

5 Final stages

a Describing and analysing your findings

Researchers carry out analysis throughout the research process. It can begin during the process of deciding the research questions, and further analysis takes place the moment the researcher decides what to write when recording data or the interviewee decides how to answer a question.

The final stages of research are where more formal processes of analysis occur. They are spent sorting, selecting, interpreting and representing the data collected. This part of the analysis can be broken down into two steps.

1 Tidying and organising the data. This should be done when all the data has been collected.

2 Interpreting the data to look for answers to the original questions set for the research. This can be broken down into two further steps:

- extracting percentages, frequencies and quotes.
- giving meaning to this data.

In this section we cover:

- organising data for analysis
- coding
- statistics
- interpreting data.

Organising data for analysis

After collecting the data it is crucial to spend time organising the questionnaires, notebooks, diaries and transcripts ready for interpreting and making sense of the information you have collected. At this point you will realise how valuable it was to have structured the recording of the data as much as possible.

Organising and tidying consists of a number of steps for each set of data. There are slightly different approaches depending on whether you are using quantitative or qualitative data.

Quantitative data

- Check whether questions have been answered on questionnaires, even if the answer is 'no reply' or

'not relevant'. Weed out any nonsense answers. Don't be tempted to make up answers.

- Consider who will analyse the data and whether you need specialist assistance. If you have more than 50 questionnaires with simple questions, or more than 20 questionnaires with complex questions and answers, think about using a specially designed computer package. See page 55, section 7a. You don't necessarily have to do this alone. Seek help from an organisation that has these programmes and has experience of using them: the local university, the local authority, or your local Council for Voluntary Service may be able to suggest somewhere to go. If you are not using a statistical package which codes responses for you, you will need to code quantitative data manually. This is described below.
- Place this coding either on a tally sheet used to count responses or on a software package, if you are doing this yourself.





Qualitative data

- **Group the responses from interview transcripts and notes ready for analysis. If you intend to compare the data between different groups for example age, disability, ethnicity or gender, you will need to divide the responses.**
- **Draw up a list of initial categories for qualitative analysis. For interviews, you can do this by grouping all the responses for the same question and noting categories, headings or themes in the margin as they emerge.**
- **Write quotes you want to use on index cards, noting the context in which it was said, and group under the different categories or headings so that you can find them later on. Take note of exceptions and unusual responses and check who said what and when.**
- **Review notes of meetings, groups and interviews to pull out any themes and patterns.**
- **If you require numerical information from qualitative data, code the categories from your sources. These would include interview transcripts,**

notes from observation and responses to open questions on questionnaires.

- **You should also include any closed questions which have an 'other' response.**

The aim is to get the raw data tidy, organised and categorised ready for further analysis.

Coding

Coding data makes it possible to add, get percentages and eventually compare and contrast your data. On a questionnaire each answer to a closed question will need to be coded. It is also possible to code qualitative data if you require numerical information.

Coding quantitative data

On this questionnaire, question 1 is closed with a limited number of responses. It is coded by allocating a number from 1-5 to each possible response. The code allocated is used to add the total number of each age group responding to the questionnaire.

Example

CV Service Questionnaire

This questionnaire is administered to all

clients seeking employment and helps provide information for future service delivery. Thank you for your time.

Q1 What is your age?

18-24

25-34

35-44

45-50

Over 50

Q2 What is your gender?

Male

Female

Q3 What is your ethnicity?
(describe yourself as you prefer)

Q4 Do you consider yourself disabled?

Yes

No

Q5 What qualifications do you have?

GCSE

A level

S/NVQ

B Tec

Degree

Postgraduate qualification

Other

Q6 What is your employment status?

Employed F/T

Employed P/T

Self employed

Student F/T

Student P/T

Not in employment

Q7 How long have you been seeking employment?

_____ months

Q8 Where have you been seeking employment?

Coding qualitative data

It is also possible to code some qualitative data and you will find this useful for those open questions on questionnaires.

Read through the answers to your open questions and group answers that are similar into categories. There may be some answers that cannot be grouped with others, count these cases as a category on their own. Once you have a complete list that has used all the data from the relevant open question you can code it. This was necessary for an open-ended question on our questionnaire:





Q8 Where have you been seeking employment?

For office use only

I registered at the Job Centre 1

THROUGH THE CAREERS SERVICE 2

I signed on at lots of recruitment agencies but they haven't come up with anything 3

Asking my Friends 4

Hopefully being a volunteer in the youth club will lead to a job 5

Job centre, asking around 1, 4

or you could code using short abbreviations e.g. JC (for job centre) CS, RA, F, V.

