Analysing Qualitative Data

You Asked Them, Now What to Do With What They Said

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CHIIR
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The plan

- Qualitative data
- Deductive and inductive approaches
- Qualitative codes, data coding, and themes
- Qualitative data analysis methodologies
  - Thematic analysis
- Hands-on data coding
- Discussion
- Coffee break @ 10:30/3:30

Introductions

- Name
- Your institution
- Your current role
- Your experience with qualitative research

QUALITATIVE DATA

Qualitative data

- Often defined by absence – not numerical, not gathered by measurement
- Generally textual data
  - Interviews, long-answer questionnaires, documents, etc.
- Requires different data gathering and analysis methodologies

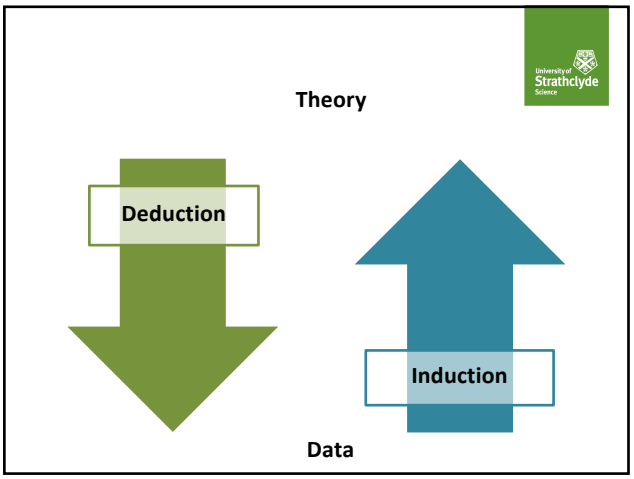
Qualitative research

- Generally human focussed
  - Experiences, perceptions, behaviours, beliefs
- Holistic, constructionist, interpretative approaches
- Researcher is involved in the research
- Explores "why" questions** (Given, 2016)

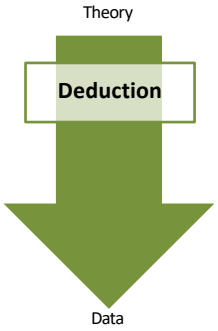
The challenge of qualitative research

- Many approaches
- Little agreement
- Difficult to pin down
- Messy

INDUCTION AND DEDUCTION



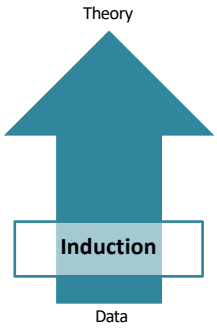
Deduction



- "Scientific method"
- Top down
  - Begin with a theory
  - Look for evidence to test theory
- Particularly useful with
  - Phenomena already studied/theorised

Induction

- Bottom up approach
- Begins with evidence, uses to build theories or explanations
  - Move from concrete to abstract
- Particularly useful with
  - Understudied phenomena
  - Exploratory research (Preissle, 2008)
- Associated with qualitative research



Inductive approach

- Close relationship between empirical data and the development of concepts/theories
- Key features
  - Abstraction – move from the concrete to the abstract
  - Classification – putting like things together and looking for trends
  - Negative cases – find the boundaries of theories (Preissle, 2008)

Challenges with induction

- Does not fit the “scientific method”
- Feels be less scientific or rigorous
  - No numbers to deal with
  - No one way to analyse
- Qualitative data cannot be treated the same as quantitative

