Warwickshire County Council

How to Design and Undertake Surveys

a Guide for Staff

May 2004

Warwickshire County Council

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1. Introduction

The Council has produced a Corporate Consultation Strategy which aims to deliver a co-ordinated and high quality approach to consultation. There are many reasons why the Council consults with its residents and many methods of consultation to choose from.

This booklet aims to provide advice on how to undertake surveys. The information in this booklet is applicable to all survey work, but is particularly aimed at consultation with members of the public and external organisations. It is not intended to be a comprehensive guide to research generally, but should help to ensure that some of the more obvious pitfalls encountered when undertaking a survey are avoided.

Whether surveys are carried out in-house or an outside market research company is contracted to do the work, care needs to be taken to ensure that the research is both meaningful and gives value for money. Therefore it is important to put effort into getting the planning and early stages of the survey right.

Questions to ask before you start;

- **What do you need to find out?** – do you need to measure satisfaction levels, or more detailed information about practical experiences and problems?
- **Whose views are you seeking?** – do you want the views of service users, non-users, particular groups of people, residents from the whole of the County or a particular area?
- **What will you do with the results?** – will they be used to improve service, develop a new strategy, inform policy making?
- **What other research has been done?** – find out if other research has been undertaken, by checking the Corporate Consultation Database
- **What resources do you need?** – ensure that you allocate enough time and resources to your project. Large surveys can take several months to complete.

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Categories to use when rating a service or an element of a service

Excellent

Good

Satisfactory

Poor

Very poor

This question could also be asked in the following way;

Please circle one of the following numbers which is closest to your opinion

Very poor 1 2 3 4 5 Excellent

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Project Brief

Before you undertake any survey it is a good idea to write a project brief. This doesn't have to be a grand document but should cover the following points;

- **Objectives** – Why the survey is being undertaken, what the results will be used for, how the research will be evaluated
- **Background** – Any information you have found out through your desk research
- **Methodology** – Discuss appropriate methods with those who know
- **Timetable** – Produce a timetable detailing who is responsible for each stage of the research
- **Costs** – Outline the costs that you are likely to incur
- **Analysis** – Who and how the results will be analysed
- **Output** – What type of report is required e.g. Chief Officers Management Team Report, Committee Report
- **Publication** – Outline how you intend to publish the results, different target groups will require different methods.
- **Action** – Indicate how your service area will take on board the results of the research project

Research aimed at particular groups

Within the Council there are staff who will be able to give you specialist advice if you are intending to undertake research with any of the following groups;

Ethnic minorities – contact Arun Kang Ext. 2378

Community Safety – contact Kathy Robinson Ext. 2920

Older People – contact Elizabeth Ross Ext. 8146

Young People – contact Susannah Jordan Ext. 8090

People with disabilities – Sue Gibney Ext. 6828
Mark Williams Ext 8603

Health Inequalities – Carole Edkins 01926 493491 ext 250

Community Planning – John Lyons Ext. 2075

Schools * – contact David MacNiven Ext. 8165

* surveys to schools are guided by a new policy where the priority is to reduce the burden on schools. For a copy of the policy please contact Lisa Blunt on Ext. 2254.

For advice on research methods, questionnaire design, sampling, and data analysis, contact the Research Unit in PTES, or Business Consultancy in Chief Executive's Department.

2. Types of Survey

There are various types of surveys and the choice will depend on the purpose of the survey and the resources available. Four options are available;

Telephone interviews, self-completion questionnaires, (either postal or electronic) and face–to–face interviews.

Telephone Interviews

Advantages

- Good if both qualitative and quantitative information is required
- Relatively low cost
- Can be time consuming compared to self-completion questionnaire, but results are immediate
- Enables interaction with the interviewer and hence more complex issues may be included

Disadvantages

- Households without a phone are excluded possibly creating a sample bias; for example, these households may be more likely to be low paid and living in privately rented accommodation
- Easier for the interviewees to be distracted than in a face-to-face situation
- Evening phone calls may irritate people. Daytime only survey may catch a disproportionate number of people not in employment

Postal Surveys

Advantages

- Fairly low costs
- Relatively easy to conduct in-house
- Easy to survey geographically dispersed populations
- Interviewee completes at their own convenience, which allows them time to reflect on the questions
- Good for quantitative surveys e.g. tick box answers

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6. Please give the name of the town or village in which you live

____

____

7. Please state your post code

☐☐☐☐ ☐☐☐

Categories to use when asking questions on satisfaction levels

Very satisfied	☐
Fairly satisfied	☐
Neither satisfied nor dissatisfied	☐
Fairly dissatisfied	☐
Very dissatisfied	☐

This standard 5 category choice can be adapted for other questions e.g. How easy is it to access the following services – Very easy, Fairly easy, Neither easy nor difficult, Fairly difficult, Very difficult. The category "Not applicable" can be included where appropriate.

