



# QUALITATIVE DATA ANALYSIS WITH NVIVO

DR. SAIDATUL NURUL HIDAYAH JANNATUN NAIM NOR AHMAD

TUNKU PUTERI INTAN SAFINAZ SCHOOL OF ACCOUNTANCY

UNIVERSITI UTARA MALAYSIA

# OUTLINE

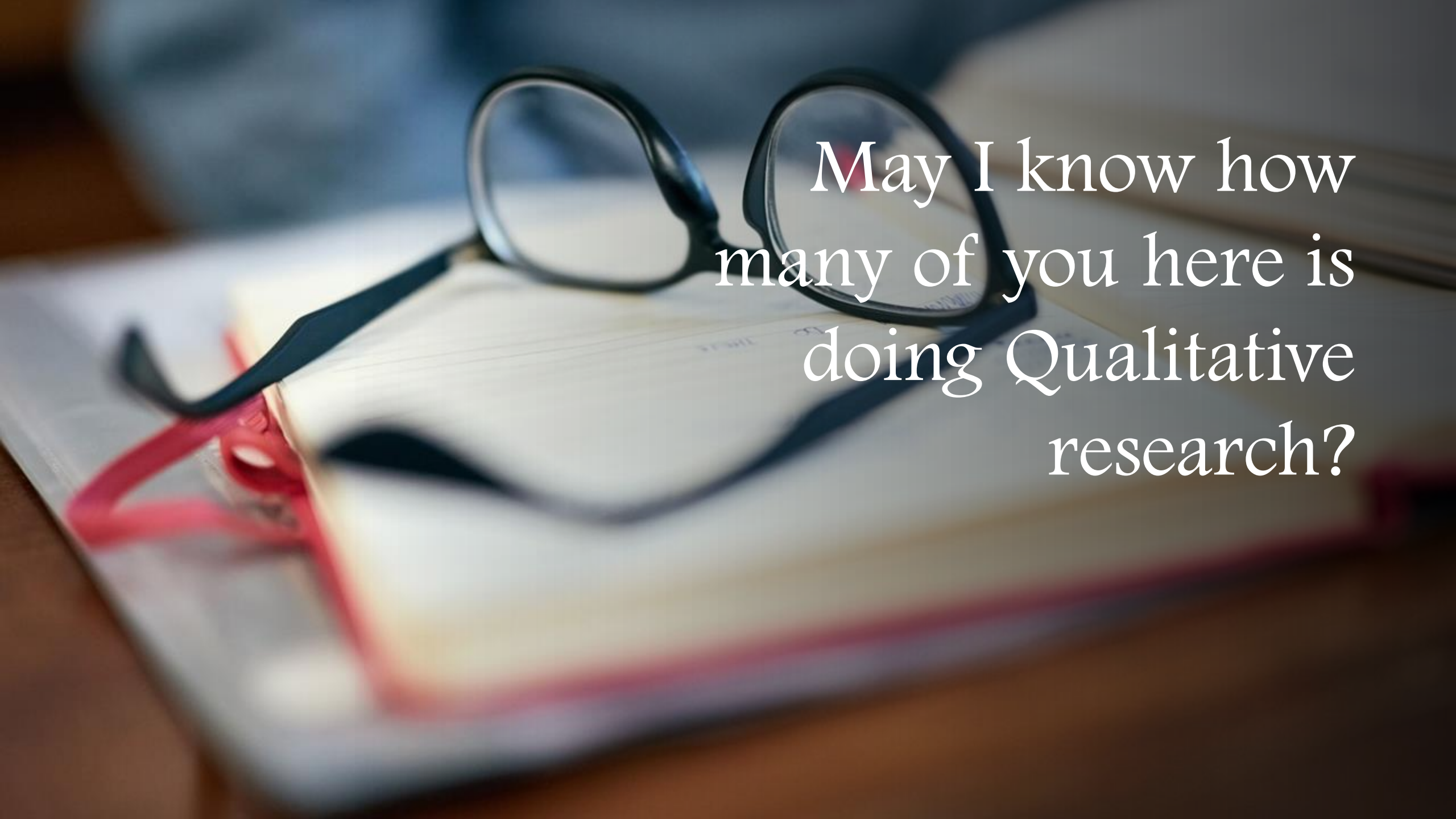


WHAT IS  
QUALITATIVE  
RESEARCH?

HOW DO WE  
USE NVIVO IN  
ANALYZING  
QUALITATIVE  
DATA?

# Before we begin...

- Please install NVIVO Trial Version via this link:  
<https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/try-nvivo>

A pair of black-rimmed glasses is resting on an open notebook. A red ribbon bookmark is visible on the left side of the notebook. The background is blurred, showing a wooden surface.

May I know how  
many of you here is  
doing Qualitative  
research?

# What is Qualitative Research?

“... an interpretive **naturalistic approach** to the world. This means that qualitative researchers **study things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meanings people** bring to them.”

