Research Methods in Computing

(COMP09092)

Lecture 4

Qualitative Research Methods

Interacting with Organisations and People – Some Guidelines

Don't put off making contact – it takes a lot of time to set up meetings, arrange interviews, agree terms etc

Work out an appropriate way to make contact – email, phone, in person, through a contact – always helps if you know someone and don't have to 'cold call'

Rehearse what you are going to say – most people are nervous about making initial contact, try and relax and overcome any nerves – deep breaths etc

Interacting with Organisations and People – Some Guidelines

Don't give up, keep trying – learn from any mistakes and try other organisations and people, if people aren't available then try again – don't give up at the first hurdle

Remember:

They may not share your time concerns or be as interested in your research area as you are

Always be **polite** and **courteous**

Interacting with Organisations and People – Some Guidelines

Which organisation(s) do you need to interact with?

How many organisations/people do you need to talk to?

Why one particular organisation / set of people rather than another?

Is your study **geographical**? – comparing and contracting between regions/areas

Do you need a **particular size of organisation** or **particular sector or set of people**?

Interacting with Organisations and People – Some Guidelines

Who do you need to talk to in the organisation?

Is there a **particular person** or **job role**?

How do you get access to them?

What if they are busy?

Do you have a fall back plan? (Very Important)

You need this collaboration – so make the relationship work

Interacting with Organisations and People – Some Guidelines

Be realistic and always overestimate how much time you will need to complete your planned study

Always have a fall-back plan – if people pull out of your planned interviews you cannot use this as an excuse for not completing your primary research

Recording your primary research – are you going to record interviews? How long will typing up transcripts take?

Interacting with Organisations and People – Some Guidelines

Use your supervisor to help formulate and check your proposed primary research

Don't just go shooting off without thinking things through carefully – be very well organised and planned before you go anywhere and do anything

Rehearse **your 'spiel'**, be aware of things like your **language**, your **body language** and **dress appropriately**

Qualitative Research Methods

Methods generally more suited to qualitative research include:

Interviews

Focus Groups

Observation

Case Studies

Qualitative Research Methods

It is how the methods **are applied by the researcher** that makes the research qualitative

Don’t just state that your research is qualitative but end up applying the methods in a **highly quantitative manner**

Interviews

Types of interview – (i) and (ii) more suited to qualitative research:

(i) **Informal, conversational interview:** more open, interviewer 'goes with the flow'

(ii) **Open ended interview:** same open ended questions asked to all interviewees

(iii) **Closed, fixed-response interview:** interviewees choose answers from the same set of alternatives

Interviews

Interviews can be suitable data generation methods when a researcher wants to:

- **Obtain detailed information**
- **Ask questions that are complex**, or open-ended, or whose order and logic might need to be different for different people
- **Explore emotions, experiences or feelings that cannot be easily observed** or described via pre-defined questionnaire responses

Interviews

- **Investigate sensitive issues, or privileged information**, that respondents might not be willing to write about on paper for a researcher that they have not met
- Interviews can be used to ‘top-and-tail’ a survey strategy – interviews are used to **elicit themes** that are then included in a questionnaire, and **follow-up interviews** are used to **obtain more detail about some questionnaire responses**

Interviews

- Interview can be used to ‘top-and-tail’ a **design and creation strategy** – by generating data for a **requirements specification and eliciting user feedback** on a finished design

Interviews

Preparation for interview:

(i) **Explain purpose** of the interview

(ii) Address terms of **confidentiality**

(iii) **Explain the format** of interview

(iv) **Indicate how long** the interview takes

(v) Ask them if they have **any questions**

(vi) **Get consent if recording** the session

Interviews

Types of interview questions:

(i) **Behaviours –** what the person does

(ii) **Opinions/values –** what the person thinks

(iii) **Knowledge –** facts about a topic

(iv) **Sensory –** what people have seen, heard etc

(v) **Background/demographics –** standard background questions (e.g. age, education etc)

Interviews

Conducting the interview:

(i) Wording should be open-ended

(ii) Questions should be as neutral as possible

(iii) Questions should be asked one at a time

(iv) Be careful when notetaking – don't jump to take a note or be very pleased with an answer, might influence how interviewee answers questions

Interviews

(v) **Provide transition between major topics** – “We’ve been talking about…now I’d like to move to…”

(vi) **Don’t lose control of the interview –** interviewee strays to another totally unrelated different topic, starts asking questions to interviewer, takes so long answering one question that run out of time

Interviews

Immediately after the interview:

(i) **Verify that tape recorder worked throughout**

(ii) **Make notes on your written notes –** fill out any incomplete points, make sure pages are numbered etc

(iii) **Write down any observations of the interview** (e.g. setting, attitude of interviewee, any surprises during interview)

Interviews

Methods of interaction can include:

Face-to-Face Interviews - can better for developing a rapport, picking up on social cues, body language, no time delay between question and answer, can react to what is being said

However can take up a lot of time and money in terms of travel costs to a location which can limit scope of study

Interviews

Methods of interaction can include:

Telephone Interviews - can help hard to reach populations, can extend scope of study, however reduced social cues, body language and rapport.