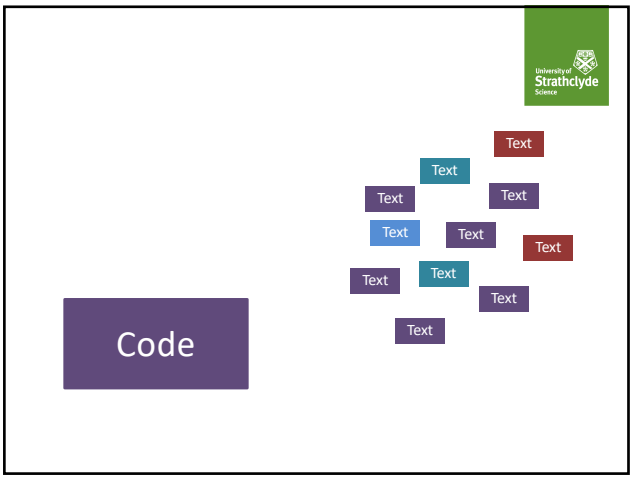
CODES, CODING, THEMES

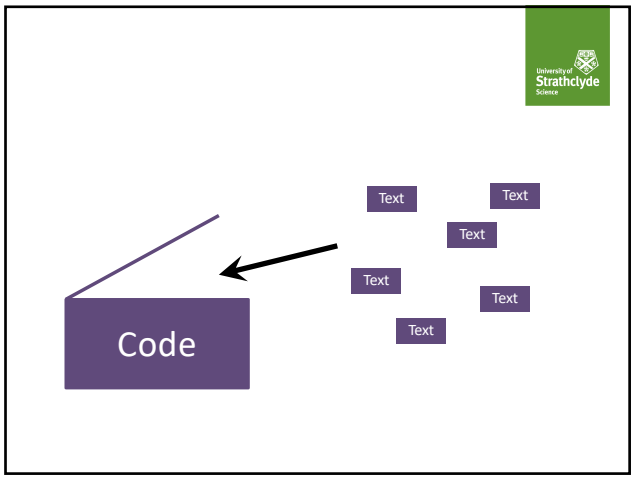
Qualitative codes

- Codes and coding are the basis for most qualitative analysis
- Codes: “the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon” (Boyatzis, 1998, p. 63; cited in Braun & Clark, 2006)
  - Concepts or labels used to describe important elements of data
  - Identified through explicit criteria*

Qualitative coding

- Coding: the act of segmenting and categorising data
  - “identifying potentially interesting events, features, phrases, behaviors, or stages of a process and distinguishing them with labels” (Benaquisto, 2008, p. 86)
- Organise into meaningful groups
- Used to reduce the data or generate ideas and concepts



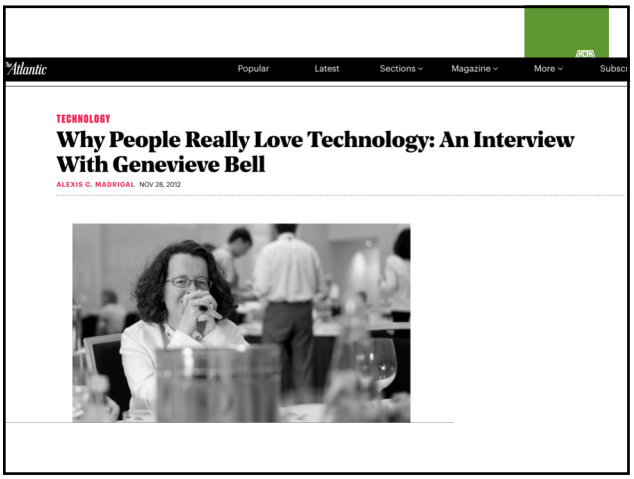


Iterative coding

- Coding is often done in successive rounds that are increasingly defined and explanatory
  - Revisit categories, combine or divide, resolve contradiction (Julien, 2008)
- Particularly important for inductive analysis
- Often code in 2 rounds

Iterative coding

- Initial coding – stick close to the data; simple and short codes; look at/code for actions; code line-by-line; not concerned about relation
- Focussed coding – process of refining coding; using more significant or frequent initial codes to sift through data
  - Make decision about best codes that make analytic sense (Benaquisto, 2008; Charmaz, 2006)



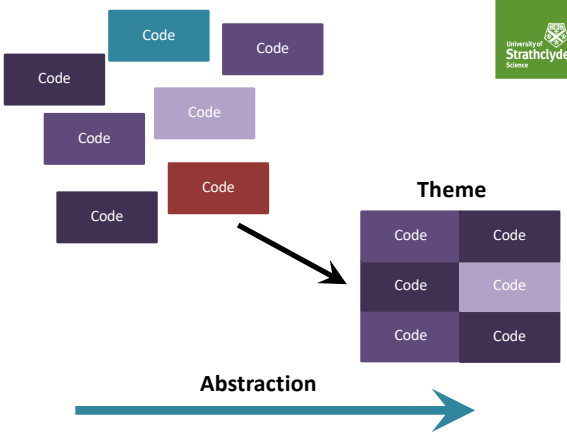
Codes - Initial	Text
	And it doesn't surprise me that after 10 years of early-adoptive dematerialization, all the identity work and now the seduction of physical objects has come back in full force. Now it's kind of a pendulum: we move between the virtual and the real a great deal. And we have historically--that's hardly a new thing. I suspect that part of what we're seeing with the Etsy maker and that whole spectrum is a kind of need for physical things because so much has become digital, and in fact, what's being manifested in some of these places is really a reprise of physical stuff. Physicality has kind of come back.

