

the right tools for the job

affordances of dedicated CAQDAS-packages for high-quality analysis

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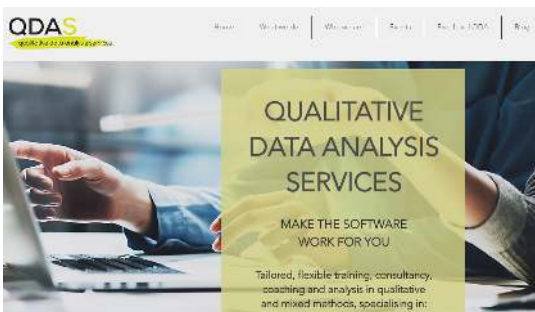


CAQDAS networking project

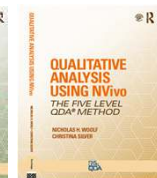
Computer Assisted Qualitative Data Analysis

Department of Sociology

Day Courses in Social Research



Qualitative Data Analysis Services is an essential companion for researchers using a number of methods. Software provides practical in-depth research. Qualitative Research provides a step-by-step guide. Assisted Qualitative Data (CAQDAS). Christina Silver & Ann Lewins. An essential practice and principles of to the second edition.



Overview

- **analytic activities** facilitated by dedicated CAQDAS-packages
- fostering **high-quality analysis**: access, validation and transparency
- making **informed choices** between products

but first...

- a bit of history
- terminology



A bit of history...origins

1980s academic social sciences

Qualitative approaches to analysing qualitative data

Now....

Cross-sector

- Public opinion
- Government
- Market research
- Voluntary
- Commercial

Cross-method

- Qualitative data
- Mixed data
- Qual analytic approaches
- Quant analytic approaches
- Mixed analytic approaches
- Throughout the research cycle



Plethora of choices



Terminology

- Computer ***Assisted*** Qualitative Data Analysis (CAQDAS) packages
 - Qualitative Data Analysis Software (QDAS)
 - Digital tools for qualitative analysis

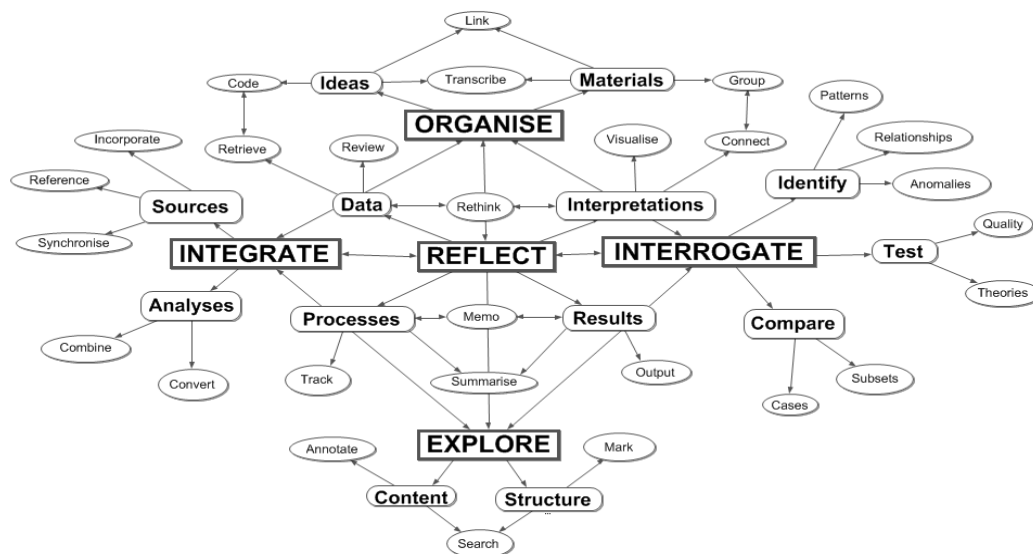
dedicated CAQDAS-packages...?

- qualitative data (maybe also mixed and quantitative data)
 - Content searching
 - Coding
 - Linking
 - Querying
 - Writing/annotating
 - Mapping

High-level Analytic Activities *undertaken in qualitative & mixed-methods research*

Adapted from Silver & Lewins (2014:44-58). See also Appendix 2, Woolf & Silver, pp198-200