The same method is used for coding all those scribbled notes in diaries and notebooks. Read through them, marking in the margins the issues and findings to which they relate. Then draw up the full list and code.

You have now embarked on the process of studying your data, making judgements and pulling out patterns and themes. By now you should be well organised, tidy and ready for more in-depth analysis. The piles of questionnaires, notes, transcripts and newspaper cuttings have some order. At this point you will be looking for answers to the original questions you set for the research.

Age	Count	Cumulative Count	%	Cumulative %
18-24	11	11	22	22
25-34	20	31	41	63
35-44	8	39	16	79
45-54	4	43	7	86
55 and over	6	49	13	99

N = 49

Statistics

Coding quantitative data is necessary to enable researchers to analyse what the data is saying and draw out patterns. This process enables the data to be counted, added and calculated as percentages. Frequency distributions and averages are statistical tools that help researchers to make sense of their findings.

Frequency distributions

A frequency distribution shows the frequency that each answer appears in the notes or the questionnaire.

Here we show the frequency distribution based on answers to Q1 on the employment questionnaire giving data on the ages or clients using the service.

A few things to explain...

- **count is the number of people in each age group**
- **cumulative count is the total number of people below a certain age limit so, for example, 39 people were aged 44 and under. 43 people were aged 54 and under.**
- **percent is the number within each age group as a percentage of the total, so 16% of the people participating were aged 35-44 and 7% were between 45-54.**
- **cumulative percent is the cumulative sum in percentage, for example, 86% were under the age of 54.**
- **N is the total number of individuals counted.**

What is an average?

Averages are a very useful way of describing patterns in the data. There are different kinds of averages, known as:

- **mode**
- **median**
- **mean**

The mode

The mode is the most frequently occurring answer in a range of data. It denotes the biggest group. In question 1 of our questionnaire, the age group 25-34 is the most frequently occurring and therefore this is the modal group. The mode is useful to analyse qualitative data after it has been coded or grouped. It fails when data is evenly distributed in two or more categories.

The median

The median is fairly straightforward, but only useful for straightforward numerical data. It is the middle value of a range of data. To find the median you need to have data that you can put in order of ascending or descending rank order, and the point which lies in the middle of the range is the median. With even numbers of values, it is the mid-point of the two central values. In the following set of data, the median is 11.5, halfway between the two middle values

1 4 7 11 \updownarrow 12 17 17 47

The mean

The mean is the total sum of the answers to a question divided by the number of answers.

3 7 15 18 39 55

To calculate the mean:

- 1 Add all the numbers together = 137
- 2 Divide this number by the number of categories, 6.

The mean is 137 divided by 6 = **22.8**

The employment questionnaire asked people how long they had been looking for employment before contacting the CV service. We can calculate the mean time spent.

Time spent looking for employment before contacting CV service (months)

1 2 5 6

Number of individuals

85 9 3 1

Total no. of months = $(1 \times 85) + (2 \times 9) + (5 \times 3) + (6 \times 1) = \mathbf{124}$

Mean = Total no. of months divided by no. of respondents

= 124 divided by 98
= **1.3 months**





Problems with the mean

- you can't use the mean with bands of numbers such as age groups. You need numbers of each age in order to find the average
- the mean only works with real numbers, not categories like men and women. (You can't have an average person as 60% male)
- the mean is affected by extreme values. For example, if ten additional clients at the CV service contacted them after 24 months of seeking employment the mean would rise from 1.3 to 3.4 months

Time spent looking for employment before contacting CV service (months)

1 2 5 6 24

Number of individuals

85 9 3 1 10

Total no. of months = (1 x 85) + (2 x 9) + (5 x 3) + (6 x 1) + (24 x 10) = **364**

Mean = Total no. of months divided by no. of respondents

$$= 364 \text{ divided by } 108$$

$$= \mathbf{3.4 \text{ months}}$$

In reality, all but 14 people contacted the CV service within two months of seeking employment. Therefore, the mean can skew the analysis and no longer represents the data fairly.

Deciding which kind of average to use, and whether to use averages to make sense of your data depends on the purposes of your research and on the research questions you set for yourselves at the beginning.

Interpreting data

There is a crucial difference between the data itself and the interpretation of the data. This section looks at how to make sense of the data you have organised.