Denzin and Lincoln (2005: 3)

“Development of concepts which help us to **understand social phenomena** in natural settings (rather than experimental), giving due emphasis to the **meanings, experiences and views of the participants.**”

Pope and Mays (1995)

## **Understanding Context**

How economic, political, social, cultural, environmental and organisational factors influence phenomenon?

## **Understanding People**

How people make sense of their experiences of social phenomenon?

## **Understanding Interaction**

How the various actors involved interact each other?

# QUALITATIVE vs QUANTITATIVE RESEARCH

| <i>Point of comparison</i> | <i>Qualitative research</i>                                  | <i>Quantitative research</i>  |
|----------------------------|--|---|
| Focus of research          | Quality (nature, essence)                                    | Quantity (how many, how much)   |
| Philosophical roots        | Phenomenology, symbolic, interaction                         | Empiricism, logical positivism  |
| Associated phrases         | Fieldwork, ethnographic, naturalistic, grounded, subjective  | Experimental, empirical, statistical                                      |
| Goal of investigation      | Understanding, description, discovery, hypothesis generating | Prediction, control, confirmation, hypothesis testing                     |
| Design characteristics     | Flexible, evolving, emergent                                 | Pre-determined structure  |
| Setting                    | Natural, familiar  | Unfamiliar, artificial  |
| Sample                     | Small, non random, theoretical                               | Large, random, representative   |
| Data collection            | Researcher as primary instrument, interviews, observations   | Inanimate instruments (scales, tests, surveys, questionnaires, computers) |
| Mode of analysis           | Inductive (by researcher)                                    | Deductive (by statistical methods)  |
| Findings                   | Comprehensive, holistic, expansive                           | Precise, narrow, reductionistic   |

Adapted from Merriam, 1989; Yin, 1995.



## Research Paradigm

### Ontology

Objective

Subjective

### Epistemology

Positivist

Critical  
Realist

Action  
Research

Interpretivist

## Data Gathering

### Methodology

Quantitative

Case Study

Qualitative

### Techniques

Big Data

Interviews

Archives

Experiments

Observation

Physical Artefacts

Surveys

Focus Groups

Oral History

Netnography

Audio Visual

Ethnography

## Data Analysis Approaches

### Deductive

EXPLORING RELATIONSHIPS: Correlation analysis;  
Partial correlation analysis; Multiple  
regression analysis; factor analysis

COMPARING GROUPS: t-test; ANOVA; MANOVA;  
ANCOVA

Structural Equation Modelling

### Inductive

Template Analysis

Thematic Analysis

Discourse Analysis

Hermeneutics

Grounded Theory



# QUALITATIVE RESEARCH CHARACTERISTICS

**Natural setting**

**Researcher as key  
instrument of data  
collection**

**Multiple methods**

**Complex  
reasoning through  
deductive and  
inductive**

**Focus on  
participants'  
meanings**

**Emergent design**

**Reflexivity**

**Holistic account**

# GETTING STARTED?



Have you just conducted a qualitative study involving...



Interviews



Focus Groups




Observations



Document or artifact analysis



Journal notes or reflections?



Once you have collected data, what  
do you do with it?  
When do you begin data analysis?

# The Danger...

You have undermined your entire project by waiting until after all the data are collected before beginning your analysis (Merriam, 2009: 170).