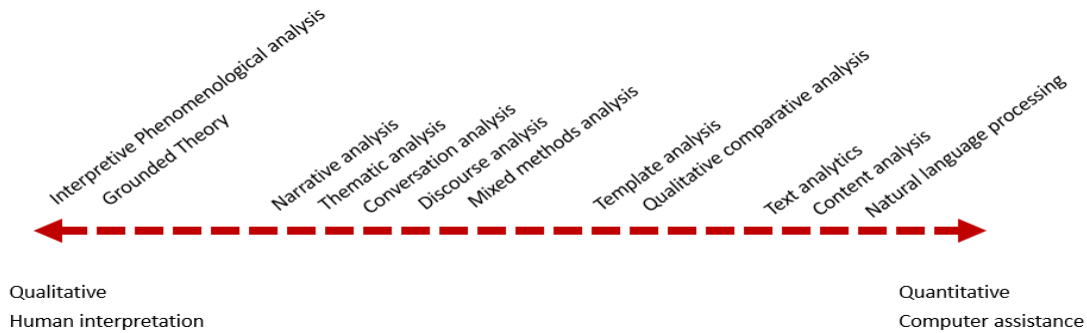
- **Integrate (combining parts into a whole)**
 - MATERIALS : types, role, relationship
 - ANALYSES : qualitative, quantitative, mixed
 - CONTRIBUTIONS: split and combine work, assess consistency
- **Organise (creating structures relating to objectives)**
 - FACTS : metadata, socio-demographics etc.
 - IDEAS : transcription, conceptualisation, associations
- **Explore (examining the inherent nature of data)**
 - CONTENT : surface level, language, familiarise
 - STRUCTURE : inherent structure repeated within/across data files
- **Reflect (considering carefully and deeply)**
 - WRITE : about data, process, interpretations and results
 - MAP : connections between and within data and concepts
- **Interrogate (following up what has been done)**
 - IDENTIFY patterns, relationships, anomalies
 - TEST theories/hypotheses, validate interpretations
 - COMPARE subsets and cases



Lewins & Silver (2014:45) Using Software in Qualitative Research : A step-by-step guide. Sage Publications. London

Fostering high-quality analysis

The 'criteriology' debate



How can CAQDAS-packages contribute...?

...No direct correlation between use of CAQDAS-packages and quality



Access

Validation

Transparency



Access: to...

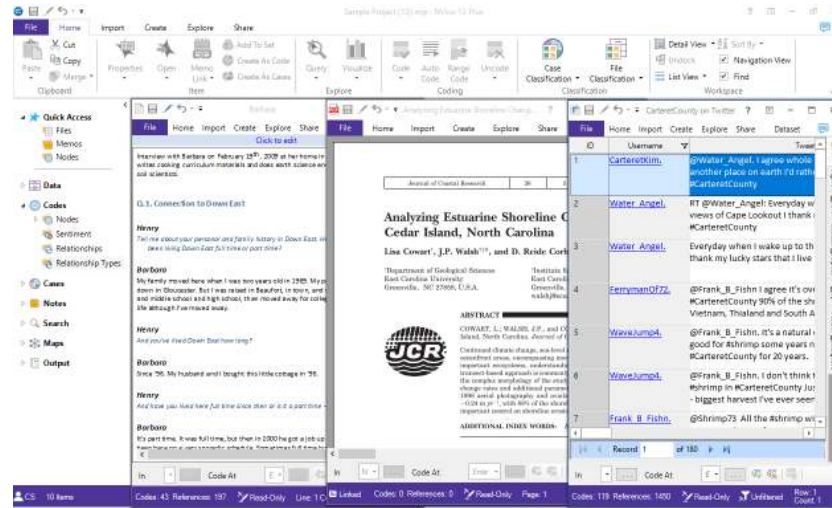
data: viewing multiple sources, synchronising media

analytic work: coding, in-text memo-ing, hyperlinking

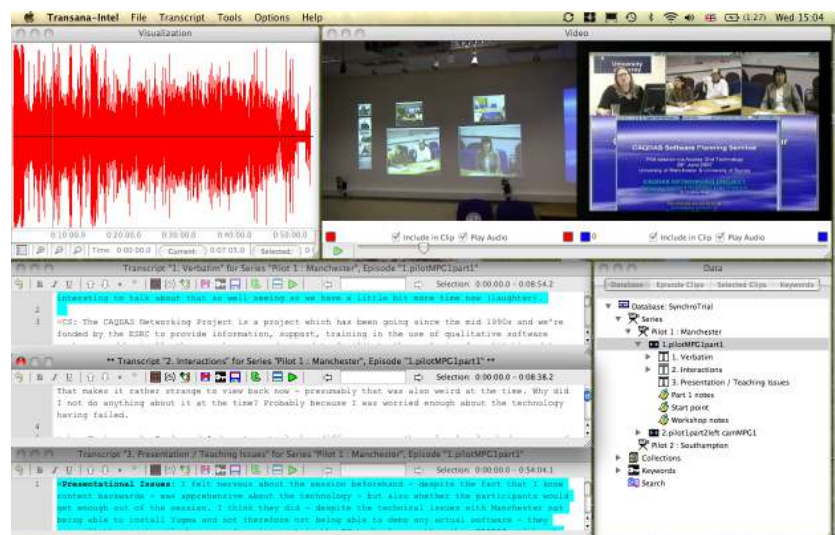
contributions: comparing coding, adjudicating coding



