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Computer Assisted Qualitative Data Analysis

NVivo, MAXQDA, Atlas.ti, QDAMiner, HyperResearch

Graham R Gibbs, University of Huddersfield
Origins

- Text analysis
  - General Inquirer (content analysis)
- Word processors and desktop computers 1984 onwards
- Dedicated programs - Code-and-retrieve
  - The Ethnograph
  - Hypersoft
Code-and-retrieve

- Coding - mark text with code
- Code list (coding frame)
- Retrieve - show all text coded the same way.
- Some complex retrievals - text coded with two codes.
Current best selling programs

- NVivo (Windows, Mac in beta)
- Atlas.ti (Windows, iOS, Android, Mac in beta)
- MAXQDA (Windows, Mac, iOS, Android)
- HyperRESEARCH (Windows, Mac)
- QDAMiner (Windows)
- But still small companies cf. Microsoft.
  - NVivo sold 500,000, vs Millions for Office
Developed by Lyn and Tom Richards in Australia.

Started as NUD.IST in 1980s. Now NVivo v. 10.

Published by QSR

http://www.qsrinternational.com/default.aspx
NVivo video

- http://youtu.be/oelXFnj-7Ms
Most common in UK

Many universities have site licence

It’s all in there, somewhere

But can take a lot of clicks

Some don’t like restricted view of coding stripes

Has hierarchical coding
Atlas.ti

- German developer
- English version
- Thomas Muhr

- Scientific Software Development GmbH
"those reporting positive effects of being a parent"

- Effects of parenting as reported by:
  - Personal growth
  - Improved social skills
  - Career opportunities

- Hard work but rewarding
- Hard work but joyful

- Fulfillment

- Give joy: children give joy
- Give special moments: The special moments you have with kids make it worthwhile the effort

- Happiness: effect on wanting children
- Happiness: is not the key statement

- Children: happiness statements that express the opinion of children adding to happiness

Comment: Coding the data, it became apparent that parents were pointing out the hard parts of being a parent as a possible explanation of the statistical findings, but notable this was...
Atlas.ti info

- First to include diagrams/charts
- Well integrated with data and coding
- Constant view of coding brackets
- Query tool can be extended with GREP.
- No code hierarchy
MAXQDA

- German company
- English version
- Udo Kuckartz

- VERBI GmbH
- http://www.maxqda.com/
MAXQDA
MAXQDA

- Best user interface
- Strong on mixed methods research
- Four pane display easy to see data
- Always visible coding brackets
- Hierarchical codes
Getting help

- CAQDAS Networking project, U. Surrey
  [http://www.surrey.ac.uk/sociology/research/researchcentres/caqdas/](http://www.surrey.ac.uk/sociology/research/researchcentres/caqdas/)
- Jisc Mail discussion list (QUAL-SOFTWARE@JISCMAIL.AC.UK)
- Instructions for advanced uses

- Online QDA [http://onlineqda.hud.ac.uk/index.php](http://onlineqda.hud.ac.uk/index.php)
  - For info on basic qualitative data analysis (& Graham Gibbs YouTube Channel [https://www.youtube.com/user/GrahamRGibbs](https://www.youtube.com/user/GrahamRGibbs))
  - Links to software websites and tutorials

- Software websites
  - Tutorials (also on YouTube)
  - Help system (also from the program)
  - Discussion lists (answered by staff)
Books


Getting started
Sources Document types

Can add:

- Word documents (doc, docx) and editable
- RTF files (.rtf) and editable
- PDF files (.pdf)
- Audio files (.mp3, .wav)
- Movie files (.wmv, .mp4)
- Web pages (as pdf via NCapture in IE or Chrome)
- Survey data (spreadsheet format)
- Social media (Facebook, Twitter in NVivo)
Set up a project

- Called Hermenutic Unit in Atlas.ti
- NVivo keeps sources in one file
- MAXQDA, Atlas.ti keeps sources external
- Video files best kept external
What CAQDAS can do

- Coding
- Retrievals
- Queries
- Memos
- Search (text and codes)
- Charts
- Link with quants data
- Textual analysis tools
- Relations
- Literature review
- GIS
Variable data

- Also called attributes
- Attached to cases (normally = people)
- E.g. occupation, gender, age, birth town
- i.e. categorical data or measurements
- Sort out cases
Analysis
Types of Qualitative analysis

- Ethnography
- Analytic Induction
- Content analysis.
- Thematic analysis
- Grounded Theory
- Phenomenology
- Narrative and biography
- Conversation analysis
- Discourse analysis
Induction vs. Deduction

- **Induction** - theories and explanations derived from the data. Data led.