When do you begin data analysis? **NOW!**

Analysis not left until the end

# Qualitative Data Analysis

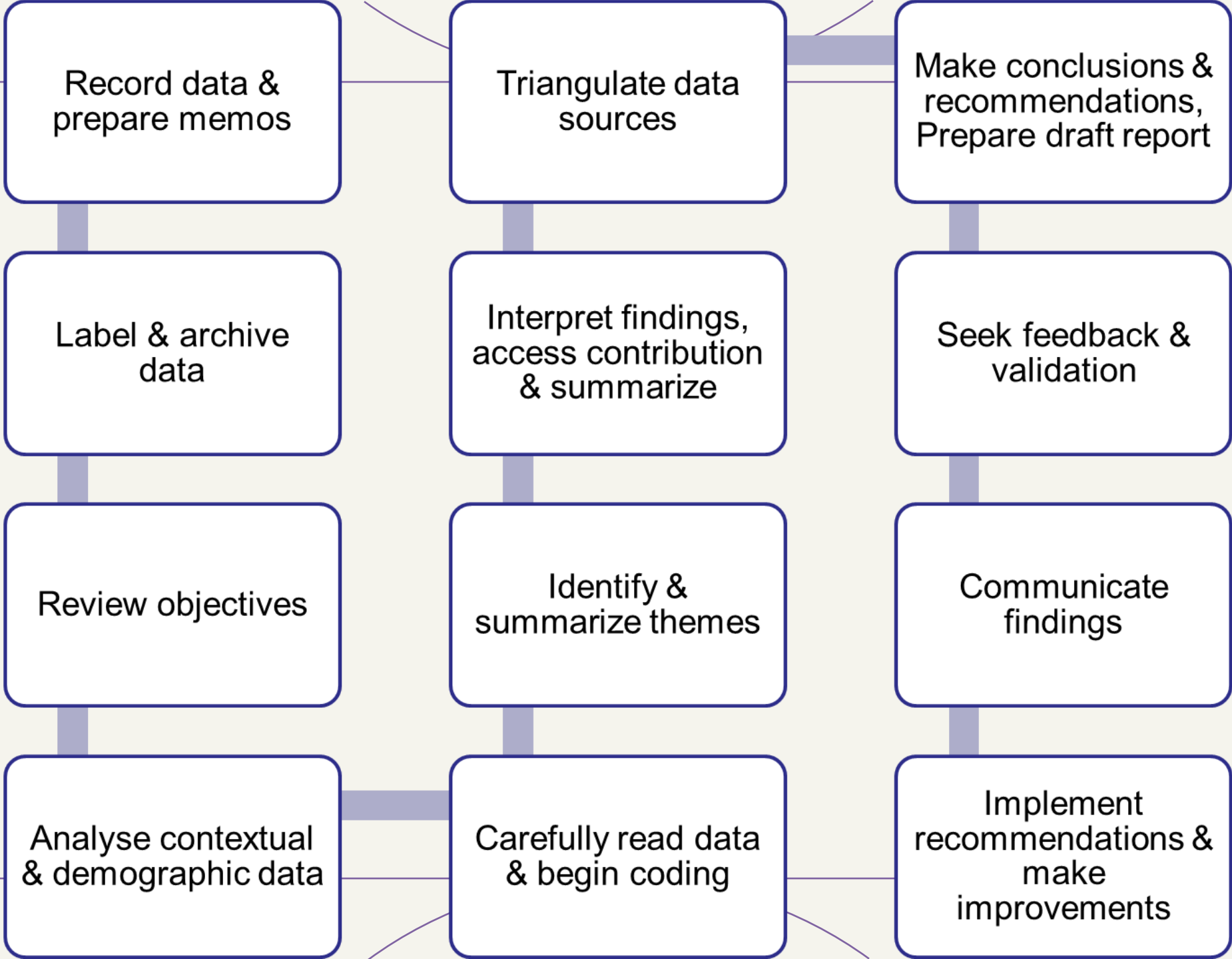
- The process of turning written data such as interview and field notes into findings: to **explain, understand or interpret social phenomenon** (people and situations) from the information gathered.
- QDA is usually **based on an interpretative philosophy**.
- The idea is to **examine the meaningful and symbolic content** of qualitative data.
- Le Compte and Schensul (1999) define analysis as the process a researcher uses to reduce data to a story and its interpretation.



# STEPS IN QUALITATIVE DATA ANALYSIS

Miles and Huberman (1994) Three Stages in Qualitative Data Analysis:

1. Data reduction
2. Data display
3. Conclusion drawing/verification



Record data & prepare memos

Triangulate data sources

Make conclusions & recommendations, Prepare draft report

Label & archive data

Interpret findings, access contribution & summarize

Seek feedback & validation

Review objectives

Identify & summarize themes

Communicate findings

Analyse contextual & demographic data

Carefully read data & begin coding

Implement recommendations & make improvements

# Carefully Read through the Data and Begin Coding

- Coding is the *process of searching data for themes, ideas and categories* and then marking similar passages of text with a code label so that they can easily be retrieved at a later stage for further comparison and analysis.
- Coding is done according to the types of themes and issues that emerge:
  - By coding the data, the researcher can search the data easily to make comparisons and to identify any patterns that require further investigation.
- The process of coding (associating labels with the text, images etc.) involves close reading of the text (or close inspection of the video or images).
- Coding is more than simply organising data:
  - **helps the process of data analysing, data interpretation and finding the relationships and patterns in your data.**