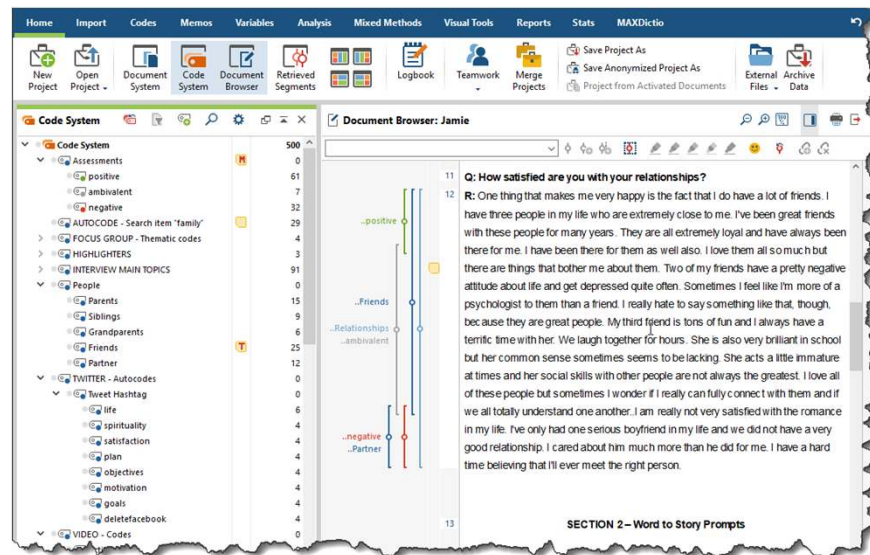
Access: to data (viewing multiple sources)



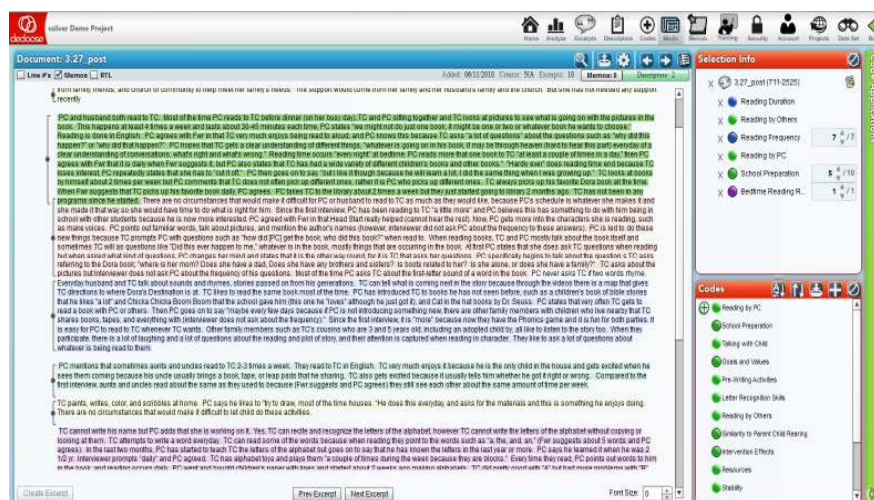
Access: to data (synchronising media)



Access: to analytic work (coding)



Access: to analytic work (coding)



Access: to analytic work (coding)