Categories to use when asking questions on frequency of use

Almost every day	☐
At least once a week	☐
At least once a month	☐
About once a month	☐
Within the last 6 months	☐
Within the last year	☐
Longer ago	☐
Never used	☐
I don't know	☐

5. To which of these groups do you consider you belong?

a. White

British ☐

Irish ☐

Any other White background (please write in)

b. Mixed

White and Black Caribbean ☐

White and Black African ☐

White and Asian ☐

Any other mixed background (please write in)

c. Asian or Asian British

Indian ☐

Pakistani ☐

Bangladeshi ☐

Any other Asian Background (please write in)

d. Black or Black British

Caribbean ☐

African ☐

Any other Black background (please write in)

e. Chinese ☐

f. Other ethnic group (please write in)

Disadvantages

- Questionnaires must be relatively short and easy to complete
- Difficult to ask questions relating to awareness
- Little or no control over who fills in the questionnaire – often higher response rate for 40+ age bracket
- Language barriers may lead to unrepresentative sampling
- Low response rate – there are various ways in which response rates could be increased e.g. including pre-paid envelopes with the questionnaire, or offering incentives
- This type of survey will be biased against people with low educational or literacy levels

Electronic Surveys

Advantages

- Low cost
- Relatively simple to set up
- Quick response
- Target particular groups e.g. young people
- Fairly quick and easy to send reminder e-mails to ensure a higher response
- When used internally for staff surveys, staff can be more honest because the survey can be completed anonymously

Disadvantages

- Unless the e-mails are specifically targeted there is no control over who will respond
- Not everyone has access to Internet

NB The Council has agreed that the recommended software for undertaking interactive surveys via the Web Site is **SNAP**. Any queries should be directed to your departmental representative on the Corporate Consultation Strategy Group.

Face–to–Face Interviews

Advantages

- Longer and more complex questionnaires can be used, with illustrations if necessary
- Usually, a higher response rate can be achieved
- Appropriate person more easily identified

Disadvantages

- More costly
- May be more time consuming, therefore interviewee must be motivated to respond
- Requires trained interviewers
- Care must be taken that interviewers don't get a biased sample by only interviewing people who look approachable. Advice must be given to the interviewers on who to approach to ensure that the interviewees are representative of the target population
- Interviewees may be more reluctant to divulge personal or sensitive information in this type of survey

If you want instant responses to questions at a consultation meeting, hand held voting equipment (similar to that in 'Who wants to be a Millionaire') is available for rental from the Community Safety division in Chief Executive's department, please contact Kim Cotton on Ext 4146

3. Sampling

For a survey to be representative of the people you want to talk to, you either have to talk to everyone, or you need to take a sample of the population. The Census, taken every ten years, is the only survey that tries to question everyone in the country.

For most surveys you will need to take a sample of people. Samples must be very carefully selected to make sure that your results are reliable. In surveys 'the population' is the group of people to be studied, often the users of a service. In some cases however it may be more relevant to contact non-users. A sample is a relatively small group of people selected from this population so that they are representative. There are a number of ways of selecting a sample. They fall into two main groups; probability sampling and non-probability sampling.

Probability Sampling

A probability sample is where each person in the population has an equal chance of being selected.

- **Simple random sampling** – To draw a simple random sample you need a sampling frame

Unemployed and available for work ☐

Permanently sick/disabled ☐

Wholly retired from work ☐

Looking after the home ☐

Doing something else (please write in)

____

____

____

____

3. What is/was your occupation? Please write in

____

____

4. Do you have any long-standing illness, disability or infirmity? (long-standing means anything that has troubled you over a period of time or that is likely to affect you over a period of time)

Yes ☐ *If the answer is 'yes' please answer the following question*

No ☐

4a. Does this illness or disability limit your activities in any way?

Yes ☐

No ☐

Appendix 3 : Standard Way of Collecting Statistics

The following questions outline the corporate standards recommended for use in collecting this type of data.

1. In which age band do you belong?

16 – 24 ☐

25 – 29 ☐

30 – 44 ☐

45 – 59 ☐

60 – 64 ☐

65+ ☐

2. Which of these activities best describes what you are doing at present?

Employee in full-time job (30 hrs plus) ☐

Employee in part-time job (under 30 hrs) ☐

Self employed full or part time ☐

On a government supported training Programme (e.g. ☐

Modern Apprenticeship/National Traineeship/Training for Work/Adult Training)

Full-time education at school, college or university ☐

that contains the names of everyone in your population. If you wanted to draw a sample of 200 from your list of 2000 you would assign a number to everyone on your list and then generate a list of 200 numbers at random.