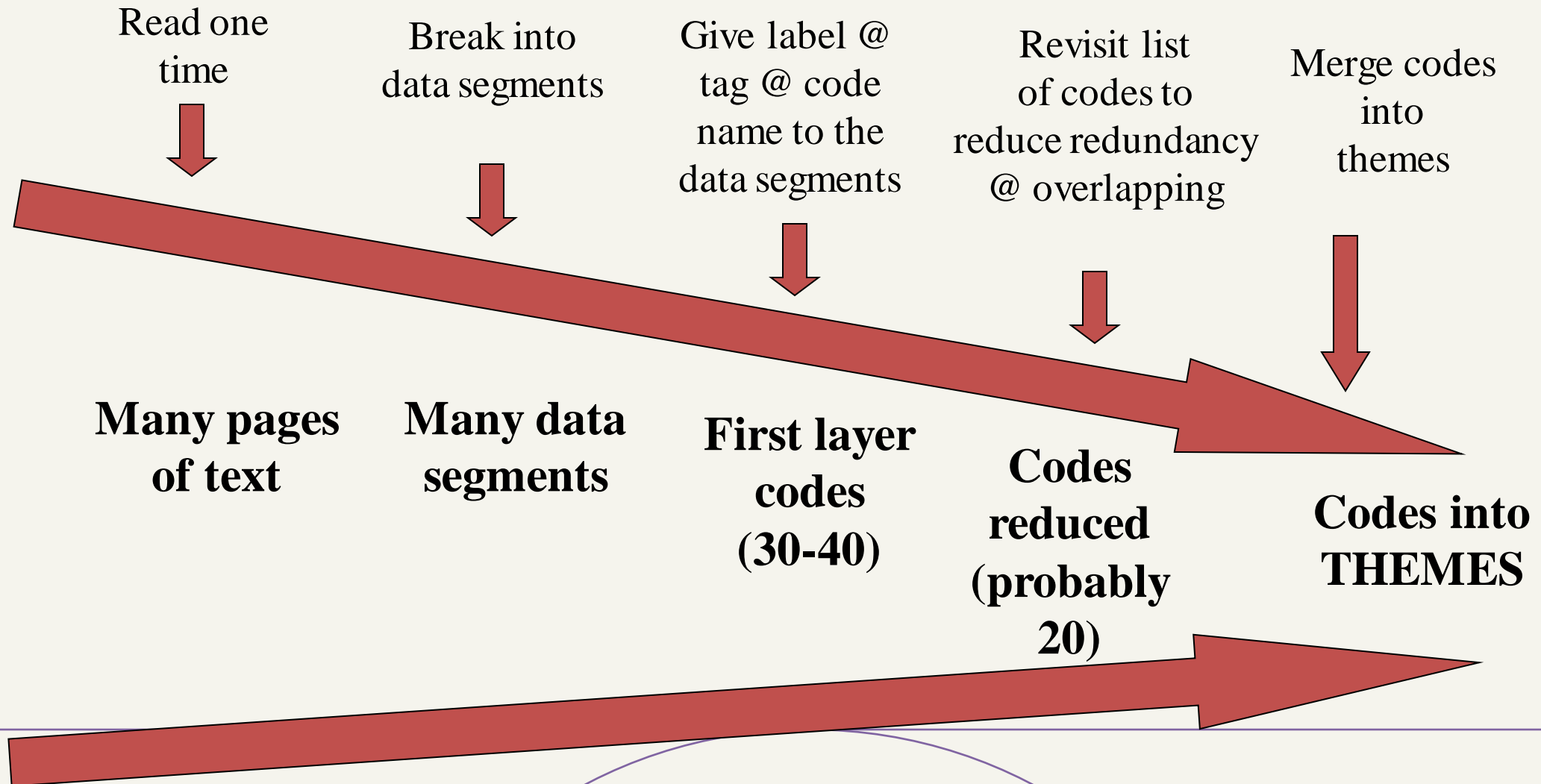




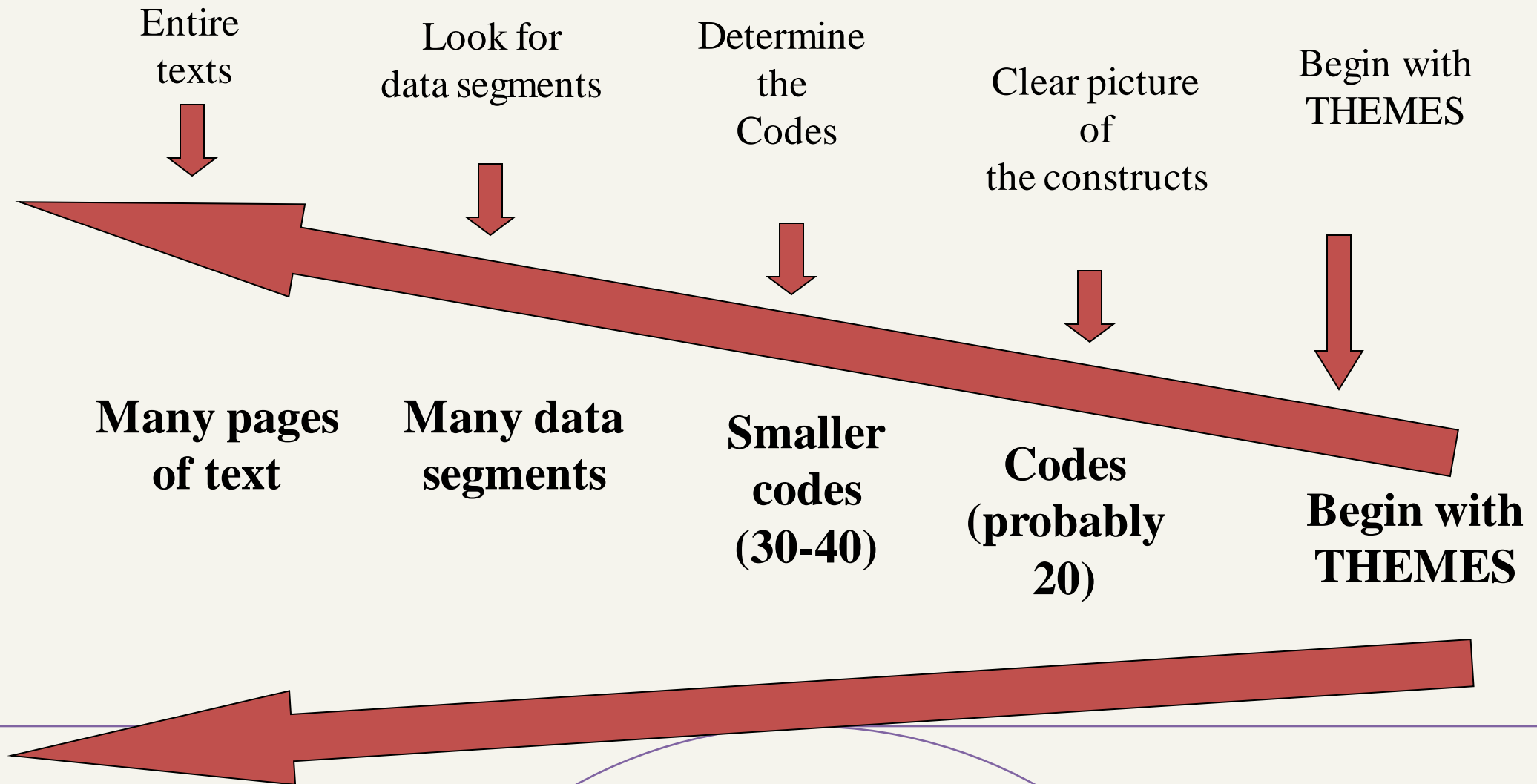
# TIPS WHILE CODING

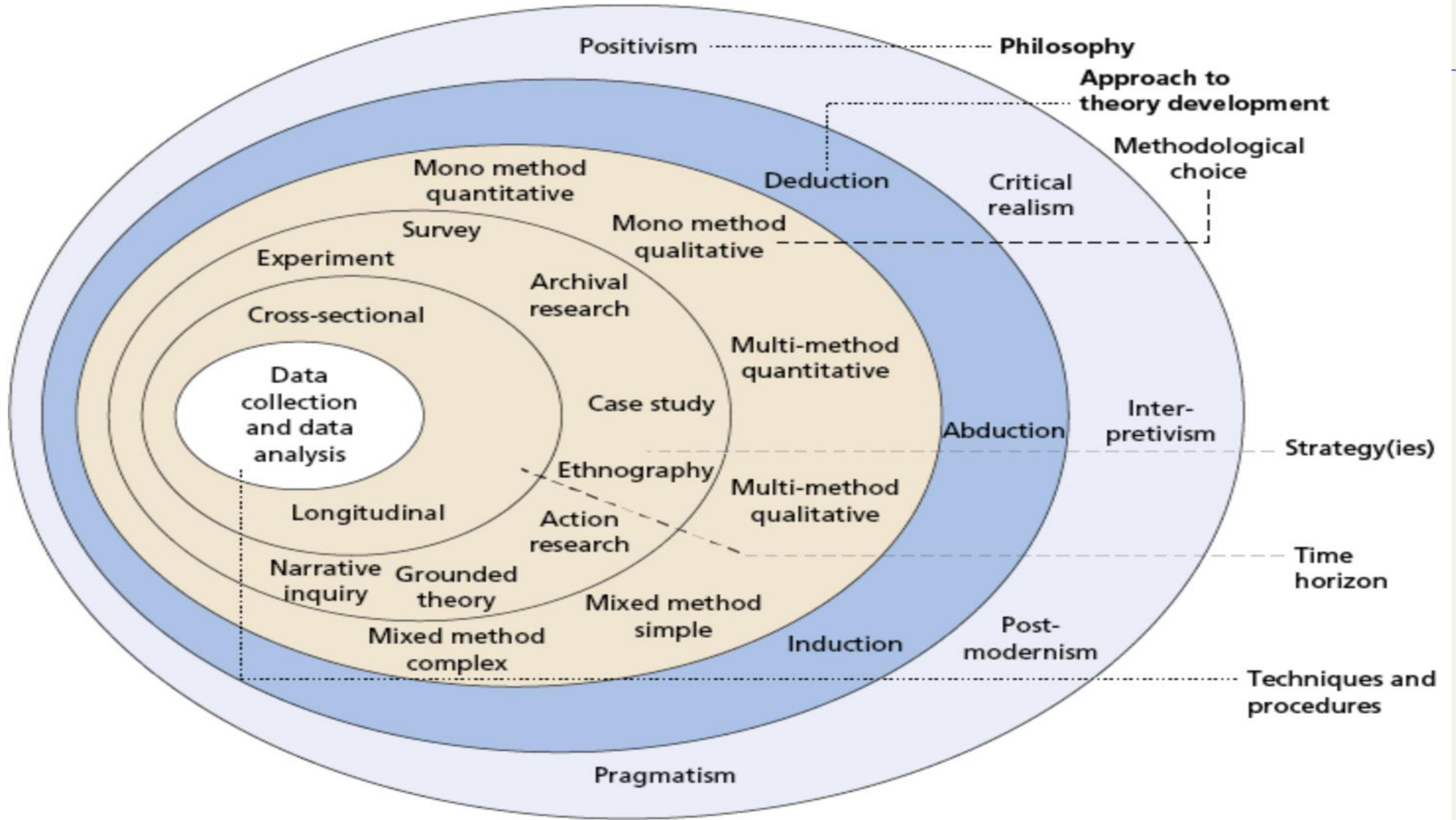
- Auerbach & Silverstein (2003: 44) recommend that you keep a copy of your research concern, theoretical framework, central research question, goals of the study, and other major issues on one page in front of you to keep you focused.