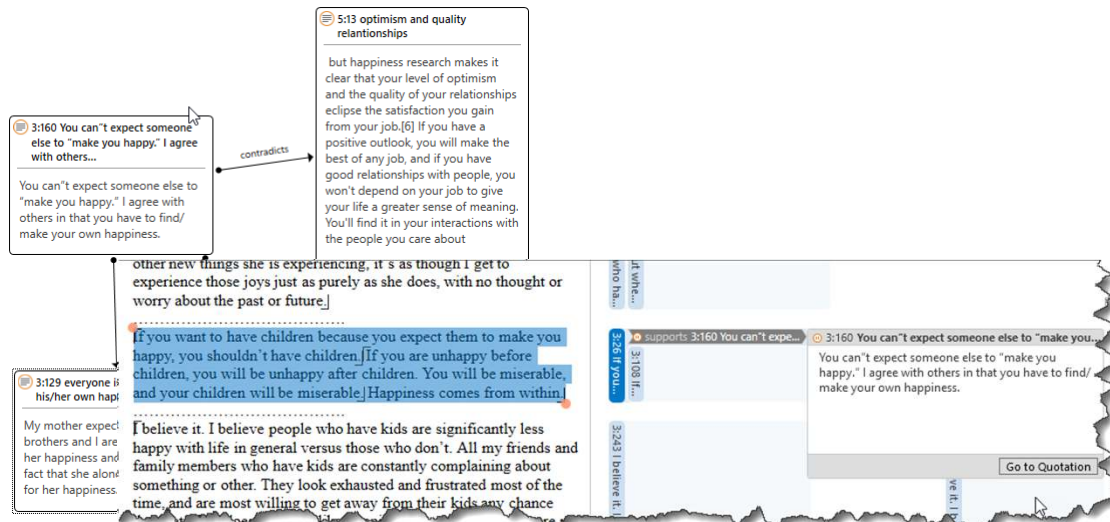
Delve

The screenshot shows the Delve interface for a 'Caleb Interview'. On the left, a sidebar lists 'Designer Interviews' including Amanda, Ariel, Caleb, Conor, Jared, Kate, Nick, and Ryan. The main area displays a transcript with yellow highlights under the heading 'Caleb Interview'. A pop-up window shows a selected text snippet: 'Since the product team moves fast, I want to make sure that my research is completed quickly enough to help them make decisions. Starting with high level ideas means I can share with the team and get early buy-in before going into the depths of the analysis.' Below the text are tags for 'Informing a decision' and 'Motivations'. On the right, a 'Codes' panel lists various codes with their frequencies: Motivations (12), Building knowledge (9), Helping local community (1), Informing a decision (4), Changing the roadmap, and Other motivations (11).

Access: to analytic work (in-text memo-ing) **f4analyse**

The screenshot shows the f4analyse interface. The main area displays a transcript with yellow highlights under the heading 'Coded passages are indicated with coloured underlinings'. A callout box explains: 'Clicking on coloured underlinings flags up the codes applied at that point'. On the right, a 'Code View' displays codes hierarchically, including 'Participants', 'Challenges', 'Terminology', 'Amount of information', 'Participants keeping up', 'In-text memos', 'Socio-demographics', 'Gender', 'Age', and 'Role'. A callout box explains: 'The Code View displays codes hierarchically'. At the bottom left, a callout box explains: 'The Comment for the currently selected Text - always on display'. At the bottom right, a callout box explains: 'in-Text Memos are accessible from the bottom left'.

Access: to analytic work (hyperlinking)



Access: to contributions (comparing coding)



Comparison Tools - Standard Compare

Dataset: -- select a dataset --

Available Coders: Add > Add All >> << Remove All < Remove

Chosen Coders

Available Codes: Add > Add All >> << Remove All < Remove

Chosen Codes

Method: Kappa How are these calculated?

☐ Include Codes that are not used in calculations


☒ Suppress Overlaps if none exist?

☐ Also show individual code pairing comparisons

Run Comparison



Access: to contributions (comparing coding)

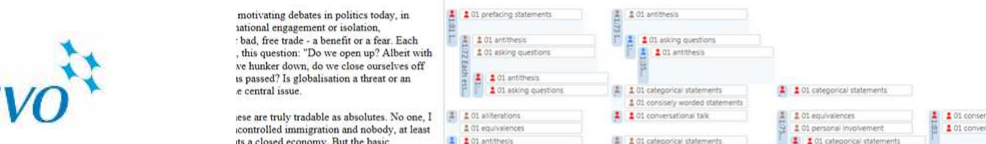


NVIVO

r 1, 2007: What I want to talk to you about
 : the debate about globalisation in politics
 ng line to think of in modern politics has
 positions of right versus left, more to do
 call the modern choice, which is open

motivating debates in politics today, in
 national engagement or isolation,
 'bad, free trade - a benefit or a fear. Each
 this question: "Do we open up? Albeit with
 ve hunker down, do we close ourselves off
 is passed"? Is globalisation a threat or an
 e central issue.

ese are truly tradable as absolutes. No one, I
 controlled immigration and nobody, at least
 as a closed economy. But the basic
 ints. Do we prefer to be open and when we



Code	File	File Folder	File Size	Kappa	Agreement	A and B (%)	Not A and N	Disagreement	A and Not B (%)	B and Not A
Community change	Thomas	Files\Intervi	4952 chars	0.5929	89.24	9.87	79.36	10.76	4.14	0.1076
Economy/Fishing or aqua	Thomas	Files\Intervi	4952 chars	0.7392	95.82	6.64	89.18	4.18	1.53	0.04
Economy/Jobs and cost o	Thomas	Files\Intervi	4952 chars	0.9547	98.42	21.61	76.82	1.58	1.53	0.04
Natural environment/Envi	Thomas	Files\Intervi	4952 chars	0	91.05	0	91.05	8.95	0	8.95
Sense of community Dow	Thomas	Files\Intervi	4952 chars	0.9456	97.88	25.44	72.44	2.12	0.24	1.88