- **Systematic sampling** – This is similar to simple random sampling but is sometimes easier to carry out. To sample in this way you need to calculate the sampling fraction e.g. to draw a sample of 200 people from a population of 2000 the sampling fraction would be 2000 divided by 200 = 10. You would then start with a random number and every tenth person in the sampling frame would be selected.
- **Stratified sampling** – With random sampling there is a chance that the sample will differ from the population, i.e. sampling error. A stratified sample tries to reduce this error by making sure that the sample reflects the structure of the population. For example, if the population is represented by the Electoral Register, then the sample can be stratified by ward to make sure that it covers the whole County. You would sort your sampling frame into order using the stratified factor, in this case the ward, then generate a sampling fraction as described in systematic sampling to identify your sample.

Non-Probability Sampling

Quite often you will not have a complete list of all the people in your population. Non-probability sampling overcomes this problem, but it does mean that selection is not left to chance.

- **Quota sampling** – Is where the cases are selected based on specific quotas: by age, gender, occupational status, tenure etc. This type of sampling can be used for street interviews or household surveys. In household surveys areas are often selected at random within which a set number of male/female, age bands etc. are interviewed.

Call backs are not required as the interviewer selects another household until quotas are reached.

Sample Size

The sample size does not depend on the size of the population. A sample of 1,000 responses will give sufficiently reliable results for the whole population of England. It is the absolute size of the sample that is important, not the percentage of the total population.

Around 100 responses are needed in order to make the results significant (this does not apply if your population is less than 100). This is also true for sub–groups, the key is to decide what sub–group analysis you want to undertake prior to undertaking the survey and then calculate the sample you need. For postal surveys you will need to increase your sample size to allow for non-respondents.

Sampling error

The data in any sample survey can only ever be an approximate of the situation in the whole population. In a random sample it is possible to calculate this sampling error and the results are usually expressed as confidence limits. The measure most commonly used is the 95% confidence interval, which defines the margin of error we would expect in 19 out of every 20 samples selected at random. Sample size is important in calculating sampling error. Generally the larger the sample the lower the sampling error. The table below shows the approximate error for a question where 50% of respondents gave a particular answer: this is true where the population is much larger than the sample size.

Sample size	Error (+/- %)
100	10
200	7
500	4
1000	3

The range of error also depends on the response value. For example if 10% of people gave a particular answer from a survey of 200 responses, then the sampling error would be approximately +/-4%. For more information and advice on sampling and calculating sampling errors contact the

Appendix 2 : Data Protection

The Data Protection Act 1998 came into force on 1st March 2004. It gives all individuals who are the subject of personal data (“data subjects”) a general right of access to the personal information that relates to them. These rights are known as “subject access rights”.

Individuals undertaking research on behalf of Warwickshire County Council need to be aware of the obligations imposed by the Data Protection Act in relation to the processing of personal data. Personal data is defined as ”any information relating to an identified or identifiable individual”. This information may take the form of computerised records (e.g. laptops, electronic notepads, smart cards) or manual paper records which are organised in a relevant filing system.

If a survey is undertaken it is essential that respondents are informed of what you intend to do with the data and to reassure them that you will not pass the data to parties outside of Warwickshire County Council. If you intend to use the data for any other purpose you must make respondents explicitly aware of this by asking them to tick a box on the questionnaire. If the box is left blank this indicates that the respondents do not want you to use their personal data for any other purpose apart from the initial survey.

Anonymised or de-personalised survey data is subject to certain exemptions under the Data Protection Act on condition that the data is only used for the permitted purpose and the results of the research are not made available in any form which identifies the respondent. Such data can be retained indefinitely contrary to the general data protection principle that data must not be kept for longer than is necessary (maximum of one year for audit purposes).

For further advice and information on data protection queries please contact Legal Services, Chief Executive’s Department, Shire Hall.

Appendix 1: The Corporate Consultation Database

- The Consultation Database is an important tool in the support and implementation of the Consultation Strategy
- Look at the database before embarking on consultation. It contains information on consultation that has been or is about to be undertaken by all departments in the Council and other organisations
- You should use the database if you are involved in consultation and want to learn from others, or if you just want to keep up to date with what is happening in your area or other departments
- You should enter details of your proposed consultation activity on to the database, it will then be submitted for approval to your department representative on the Corporate Consultation Strategy Group
- The database is also used by the 5 Districts/Boroughs, Warwickshire Police and Primary Care Trusts
- The Consultation Database can be found on the Corporate Database on Lotus Notes
- If you have any queries on the Consultation Database please contact Louise Richards on Ext. 6124

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Research Unit in PTES, or Business Consultancy in Chief Executive's Department.

