grouped by theme.

Mind mapping – visually representing information in an interesting format without the limits or formality of standard written text. The open flowing format appears to support the natural thinking process, which is thought to go on randomly and in a nonlinear way.

Money well – an interesting way of asking participants to prioritise future actions or developments. Participants are given a certain amount of fake money, which they can place on the options displayed.

Graffiti or ideas wall – a strip of paper is hung on the wall accompanied by shapes, such as speech bubbles. The participants are able to write comments about a research topic or discussion statement.

Photographic research – consultees are either provided with a series of photographs by the researchers or given a disposable camera or mobile phone and asked to take their own. Depending on the nature of the research project, these photos might include depictions of the local physical environment and/or reflect how consultees view their community, including what they like and dislike about it. The use of photographs in research can be used to evoke feelings or trigger memories that lead to perspectives and explanations that would not have been unlocked using a more conventional research technique.

Film and video – video cameras are particularly well suited as data gathering technologies for ethnography, participant observation, oral history, life history, etc, preserving things that are not preserved in even the best researchers' field notes. Similarly, tape recordings preserve audible data not available in even the most carefully annotated transcripts.

When should it be used?

Deciding to conduct visual research will be dependant upon the type and scale of the research that you are undertaking. It may be appropriate to conduct this type of work at the start of the research process as a way of highlighting issues to be examined further during the course of the process, or it may be something that is developed as part of a blend of evaluation methodologies. Visual techniques can be used in many settings, as an alternative to more traditional methods and may be particularly useful as:

- A method for effectively engaging hard to reach groups within areas (e.g. young people). Pictures and photographs can help evoke opinions and allow the use of imagination in expanding on a scene.
- Offering an alternative to traditional discussion groups, yet still being able to draw out the rich variety of qualitative information from participants.
- For use within workshops, providing a task based activity to get members of a group working and thinking together.
- A method of producing tangible outcomes at the end of the research process (e.g. series of community generated impacts illustrating how local people view the local area).

What do I need to consider?

- Consider who should be involved in this type of visual research and that the technique is appropriate for the type of audience you are seeking ideas and opinions from.
- Ensure that research is conducted in a neutral venue where people will feel comfortable and able to share their opinion freely.

- Think about how the visual research will link into the rest of the methodology and how you will use it to inform the evaluation process.
- If generating photographic or film media as part of the research, those people photographed and filmed need to give their consent for their images to be used for the purposes of research.

How should it be analysed?

The interesting thing about data produced through visual research is that you produce visual data, which can be used to illustrate your research and provide a very immediate and real way of demonstrating how a project or programme has impacted upon local people and communities.

For a more detailed analysis of visual materials, QSR NVivo and Xsight are qualitative research software programs that help to manage, shape and make sense of unstructured information produced by visual techniques. These programmes have purpose built tools for classifying, sorting and arranging information and the software allows you to analyse visual data and discover patterns, identify themes, glean insight and develop meaningful conclusions. Transana is an alternative, inexpensive and open source software package for professional researchers who want to analyse digital video or audio data.

Pros	Cons
Easy and inexpensive (bar perhaps video)	Potentially intrusive
Interesting and engaging, combats consultation fatigue	Data protection issues need to be considered
Can help engage groups where written or verbal	May build unrealistic expectations among
skills may not be advanced e.g. young people.	participants

Further Reading

Building Capacity in Visual Methods, University of Leeds – Offer a range of courses from an Introduction to Visual Methods, to a Masterclass in Visual Methods.

Choosing a CAQDAS Package – A working paper by Ann Lewins & Christina Silver

QSR International link 1 link 2 have tutorial videos online which allow you to explore the functionality of the programs.

Transana, http://www.transana.org/ – lets you analyse and manage visual data in very sophisticated ways. Transcribe it, identify analytically interesting clips, assign keywords to clips, arrange and rearrange clips, create complex collections of interrelated clips, explore relationships between applied keywords, and share your analysis with colleagues. Can be downloaded for $50.

Visualising Ethnography, Loughborough University – Useful website providing a series of short introductions to the use of different visual methods and media.

Research Issues

Within this guide we have tried to be as practical and clear as possible about the reality of carrying out social research, using the variety of methods described. By concentrating on such practical considerations as appropriateness and the pros and cons of each method we have aimed to avoid getting too “bogged down” in the more philosophical issues which underpin the research endeavour.

However it is important to address these issues in this section and to have some links for further reading.

If you agree that carrying out research has a role to play in constructing reality then it is very important that you aim to do this as accurately and sensitively as possible.

Ethics

There are many ethical dilemmas associated with the practice of social research. ^e Economic and Social Research Council (ESRC) which funds the majority of the public-funded social research has an excellent Research Ethics Framework (REF – see further reading) which is designed to guide the researcher through any ethical issues they may face.

There are six key principles of ethical social research:

- Research should be designed, reviewed and undertaken to ensure integrity and quality;
- Research staff and subjects must be informed fully about the purpose, methods and intended possible uses of the research, what their participation in the research entails and what risks, if any, are involved;
- ^e confidentiality of information supplied by research subjects and the anonymity of respondents must be respected;
- Research participants must participate in a voluntary way, free from any coercion;
- Harm to research participants must be avoided;
- ^e independence of research must be clear, and any conflicts of interest or partiality must be explicit;

Responsibility

Everyone involved in a research project or process is responsible for maintaining good ethical standards. It is also good practice within project teams for there to be a space for ethical issues to be aired.

Position

As in any social encounter, a lot rests on how you present yourself. Social research occupies a slightly odd position within human interaction and relies upon the good will of the participants in the research. Broadly, people are quite amazingly generous with their time and expertise when asked to participate in research and must agree freely to participate. Meanwhile, as a researcher you also have responsibilities to funders, deadlines or to your manager or colleagues. Recent research from linguistics suggests that whilst researchers approach their subjects with formality and are professional and businesslike their informants behave more like friends or intimates. ‘ttis is because it is flattering to have your opinions sought out and explored and people generally like to have their views considered.

It is up to the researcher to maintain appropriate boundaries in the research encounter and to seek to represent the views of their informants faithfully.

Further reading

ESRC Research Ethics Framework

October 27, 2016