The process of analysis is about working out the story the data may tell. When looking at your data, you will need to look for some of the following patterns emerging:

- categories
- relationships
- themes
- links
- contradictions
- exceptions
- language
- interest
- clusters
- inconsistencies
- routines
- everyday practices

These should all be considered in the context of:

- the effect of race, gender, class, sexuality, age, disability etc on the data
- where the data was collected
- who collected it
- how well informed were the providers of the data
- what might be their particular interests

Quantitative data

Once your data is coded and entered onto a tally sheet or a computer software package you can start choosing which frequency counts and percentages you need to calculate to answer your initial research questions. This also applies to any qualitative data you have chosen to code and make numerical.

Qualitative data

The initial categories you have pulled out should be reviewed at this stage. As with quantitative data, the task is to examine the data to answer your initial research questions.

You will need to illustrate your findings by using a selection of quotes or comments. Copy them to index cards under each question and group them according to your selected categories, themes or headings. Count the number of quotes under each grouping and choose certain quotes that best represent what people in the particular category are saying.

It is likely that you will disagree about what something might mean. The important thing is to remain true to the evidence, rather than to any previously held assumptions. One thing to note is that research doesn't always give you the answers you wanted! If those of you involved don't agree by the end, you can always present a minority report. Be prepared to accept lots of discussion that will include a range of interpretations. Your report should reflect this range.

b Presenting and using your findings

Often research is done in order to make changes within an organisation: a change of policy, a change of direction or even a change in the structure of the organisation. It is crucial that people in the organisation are involved in the research and feel that they have been listened to and taken seriously. Other pieces of research are addressed to an external audience. Once all the information has been gathered, discussed and analysed you need to tell people about what you have found out. There are many different ways to communicate information in an effective and efficient way.

Options

- written report
- leaflet
- posters
- summary report
- video
- presentation to public meetings, local groups, specific groups
- exhibition
- local newsletter
- website
- email lists

Probably whatever other methods you choose you will also write a report.





Writing research reports

A lot of research reports are not read because they are unattractive to look at or contain too much technical language and do not invite a potential reader to turn the pages. You need to write with the target audience in mind, taking into account what they see as meaningful and important to them, e.g. a report to the local authority could use current legislation to provide a context to the research findings. The tone, layout, style and language of the report have to be acceptable to the intended audience.

When writing your report the following guidelines may be useful:

- **set deadlines for completion of sections**
- **use as few words as possible to say what you mean**
- **choose simple and familiar words**
- **be precise in what you say**
- **avoid slang words**
- **check the spelling**
- **explain any abbreviations used**

The structure of a research report

Title page

- **you may want an imaginative title that gets people's interest**
- **author and the group who produced the report, date it was produced**

Summary

- **key points raised in the report**

Acknowledgements

- **thank all the people who contributed towards the research process**
- **spell all names correctly**

Contents page

- **include all headings and subheadings so people can locate what they want to look at quickly**
- **list tables and figures separately after the contents page**

Introduction

- **give the background to the research project and explain what you wanted to find out**

- **describe how you collected the information**
- **explain how you chose your sample**
- **give the response rates to questionnaires**
- **say how you organised any group meetings**

Body of the report

- **details of what you found out grouped either into themes or topics**

Conclusions

- **brief summary of key points and issues raised through the research**
- **key recommendations for action in light of your findings**

References

- **notes on sources of information used**

Appendices

- **technical information referred to in the report**
- **copies of questionnaires or interview schedules**
- **lists of groups contacted if appropriate**
- **any publicity materials you used during the research**

Ask someone who does not know about your research to read through and edit the report. The kind of things you could ask them to look out for are:

- **is the material in the right order?**
- **is the tone right for the intended audience?**
- **is it readable?**
- **is the material presented clearly?**
- **is it concise?**
- **is it complete?**
- **are all statements and conclusions backed up by evidence?**
- **is it easy to identify key issues?**

Publicising your research

In promoting your research you will first need to consider who your audience is. In some instances it will be your own organisation and, at other times, it may be those who plan and resource local services. You may want to hold a launch of the research findings.

Some of the ways to promote the research findings may be:

- **public exhibition**
- **press releases**
- **personal contact with reporters**
- **photos in the paper at the launch**
- **local radio interviews and phone ins**
- **posters in local venues and shops**
- **articles in local newsletters**
- **portable displays at events and functions**
- **staging a performance at local festivals, conferences and committee meetings**
- **produce an executive summary of the report and mail to specific people**

- **let ARVAC know about your research – we can use our networks to publicise it**
- **hold a public meeting.**

Using your research in your own organisation

Once the research findings are known the research steering group will need to consider the best ways to communicate ideas and plans to the whole of the organisation. Some of the ways to promote research findings to the general public can be used when working inside an organisation. Whatever you decide, it is important to see the research as part of a wider strategy around managing change that is inclusive and well thought out.