Sampling Frames

Survey samples can be drawn from service user lists that exist within the Authority, from the Council Tax Register or from the Electoral Register. Warwickshire County Council's annual Public Satisfaction Survey draws its sample of 4,000 residents from the Electoral Register. However it is important to be aware of the Data Protection Act when dealing with any confidential information relating to members of the public, please see Appendix 2.

4. Questionnaire Design

The type of survey you have chosen will influence the questionnaire design – postal and electronic surveys must be very clear and simple, but face to face or telephone surveys undertaken by trained staff can be more complex.

Key Points in questionnaire design

Before you design a questionnaire give some thought about who will be answering it and how it will be analysed.

- The overall layout should be clear and simple, particularly if routing is necessary
- The questionnaire should not be too lengthy, try to fit the questions on to four sides of A4 or less
- Telephone interviews should run no longer than 10 minutes
- Face–to–face interviews can last for half an hour, but location is a factor i.e. on street interviews will be shorter than ones held in the home
- Use a font size that can be read easily by people with poor eyesight
- Try to include white space so the document does not appear intimidating
- If possible use colour, but no more than two colours
- Make sure that ranges don't overlap, e.g. age ranges 18 – 30, 30 – 45
- To avoid confusion make sure that respondents are led through the questionnaire

(correct routing), otherwise some questions could be overlooked

Design:

- Avoid using jargon or technical language
- Only ask questions where you can act on the results
- Make questions as neutral as possible (ie. use a balanced scale – eg. a 5 point Likert Scale). * see verbal rating scales p10 and Appendix 3 p20
- Avoid asking two questions in one
- Keep questions short
- Avoid leading questions
- Avoid using vague words
- If you have decided to ask more sensitive questions keep these to the end
- Make sure you have included all possible answers. Include “Don’t Know” or “Not applicable” where necessary
- Before you design the questionnaire, thought must be given to how you will analyse the information i.e. Questions can either be “open” - where the respondents are allowed to write their own answer, or “closed” – where the respondent has categories to choose from. Open-ended questions are more difficult to analyse than closed, so not too many open-ended ones should be included in the questionnaire.
- It’s a good idea to pilot the questionnaire i.e. test it out on a small group of people before launching it. Build this stage into your timetable, if the pilot shows any problems then changes will have to be made.

Things that might increase your response rate

- Always write a covering letter:
  - state the confidentiality of the survey (is it confidential or anonymous – there is a difference)
  - give background information as to why the survey is being undertaken
  - give information on how the results will be published

6. Reporting and Presentation

When you write the report on your survey results it is important to keep in mind who the report is targeted at. Colleagues may be interested in the technical details and methodology, while senior managers might only want a very brief summary of the method and then the main findings. Such a summary report can also be useful in publishing the results of the survey through the media, via consultation pages on the website or back to the respondents. It is often helpful to have a copy of the questionnaire and covering letter in the Appendices.

Percentages are generally used to report the findings of surveys, however a wide variety of summary measures that convey information about survey data can be adopted. Mean, median and mode are frequently used to summarise numerical data e.g. respondents ages, earnings. Other basic measures include quartiles and percentiles i.e. the top and bottom 25% or a selected proportion, commonly ten per cent.

Graphs and tables are often included in documents and reports. They provide a useful way of identifying differences or trends in the data, which are then apparent to the reader at a glance. Whatever the choice of graph e.g. line graphs, pie and bar charts, the presentation should be simple and easily understood. If too much data is included in one graph or table the interpretation becomes difficult and any impact intended is lost.

Nearly all surveys except the most basic will require a computer package to analyse the data generated. When you use a computer package you will need to code your data. This converts the answers on a questionnaire to numbers that can be analysed more easily by computer. Closed questions are easy to code, as you assign a number to each of the boxes that people can tick. Open-ended questions can also be coded, but this is a more complex task. If you know what sort of answers you will get then a set of codes can be developed at the design stage. However, for many surveys a set of codes is usually developed by going through the first 50 questionnaires and making a list of respondents' answers. This list is then used to code all the remaining questionnaires.

When looking at data there are two main areas of analysis:

- frequency counts
- cross-tabulating

The most common form of analysis is the frequency count. This looks at the number/percentage of responses that fall into each category in the questionnaire. An extension of frequency analysis is the grouping or aggregation of cases into categories or bands. For example if respondents ages are given in individual years, it is probably more useful for analysis purposes to aggregate the data into appropriate bands. Even with a fairly basic survey the aggregation of cases can help to establish patterns within the data.