Codes - Initial	Text
Chose virtual Focus on identity Attraction of the physical Oscillate between physical and virtual Continuing oscillation Emergence of making Need for the physical Increase in the digital Return of the physical	And it doesn't surprise me that after 10 years of early-adoptive dematerialization, all the identity work and now the seduction of physical objects has come back in full force. Now it's kind of a pendulum: we move between the virtual and the real a great deal. And we have historically--that's hardly a new thing. I suspect that part of what we're seeing with the Etsy maker and that whole spectrum is a kind of need for physical things because so much has become digital, and in fact, what's being manifested in some of these places is really a reprise of physical stuff. Physicality has kind of come back.

Codes - Focussed	Text
"Dematerialisation" Physical inducement Shifting need Physical inducement	And it doesn't surprise me that after 10 years of early-adoptive dematerialization, all the identity work and now the seduction of physical objects has come back in full force. Now it's kind of a pendulum: we move between the virtual and the real a great deal. And we have historically--that's hardly a new thing. I suspect that part of what we're seeing with the Etsy maker and that whole spectrum is a kind of need for physical things because so much has become digital, and in fact, what's being manifested in some of these places is really a reprise of physical stuff. Physicality has kind of come back.

Themes

- "A theme captures something important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set" (Braun & Clark, 2006, p. 82)
  - More about importance than prevalence



Themes

- Built from codes
- Analytical (rather than descriptive)
- Increased level of abstraction
- Explanatory power

Theme	Text
Identity Rooted in Materiality	And it doesn't surprise me that after 10 years of early-adoptive dematerialization, all the identity work and now the seduction of physical objects has come back in full force. Now it's kind of a pendulum: we move between the virtual and the real a great deal. And we have historically--that's hardly a new thing. I suspect that part of what we're seeing with the Etsy maker and that whole spectrum is a kind of need for physical things because so much has become digital, and in fact, what's being manifested in some of these places is really a reprise of physical stuff. Physicality has kind of come back.

Rigour

- Trustworthiness and credibility through iterative analysis, negative examples, triangulation
- Clearly defined codes and themes
  - Use of a codebook
  - Codes are comprehensive and mutually exclusive
- Clearly defined process
  - Noting decisions made – and reasoning

Inter-coder reliability

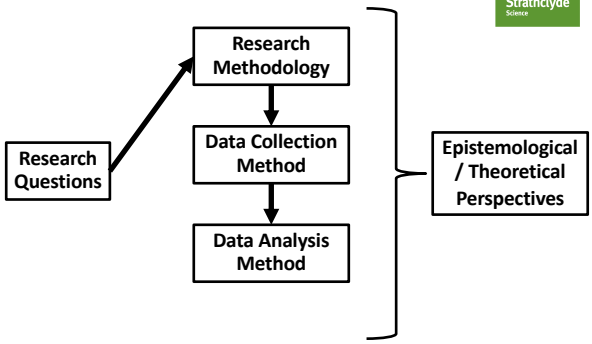
- Work with other researchers
  - Shared development of codes and codebook
- Compare similarity of coding between researchers
  - Reliability coefficient of .60 is acceptable (Julien, 2008)

QUALITATIVE DATA ANALYSIS METHODOLOGIES

Qualitative data analysis methodologies

- Qualitative Content Analysis
- Grounded theory
- Discourse analysis
- Thematic analysis

Your data analysis methodology should be in line with your research approach



Qualitative data analysis methodologies

- Qualitative Content Analysis
- Grounded theory
- Discourse analysis
- Thematic analysis

- "process of categorizing qualitative textual data into clusters of similar entities, or conceptual categories, to identify consistent patterns and relationships between variables or themes" (Julien, 2008, p. 121)
- Analyse for themes
- Independent of theoretical framework; inductive or deductive*

Qualitative data analysis methodologies

- Qualitative Content Analysis
- Grounded theory
- Discourse analysis
- Thematic analysis

- Similar to thematic analysis; however:
  - Can include frequency counts of categories or themes (Vaismoradi et al., 2013)
  - Less formalised approach to analysis (work of Braun & Clark to systematise and distinguish)

Qualitative data analysis methodologies

- Qualitative Content Analysis
- Grounded theory
- Discourse analysis
- Thematic analysis

- Name for methodology and its outcome
- Systematic and flexible approach to data collection and analysis
  - Inductive; emergent design
- Systematically engage with data as it is collected, using constant comparison (Charmaz & Bryant, 2008)