# INDUCTIVE CODING PROCESS

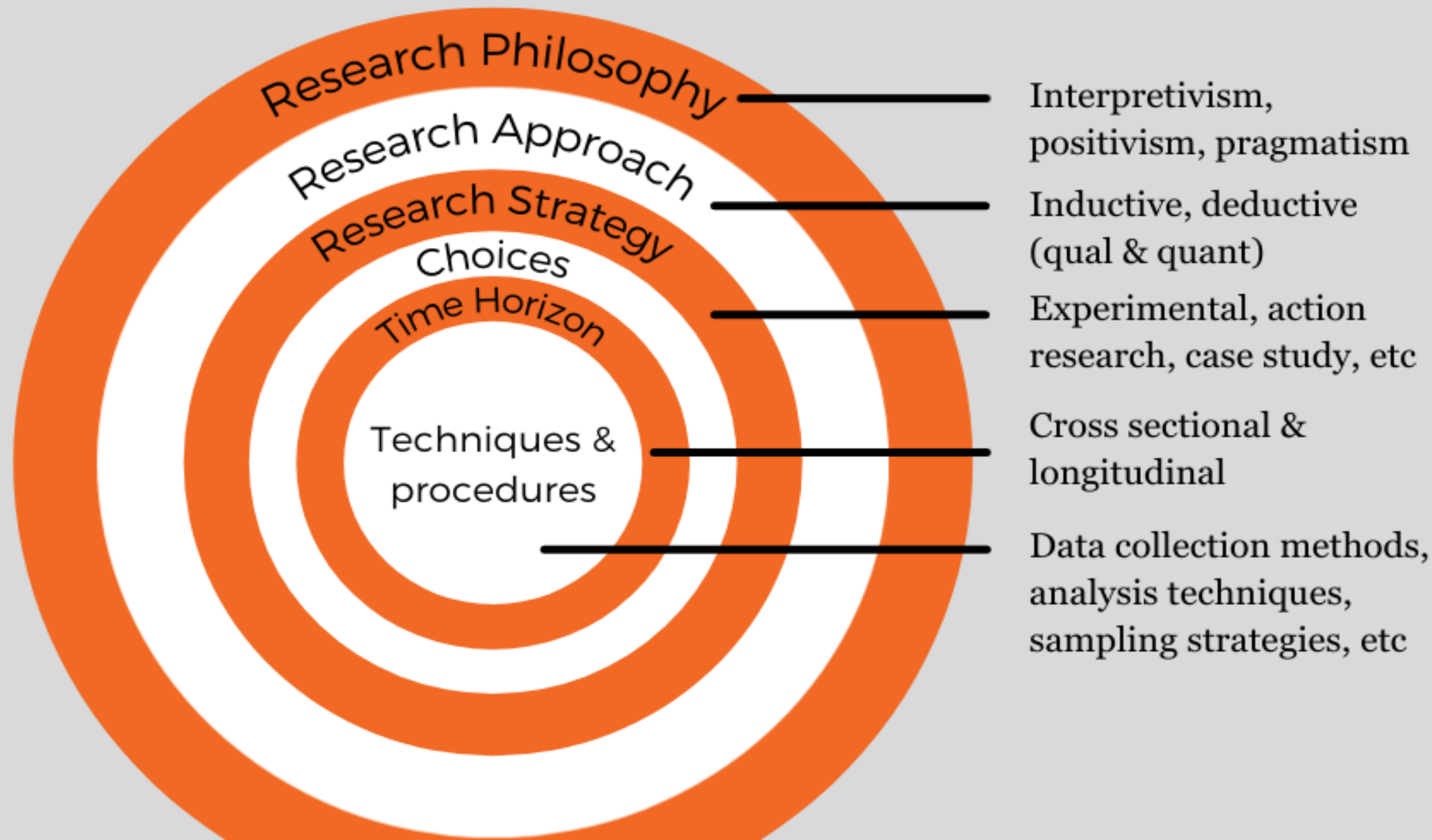


# DEDUCTIVE CODING PROCESS





Source: ©2018 Mark Saunders, Philip Lewis and Adrian Thornhill



Research Philosophy

Interpretivism, positivism, pragmatism

Research Approach

Inductive, deductive (qual & quant)

Research Strategy

Experimental, action research, case study, etc

Choices

Cross sectional & longitudinal

Time Horizon

Data collection methods, analysis techniques, sampling strategies, etc

Techniques & procedures

# Coding Levels

- Descriptive to Interpretative to Pattern Coding
  - Moves from summary to meaning to explanation
- **OR**
- Open to Axial to Selective Coding
  - Moves from initial theory to developing relationships between codes for emerging theory
- **OR**
- First cycle to second cycle coding
  - Moving from describing the data units to inferring meaning