Cross tabulations typically form the bulk of any presentation of survey results. They provide a way of analysing and comparing the results of one or more variables with the results of another.

Cross tabulations can be used to look at differences in the responses between ethnic groups, people living in different districts or any other variable. Be careful about reporting differences between small sub-samples as the error levels can be high and the results misleading.

  - include the name of who to return it to and closing date
- Send a pre-paid envelope out with the questionnaire
- Give a minimum of two weeks for the responses to be returned
- Send a reminder letter out to people who have not returned their questionnaires after the deadline
- Avoid holiday times to send out the questionnaire
- Try to send the questionnaire to a named person rather than "the occupier"
- Include a contact name and number for people to ring if they want a copy of the questionnaire in another language or as a telephone interview, Braille or audio tape (for translation services contact the Interpreting & Translation Unit, Social Services)
- Make sure the space you leave for open ended questions is large enough
- If appropriate the respondents of the survey could be entered into a prize draw

Survey Question Types

There are three main types of questions, not forgetting the yes/no/not applicable questions

- **Attitude questions**, which measure attitudes and opinions – they are perceptions
- **Behavioural questions**, which answer the questions about what, when, how and which – they are usually factual
- **Classification questions**, which provide information about the respondents themselves, e.g. age, ethnicity and disability

Attitude Questions – there are four main types

- **Verbal Rating Scales**

Respondents are asked to register the extent of their agreement or disagreement with a series of statements e.g.

Agree strongly	☐
Agree	☐
Neither agree nor disagree	☐
Disagree	☐
Disagree strongly	☐

Numerical Rating Scales

Respondents are asked to give scores out of a specific total to a service, in order to derive an overall rating e.g. to score a service out of 5, where 5 is very good and 1 is very poor.

Also respondents may be asked to allocate scores to areas within a particular service for example, when considering next year's road improvement budget where would you place priority? You have a total of 10 points to allocate.

Pedestrianise the High Street ☐

Restrict parking in the town centre ☐ etc

Diagrammatic Rating Scales

This is similar to the numerical rating scales but does not require specific numbers to be allocated, e.g.

+	0	-

The respondent is asked to indicate their position on the scale and then the scale has to be measured/categorised before analysis can take place.

Semantic Scales

A combination of verbal and diagrammatic rating scales, e.g.

The city centre should be pedestrianised	☐ ☐ ☐ ☐ ☐	On street parking should be allowed

It is important that respondents are shown by example how such a technique is used before being launched on a range of such scales. If a questionnaire contains many such scales it is important that the sequence of statements is regularly reversed to avoid ticking the same boxes through a series of questions. This will keep the respondent's attention for a longer period.

Behaviour questions

The areas that these questions cover can generally be summarised into 6 main areas of activity: heard of/ remembered; seen; been to; used; eaten/drunk; bought/obtained. Certain pitfalls do exist with these types of questions:

- The word 'you' can be confused between 'you yourself' or 'you as a group' and does need clarification
- There is always the danger of respondents providing answers that relate to 'normal' behaviour rather than their actual behaviour
- Questions on frequency, how often someone does something, should normally be accompanied by some form of scale to categorise the occurrences during a period.

Classification questions

There are many basic questions that can be used to classify individuals or organisations. They normally appear at the end of the questionnaire but should be kept to a minimum as respondents sometimes resent being asked such questions. These questions would normally include gender, age, occupation, disability, ethnic group. Please see Appendix 3 on the Standard Corporate Questions.

5. Analysis

Do not underestimate the time needed for analysis, particularly if you want to explore the data in depth.

When the questionnaires are returned always number them, this way you will always be able to trace the case data back to the individual questionnaire.

When you analyse the responses you may find that certain age groups are under or over represented when compared to the age structure of the population. You might want to weight the responses so that the overall results are more representative. The weighting factor for each age group is the number by which you need to multiply the answers you have received to achieve a number of answers more in line with the population as a whole, for example in the table below column 3 divided by column 5 gives the weighting factor, which can then be applied to column 4.

Age Group	Numbers in Age Group	Proportion in Age Group	Number of Responses Received	Proportion of Responses Received	Target numbers	Weighting
(1)	(2)	(3)	(4)	(5)	(6)	(7)
16 – 44	23,000	29%	140	20%	203	1.45
45 – 74	50,000	62%	350	50%	434	1.24
75+	7,000	9%	210	30%	63	0.30
Total	80,000	100%	700	100%	700	

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