Access: to contributions (adjudicating coding)

[illegible]

Validation

Interrogating patterns and relationships

Identifying anomalies

Confirming interpretations

Validation: interrogating patterns and relationships

Common queries

- Text search
- Word frequency
- Code co-occurrence
- Code proximity
- Code comparison

Validation: identifying patterns and relationships

QDA Miner - Candidates - coded.pptj

Project Cases Variables Codes Document

Retrieval Analyze Help

Text Retrieval...
Section Retrieval...
Keyword Retrieval...
Date & Location...
Cluster Extraction...
Coding Frequency...
Coding Co-occurrences...
Case Similarity...
Query by Example...
List Comments...
List Hyperlinks...
Coding Sequences...
Coding Agreement...
Content Analysis...
Coding Co-occurrences...

Bradley in Crystal City

anks of the Mississippi River, there once stood the Pittsburgh
rs. In its heyday, it employed 4,000 people and turned out
about everybody in town worked for what we called PPG. We
e for me, this is where the world of possibility and hopes all began.
d to explore the bluffs to the south of town, looking for fossils and
r and I sometimes took a 22 and went down to the river and shot
it flow. We felt the incredible force and marveled at its beauty...

Local Economy
Race/Ethnic relation
Freedom
Family
Race/Ethnic relation

Co-occurrences Similarity Agglomeration

Environment Ethnic Family Freedom Globalization Local Economy Novelty Patriotism Protectionism Race/Ethnic relation Representativeness Tradition

QDAS
qualitative data analysis services

Validation: identifying patterns and relationships

Left Query: PR Gender - Female

Right Query: PR Gender - Male

Report (Left Query) Report (Right Query) Run Query

Sort by: City

Project

Undo

Redo

Panel

Single

Help

Settings

Left Query Highlights: 35 / Right Query Highlights: 19

QDAS
qualitative data analysis services

Validation: identifying anomalies



The screenshot displays the NVIVO software interface. The top window, 'Coding Query - Results Preview', shows search criteria and a list of results. The bottom window, 'Matrix Coding Query - Results Preview', shows a matrix of results for different nodes. The nodes listed are: Natural environment/Ecosystem services, Natural environment/Environmental change, Natural environment/Habitat, Natural environment/Landscape, and Natural environment/Renewable energy. The matrix shows counts for each node across different categories. For example, 'Ecosystem services' has a count of 12, 'Environmental change' has 38, 'Environmental impacts' has 26, 'Habitat' has 38, 'Landscape' has 35, 'Renewable energy' has 15, and 'Water quality' has 136. The right side of the interface shows a list of references and their coverage percentages, such as 'Reference 1 - 3.85% Coverage' and 'Reference 1 - 1.57% Coverage'.

Validation: confirming interpretations



The screenshot displays the MAXQDA software interface. The top window, 'Interactive Quote Matrix', shows a matrix of quotes organized by gender (female, male, non-binary) and codes (positive, ambivalent, negative). The bottom window, 'QUAL Themes by QUAN Groups (Coded Segments)', shows a list of quotes and their associated themes. The quotes are organized into groups based on gender and codes. For example, the 'positive' group for 'female' includes quotes about taking a nutrition class and feeling satisfied with one's career path. The 'positive' group for 'male' includes quotes about sports and work. The 'positive' group for 'non-binary' includes quotes about family and work. The 'ambivalent' group for 'female' includes quotes about feeling comfortable in one's area of life. The 'ambivalent' group for 'male' includes quotes about recreation and firm background. The 'ambivalent' group for 'non-binary' includes quotes about health and home life.

Transparency: documenting process (technical)