## What's the difference between a code and a theme?

- A theme captures a common, recurring pattern across a dataset, clustered around a central organising concept.
  - Demonstrate the theme's patterning in the dataset.
- Codes are more specific than themes.
  - capture a single idea associated with a segment of data
  - consist of pithy labels identifying what is of interest in the data (in relation to the research question)
  - can be conceptualized as the building-blocks that combine to create themes

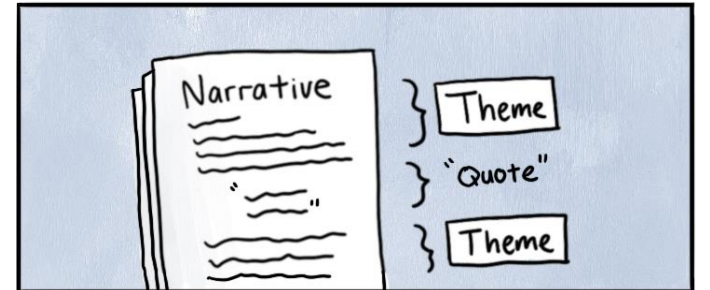
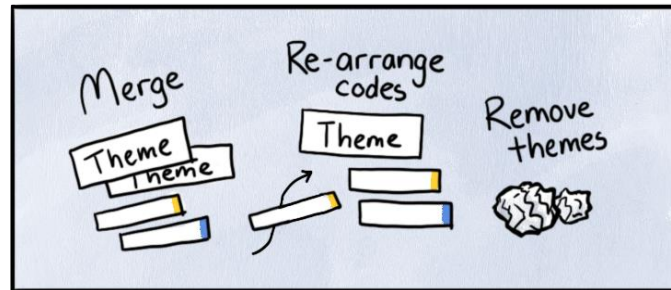
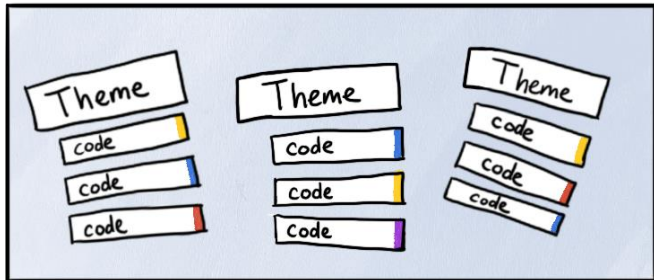
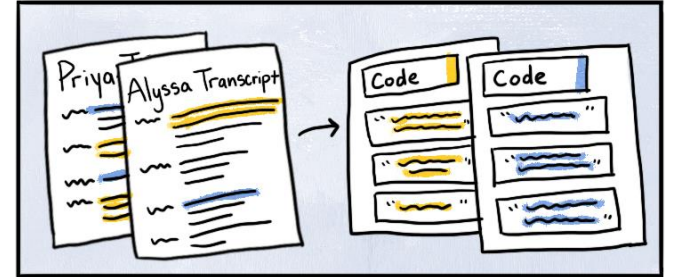
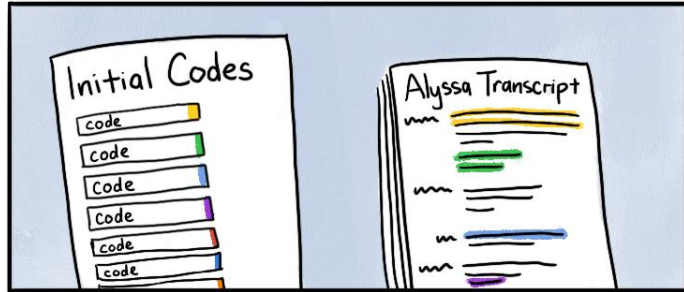
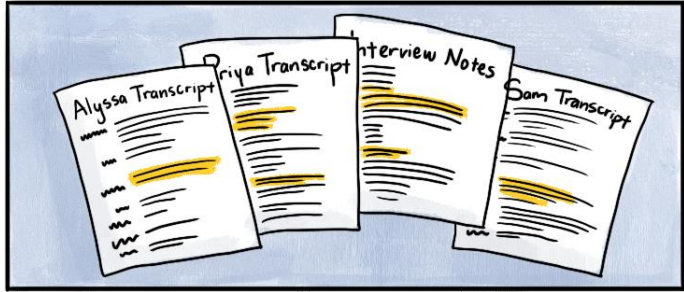
# THEMATIC ANALYSIS

- a method for identifying, analysing, and reporting patterns (themes) within data.
- differs from other analytic methods that seek to describe patterns across qualitative data.
- can be an **essentialist or realist method** (which reports experiences, meanings and the reality of participants) or it can be a **constructionist method** (which examines the ways in which events, realities, meanings, experiences and so on are the effects of a range of discourses operating within society).