Cost of calls can be expensive, less costs in terms of travel and time travelling to locations

Interviews

Internet-Based Interviews (e.g. Skype) – has the advantage that you can see each other, again can extend geographical scope of study and to a certain extent pick up on some social cues, body language

Cost of calls is free (just need the equipment), also less costs in terms of travel and time travelling to locations. However, need to watch out for slow connections, technical problems etc

Instant messaging not as good because it is text based – less free flowing and you cannot see each other

Interviews

Transcribing: After an interview you will need to transcribe your recordings in order to search through and analyse the data once it is in written form

This is a very time-consuming task

Focus Groups

Involves meeting several participants as a group

Usually audio (sometimes video) recorded in which the researcher (acting as a moderator) asks open-ended questions to the group

Useful for exploring a variety of opinions or experiences within a group

Focus Groups

Not the best method for acquiring information on highly personal issues (interviews are better)

Also not the best method for achieving group consensus

Focus groups are useful for accessing a range of norms and opinions in a short time

Focus Groups

Richness of focus group data emerges from the **group dynamic** and from **diversity of the group**

Participants **influence each** other through their presence and their **reactions to what other people say**

Because not everyone will have same views and experiences – **different viewpoints likely to be expressed**

Focus Groups

Generally best conducted by two researchers – one acting as the moderator of the discussion and the other as a note-taker

This **might not be possible** which is why it is important to make an **audio recording of the session**

Do not allow any participants to **insult or threaten others in the group**

Do **not coerce or cajole participants** into responding to a question or responding in a certain way

Focus Groups

Typed transcripts from the recordings are the most utilised form of focus group data

As with interviews:

Make notes on your written notes – fill out any incomplete points, make sure pages are numbered etc

Write down any observations of the interview (e.g. setting, attitude of group members, any surprises during the focus group

Observation

Observation as a data generation methods can be used within any research strategy

It can be used to study the behaviour of inanimate objects, such as **software programs**, or **computer controlled devices**

Observation

You can devise a schedule to observe, for example:

- **Frequency of events** – counting how often the categories on the observation schedule occur in a given period
- **Timing of events** – recording how long instances of events take, for example the time taken for a computer program to process a given amount of data

Observation

- **Events at a given time** – logging everything that is happening at a specified time and repeating after a pre-defined interval

Observation

If you have to design an observation schedule, the items to be studies must:

- Be easily defined and obvious
- Be relevant to your research objectives
- Ensure that the list of categories includes all (reasonable) possibilities

Participant Observation

Can involves the **direct observation** of the people

For example, **observing people use a particular computer application or prototype**

Observe how they **interact** with the system, where they go to on the screen, length of time to conduct tasks, any errors or mistakes used

Participant Observation

Can be a problem with researcher bias – the researcher **“may see what they want to see”**

For example, is someone banging on their keyboard a sign of frustration with the application or just someone who types loudly?

Participant Observation

Types of observation

(i) Overt observational research – the researcher **identifies themselves** as researchers and explain the purpose of their observations

Problem is that **subjects modify their behaviour** when they know they are being watched – they portray their **"ideal self"** rather than **"true self"**

Participant Observation

(ii) Researcher participation – the researcher participates in what they are observing

Researchers that participate tend to **lose their objectivity**

Participant Observation

(iii) Covert observational research

This approach **should never be used** unless you have permission from relevant authorities, as can lead to legal and possibly criminal action. Extremely sensitive ethically

Researchers do not identify themselves and mix with subject undetected

Subjects' behaviour is not contaminated by presence of the researcher

Observation

Validity:

The problem in with research based on personal observation is that it is dependent on the observer

Validity can be strengthened by:

Verbatim quotes – from people in the setting rather than summarising what was said

Observation

Validity:

Triangulation – of data methods. You can use data from other sources and methods to confirm and back-up observations

Reflexivity – reflect on how you might be affecting the situation, what you are taking for granted, assumptions you are making etc. Some of these reflections should be used in the write-up of your research

Case Study

In a case study your focus might be on a **particular group, institution, organisation or community**

The rationale is that it is **typical** of many others or a least a significant number – therefore conclusions you draw **can be applicable to those of the same type**

Case studies often firmly located within the category of **qualitative research**

Case Study

3 main types of Case Study

Intrinsic Case Study– researcher's aim is to achieve a comprehensive understanding of a particular individual case (e.g. institution or organisation)

Instrumental Case Study – uses of a particular case study in an attempt to understand something else – case study means to an end rather than end in itself

Collective Case Study – involves coordinated set of case studies in order to explore similarities and differences

Case Study

Interviews, observations and documentary analysis are typically associated with qualitative case study research

Case studies can also involve more **quantitative survey**

To ensure that a case study is significant and interesting you **must relate it back to the broader theoretical themes and the issues highlighted in the literature**

You need to state a **clear rationale for choosing the case study** – what it is a case of

Case Study

A case study **cannot just be a descriptive study**

You need to **analyse the case** to provide the basis on which you can **suggest ways in which the problems you have identified can be addressed** or …

Explain **why a particular action or policy has been successful or unsuccessful**

Requires **systematic, meticulous detail thoroughly analysed** – otherwise can be series of unstructured descriptions

Case Study

Selection of Cases

Your choice might be based on:

- **Typical instance:** the chosen case is typical of many others and can therefore stand as representative of the whole class
- **Extreme instance:** the case is not typical of others but provides a contrast with the norm
- **Test-bed for theory:** the case contains elements that make it suitable for testing an existing theory. You would then investigate whether the theory holds true for this particular case.

Case Study

- **Convenience:** people in the chosen case have agreed to give you access and it is convenient in terms of time and resources. ******This should not be your main reason for choosing a particular case******
- **Unique opportunity:** the chance arises to study something that you have not previously planned for, and that may not occur again. Good researchers watch out for opportunities.

Case Study

The case study can be used to:

- **Build a new theory:** a case study can lead to the development of a new concept, theory, framework or model
- **Test an existing theory:** a researcher can take an existing theory and use a case study to see if the results and evidence gained confirms the theory, implies necessary modifications to it, or contradicts it
- **Evaluate alternative theories:** a researcher could examine all the factors in a case and see which pre-existing theory or model best matches what was found in the case

References

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