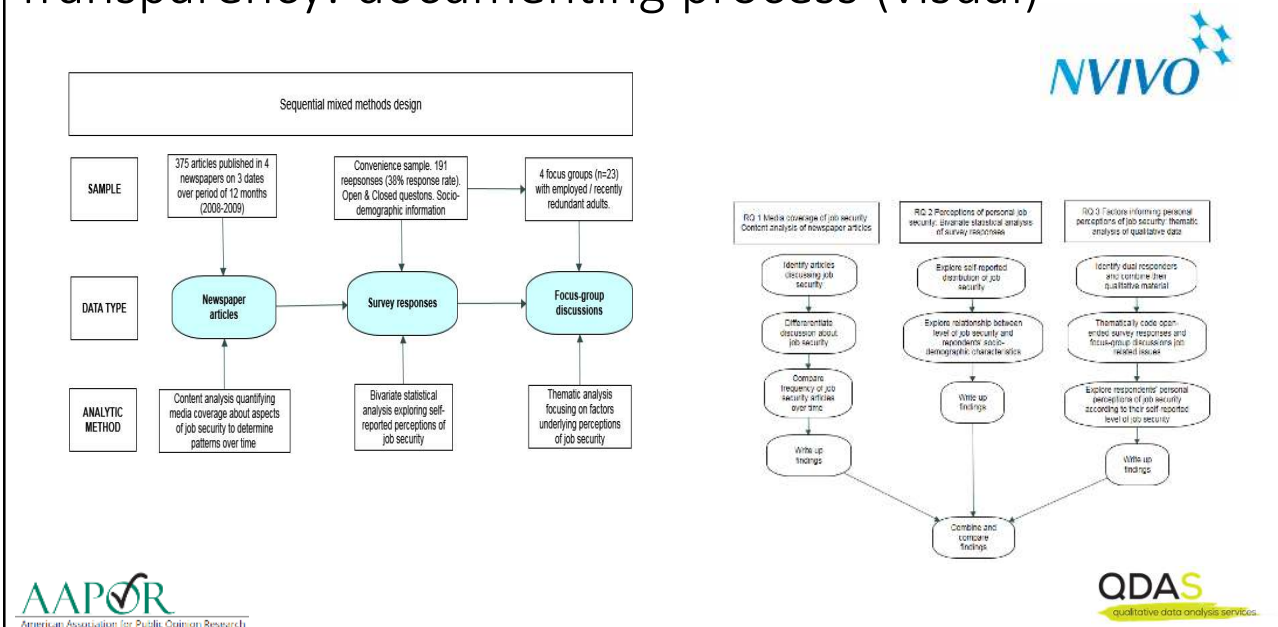
Logged	Name	Location	Event	Detail	User
25/06/2010 17:23	Down East Sample Project		Enabled Event Logging		Wanda Swope
25/06/2010 17:24	Interviewees	Sets	Created		Wanda Swope
25/06/2010 17:25	Atlantic	Queries\test	Modified	Modified Properties	Wanda Swope
25/06/2010 17:27	Atlantic	Queries\test	Modified	Modified Properties	Wanda Swope
25/06/2010 17:27	Atlantic	Results	Created	Stored Query Results	Wanda Swope
25/06/2010 17:27	Down East Sample Project		Disabled Event Logging		Wanda Swope
25/06/2010 17:34	2010 06 Team project proces	Memos\Progress Reports	Modified		Wanda Swope
25/06/2010 17:34	Down East Sample Project		Enabled Event Logging		Wanda Swope
25/06/2010 17:41	Sources without interviewer v	Sets	Created		Wanda Swope
25/06/2010 17:43	Sources without interviewer v	Sets	Modified		Wanda Swope
25/06/2010 17:43	2010 06 Team project proces	Memos\Progress Reports	Modified		Wanda Swope
25/06/2010 17:45	2010 06 Team project proces	Memos\Progress Reports	Modified		Wanda Swope
25/06/2010 17:45	2010 06 Team project proces	Memos\Progress Reports	Modified		Wanda Swope
25/06/2010 17:46	2010 06 Team project proces	Memos\Progress Reports	Modified		Wanda Swope

Transparency: documenting process (narrative)