- **Deduction** - theories and explanations derived from theories and then tested against the data. Theory led.

- Most qualitative analysis approaches are inductive (e.g. Grounded Theory, Analytic induction).

- But we can also test theories against our data.

- Software supports both approaches.
Thematic Coding

- Grounded Theory (Glaser and Strauss + Corbin + Charmaz)
- Interpretative Phenomenological Analysis (Jonathon Smith)
- Template analysis (Nigel King)
- Framework analysis (Ritchie and Lewis)

All are types of thematic analysis.
Coding in NVivo, Atlas.ti, MAXQDA

- Select text, then
  - Drag and drop
  - Fast coding bar (NVivo only, with menu of nodes)
  - Menu and dialog box (can code at multiple codes)
- Drag across time-line to select in audio & video
- Drag an area to select in images
- Select a cell in survey data
Coding supports 2 forms of analysis

- Retrieval
- Using the coding frame
1. Retrieval

- Retrieve all the text coded with the same label = all passages about the same phenomenon, idea, explanation or activity - Literally cut and paste.

- Used envelopes/files - Now done using software – retrieval very very fast.

- Enables cross case comparison on same theme.
2. Using the coding frame

- Use the list of codes to examine further kinds of analytic questions, e.g.
  - relationships between the codes (and the text they code)
  - grouping cases

- Hierarchical codes in NVivo and MAXQDA, Coding families in Atlas.ti
Coding hierarchy

- Codes can be arranged in a hierarchy
- e.g. with these codes from a study of friendship
  - Close, generalised friendships
  - Sporting friendships
  - Sports club members
  - Work friends
  - Making new friends - same sex
  - Making new friends - different sex
  - Losing touch with friends
  - Becoming sexual relationships
Example code hierarchy

- Friendship types
  - Close, generalized
  - Sporting
    - Club
    - Non-club
  - Work

- Changes in Friendship
  - Making new friends
    - New same sex friends
    - New different sex friends
  - Losing touch
  - Becoming sexual relationships
**Memos**

- Theorizing and commenting about codes as you go along
- Notes to yourself

“… the theorizing write-up of ideas about codes and their relationships as they strike the analyst while coding… it can be a sentence, a paragraph or a few pages… it exhausts the analyst’s momentary ideation based on data with perhaps a little conceptual elaboration.”

Word of mouth was mentioned by Harry as important for him in searching for work. Several other respondents talked about this as a method they have used. Two thoughts occur to me.

- To what extent is this a separate method of looking for work, tapping into a network outside the formal one of job centres, agencies etc. or does it overlap? E.g. is some of the word of mouth information about the formal job finding agencies?

- Does it refer to a specific kind of network - mates and relatives finding work for those looking for it, or is it simply a passing on of information that could have been found by those looking in newspapers ads etc?

Above all it raises issues about networking as a way of finding work. Is this an important method? Is it effective? Is it more important in certain areas of work than others? (e.g. in manual work.) Do those with wider social networks have more success in finding work this way?

Graham Gibbs Friday, April 28, 2000
Descriptive vs Analytic/theoretical

- **Descriptive**
  - Just what the people said
  - What happened
  - Their terms

- **Analytic**
  - Use social science theory
  - Groups codes together
  - Use terms the respondents don’t or wouldn’t
BARRY
Well, the only thing that we've really given up is - well we used to go dancing. Well she can't do it now so I have to go on my own, that's the only thing really. And then we used to go indoor bowling at the sports centre. But of course, that's gone by the board now. So we don't go there. But I manage to get her down to works club, just down the road on the occasional Saturdays, to the dances. She'll sit and listen to the music, like, stay a couple of hours and then she's had enough. And then, if it's a nice weekend I take her out in the car.

‘Dancing’, ‘Indoor bowling’, ‘Dances at works club’, ‘Drive together’
‘Joint activities ceased’, ‘Joint activities continuing’
Example showing coding marks

Well, the only thing that we’ve really given up is — well we used to go dancing. Well she can't do it now so I have to go on my own, that's the only thing really. And then we used to go indoor bowling at the sports centre. But of course, that's gone by the board now. So we don't go there. But I manage to get her down to works club, just down the road on the occasional Saturdays, to the dances. She'll sit and listen to the music, like, stay a couple of hours and then she's had enough. And then, if it's a nice weekend I take her out in the car.