Qualitative data analysis methodologies

- Qualitative Content Analysis
- Grounded theory
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- "methods for studying language use and its role in social life" (Potter, 2008)
- Discourse – language use
- Many approaches
  - Importance of language
  - Inductive or deductive

Qualitative data analysis methodologies

- Qualitative Content Analysis
- Grounded theory
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- Thematic analysis

- Thematic analysis: "a method for identifying, analysing and reporting patterns (themes) within data" (Braun & Clark, 2006, p. 79)

Organisation ▶ Interpretation

Thematic analysis

- Organises and describes data but also helps interpret
  - Rich, in-depth description of the data
- Semantic (explicit) level analysis
  - Start with description and move to theorising about significance and broader meanings
- Latent (interpretive) level analysis
  - Goes beyond semantic level
  - Focus on underlying ideas, assumptions, ideologies

Thematic analysis

- Inductive or deductive approach
  - Flexibility
- No theoretical or epistemological basis
  - Independent

Thematic analysis steps

1. Familiarize yourself with your data
2. Generating initial codes
3. Searching for themes
4. Reviewing themes
5. Defining and naming themes
6. Producing the report

(Braun & Clark, 2006)

Thematic analysis steps

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(Braun & Clark, 2006)

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- Read over you data (more than once)
- Take notes
  - Consider trends
  - Important words
  - Salient features

(Braun & Clark, 2006)

Thematic analysis steps

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(Braun & Clark, 2006)

- Descriptive
- Code for as many patterns as possible
  - Can code all data or particular features
- Looking for interesting features in the data
  - Semantic or latent
- Can use initial and focussed codes

Thematic analysis steps

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(Braun & Clark, 2006)

- Look at how codes are similar/different
  - Are there patterns?
  - Do codes fit together?
- Sort codes into potential overarching themes
  - Use maps or lists
- Look for relationships between themes and levels of themes
  - Major themes, sub-themes

Thematic analysis steps

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(Braun & Clark, 2006)

- Refine themes
  - Collapse together, break apart, remove uninformative
- Make clear distinctions between themes
- Two levels
  1. Review theme - coded data extracts (is there a pattern?)
  2. Review data set (do themes accurately reflect the data? Is anything missing?)
- Results in thematic map*

Thematic analysis steps

1. Familiarize yourself with your data
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6. ~~Producing the report~~

(Braun & Clark, 2006)

- Further refine themes
- Define them clearly – what is each theme about?
  - Not paraphrasing
  - Identify what is of interest and why
- Analysis for each theme – what it contributes and how it works with other themes
  - Analytical power
- Name themes

Practical considerations

- Code extracts inclusively
- Code at multiple codes/themes
- Data coding - print, digital, or both?
- Data management
  - NVivo, ATLAS.ti

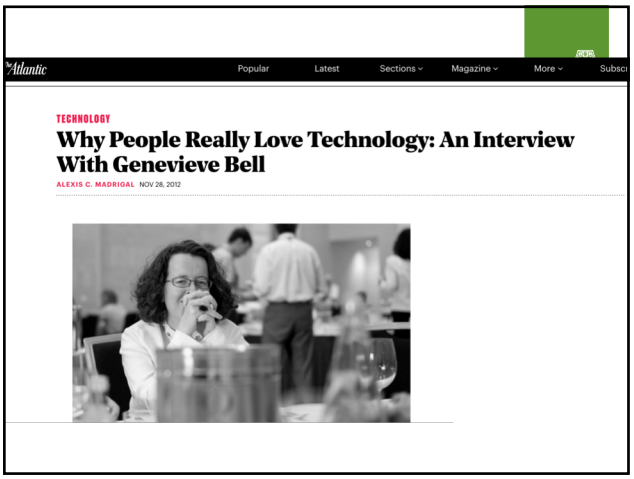
HANDS-ON CODING

Hands-on coding

- Work in pairs or small groups (~30 minutes)
- Decide on an deductive/inductive approach
  - Are you familiar with research on technology adoption/enjoyment of technology?
- Follow thematic analysis steps
- Time to discuss as a large group

Large group discussion

- Issues
- What works
- What doesn't work
- What questions remain



Hands-on coding

- Deductive/inductive approach

1. Familiarize yourself with your data
2. Generating initial codes
3. Searching for themes
4. Reviewing themes
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6. Producing the report

Large group discussion

- Issues
- What works
- What doesn't work
- What questions remain

Further reading

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

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- Various articles

Thank you

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