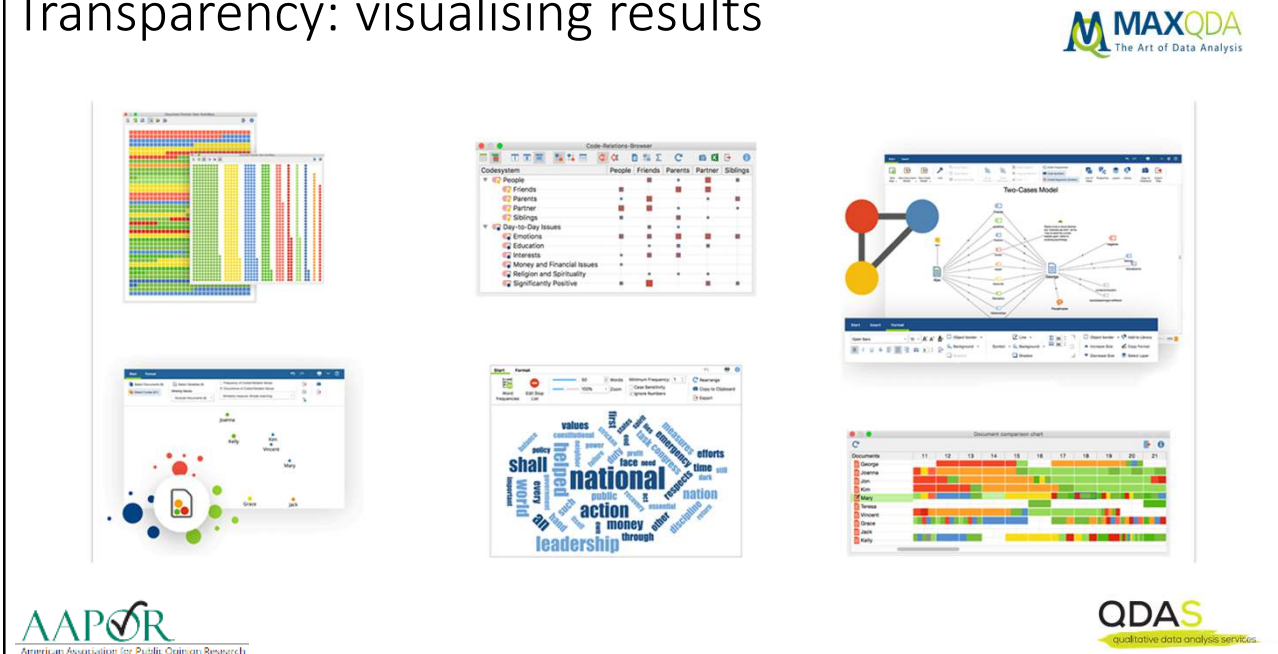


Logbook
<p>08/01/2020 09:03 Christina Before commencing coding we decided to initially explore the content of all data files using text search tools. The results are saved in the Early Familiarisation Memo. We're going to collectively review these results and discuss their implications for the intended coding framework, before commencing</p> <p>07/01/2020 15:42 Christina We implemented the initial coding framework into the Code System, defining each code (in terms of it's conceptual meaning, and inclusion/exclusion criteria). Also indicated source of each code (e.g. literature, research objectives, expectations, etc.) through use of colour</p> <p>07/01/2020 14:12 Christina The team met this morning to plan the analysis in detail - see the Analysis Planning Memo for full details.</p> <p>06/01/2020 12:23 Christina Started this project, with importing the data files, organising them into groups, according to type, and setting up Memos for research objectives and team-working protocols</p>

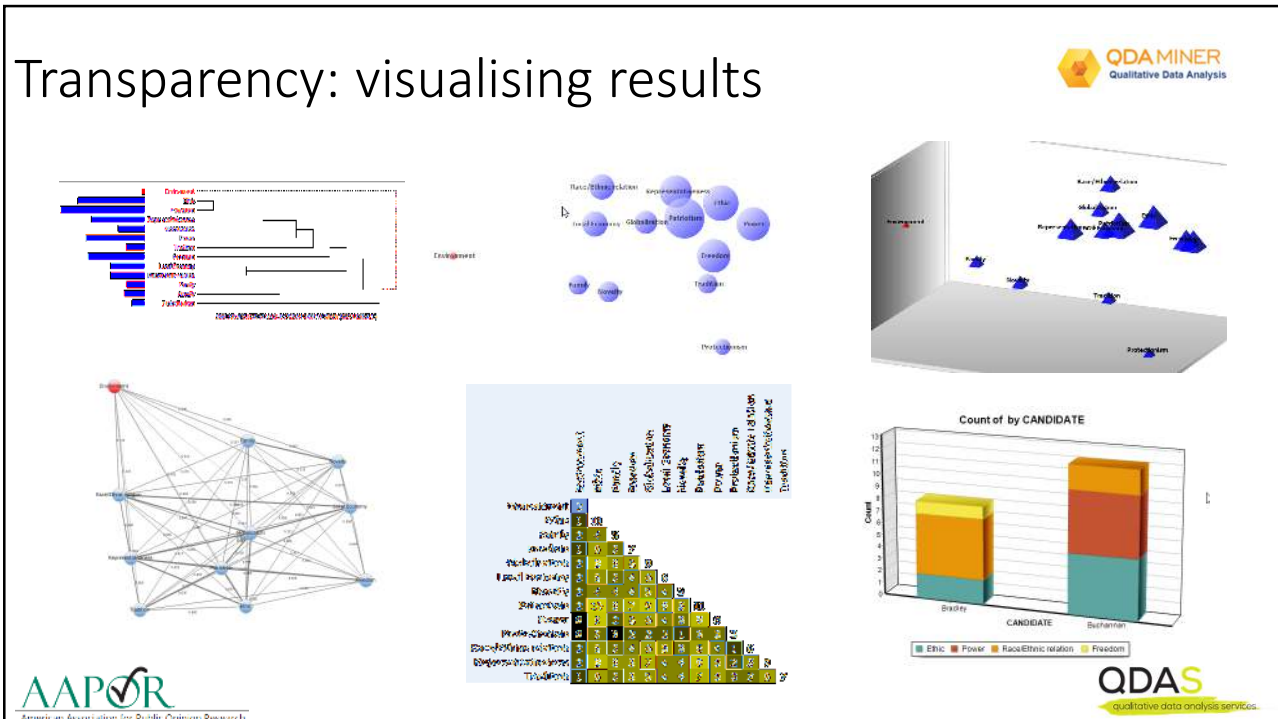
Transparency: documenting process (visual)



Transparency: visualising results

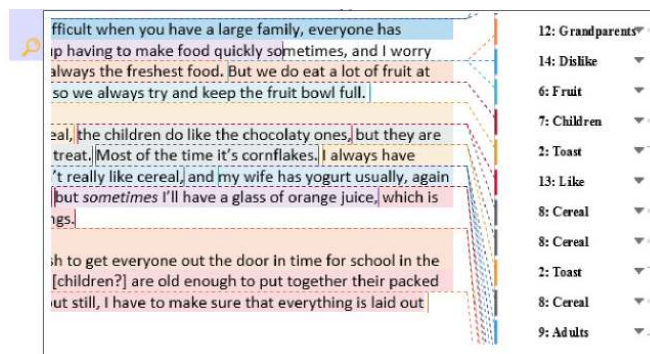


Transparency: visualising results



Transparency: exporting and sharing

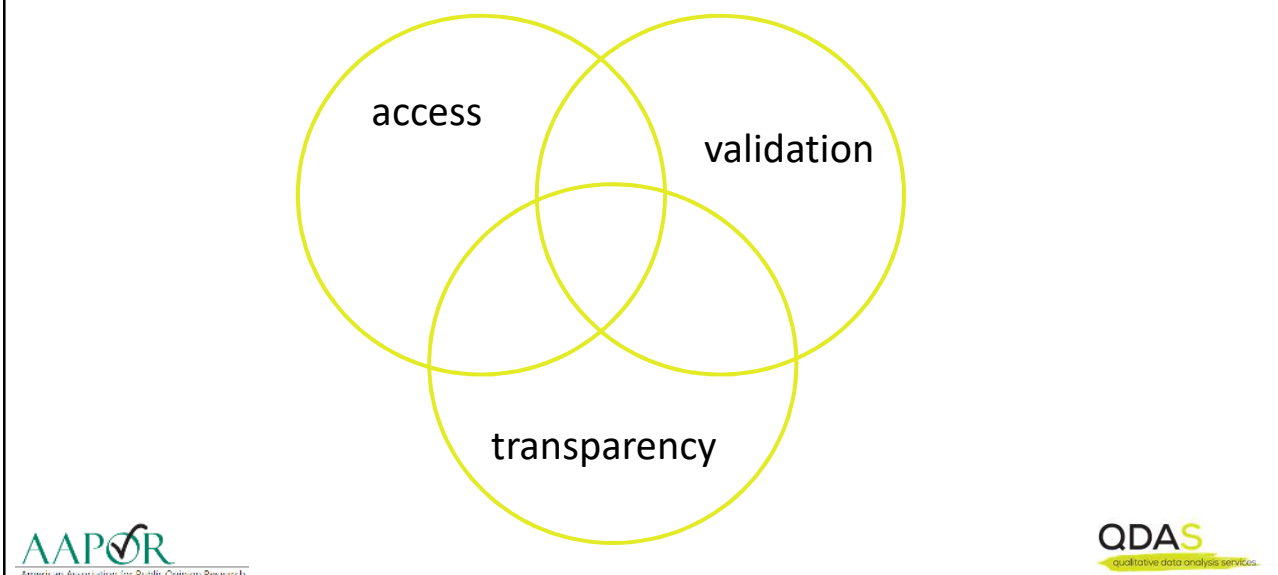
Quirkos



Transparency: exchanging between products



Using CAQDAS-packages to illustrate quality



Making informed choices between products

Practical considerations

- Technical
- Team-working
- Learning curve
- Resources

Methodological considerations

- Data (types and amounts)
- Analytic approach
- Computer assistance
- Outcome requirements

Plethora of choices

atlas.ti
QUALITATIVE DATA ANALYSIS

CAT
Coding Analysis Toolkit

dedoose
Great Research Made Easy

Delve

discovertext

ELAN

The Ethnograph

f4analyse

interact

HyperRESEARCH

interpret

Kwalitan

LEIPZIG CORPUS MINER

LEXIMANCER

LIGRE

MAXQDA
The Art of Data Analysis

NVIVO

WORDSTAT
Content Analysis and Text Mining

QDA MINER
Qualitative Data Analysis

SIMSTAT
Statistical Analysis and Bootstrapping

qiqqa

QuIP

Quirkos

Raven's Eye

RQDA

recollective

Sonal

TLAB

transana

webQDA

WordSmith Tools

Resources

Product websites – feature overviews, demo versions, tutorials

CAQDAS Networking Project reviews

<https://www.surrey.ac.uk/computer-assisted-qualitative-data-analysis/resources/choosing-appropriate-caqdas-package>