# Phases of Thematic Analysis: Braun & Clarke (2006)

| Phase                                     | Description of the process   |
|---|--|
| 1. Familiarising yourself with your data: | Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.  |
| 2. Generating initial codes:              | Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.  |
| 3. Searching for themes:                  | Collating codes into potential themes, gathering all data relevant to each potential theme.  |
| 4. Reviewing themes:                      | Checking in the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.  |
| 5. Defining and naming themes:            | Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells; generating clear definitions and names for each theme.   |
| 6. Producing the report:                  | The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis. |



# Checklist For A Good Thematic Analysis: Braun & Clarke (2006)

| Process        | No.      | Criteria   |
|----------------|----------|--|
| Transcription  | 1        | The data have been transcribed to an appropriate level of detail, and the transcripts have been checked against the tapes for 'accuracy'.                        |
| Coding         | 2        | Each data item has been given equal attention in the coding process.   |
|                | 3        | Themes have not been generated from a few vivid examples (an anecdotal approach), but instead the coding process has been thorough, inclusive and comprehensive. |
|                | 4        | All relevant extracts for all each theme have been collated.   |
|                | 5        | Themes have been checked against each other and back to the original data set.   |
|                | 6        | Themes are internally coherent, consistent, and distinctive.   |
|                | Analysis | 7  |
| 8              |          | Analysis and data match each other - the extracts illustrate the analytic claims.  |
| 9              |          | Analysis tells a convincing and well-organised story about the data and topic.   |
| 10             |          | A good balance between analytic narrative and illustrative extracts is provided.   |
| Overall        | 11       | Enough time has been allocated to complete all phases of the analysis adequately, without rushing a phase or giving it a once-over-lightly.                      |
| Written report | 12       | The assumptions about, and specific approach to, thematic analysis are clearly explicated.   |
|                | 13       | There is a good fit between what you claim you do, and what you show you have done - i.e., described method and reported analysis are consistent.                |
|                | 14       | The language and concepts used in the report are consistent with the epistemological position of the analysis.   |
|                | 15       | The researcher is positioned as <i>active</i> in the research process; themes do not just 'emerge'.  |

What is NVIVO and what can it do?

- **Software that helps making the analysis process:**
  - **Organized**
  - **Transparent**
  - **Integrated**
  - **Grounded in the evidence**
- **Structure work** – Enables access to all parts of the project immediately
- **'Closeness to data' interactivity** – Instant access to source data files (e.g. interview transcripts)
- **Explore data** – Tools to search text for one word or a phrase **Code and Retrieve Functionality** – Create codes and retrieve the coded sections of text
- **Project Management and Data Organisation** – Manage project and organise data
- **Search and interrogating the database** – Search for relationships between codes
- **Writing tools** – Memos, comments and annotations,
- **Output** – Reports to view a hard copy or export to another package

What are the things that  
NVIVO cannot do?

# NVIVO cannot do the following:

- Analyze the data for you. It is just a tool for indexing the data.
- Produce conclusion on the data.
- Do the analytical thinking (though it can do things that help researcher does that thinking).
- Do the coding. In general, the researcher needs to decide what can be coded in what way. Some software supports automatic coding but it is important to check what has been automatically coded.
- Reduce bias, improve reliability or, on its own, improve the quality of analysis (though it does have functions that can be used to help improve the quality of analysis)
- Tell you how to analyse your data (no-one thinks a word-processor can write a report for them).
- Does not calculate statistics, though some programs will produce simple counts and percentages.
- Write our thesis or research papers! ;-)

# BASIC TERMINOLOGY IN NVIVO

| NVivo term                      | Description  | Also known as  |
|---------------------------------|--|--|
| <a href="#">Sources</a>         | <p>The collective term for your research materials</p> <p>When you import data into NVivo, it becomes an <i>internal</i> source.</p> <p>An <i>external</i> source represents data outside of NVivo that cannot be imported (such as a book or archival footage).</p> | <p>Data</p> <p>Material</p> <p>Documents</p> <p>Survey</p> <p>Transcript</p> <p>Project items</p>  |
| <a href="#">Node</a>            | <p>A virtual container that lets you collect content across sources to group related material together.</p>  | <p>Code</p> <p>Theme</p> <p>Category</p> <p>Topic</p> <p>Concept</p>   |
| <a href="#">Coding</a>          | <p>The action of assigning source content to a node.</p>   | <p>Quotations</p> <p>Analysis</p> <p>Tagging</p>   |
| <a href="#">Classifications</a> | <p>A way to add descriptive information to your sources and cases.</p> <p>Examples Reference, Journal Article, Person, Organization, Location</p>  | <p>Types</p> <p>Sorts</p> <p>Classes</p>   |
| <a href="#">Attributes</a>      | <p>Aspects of a classification.</p> <p>Examples</p> <p>A case classification of 'Person' might have attributes for age and gender.</p> <p>A source classification of 'Journal Article' might have attributes for publication and author.</p>                         | <p>Variables</p> <p>Characteristics</p> <p>Tag</p> <p>Metadata</p> <p>Rating</p> <p>Descriptors</p> <p>Demographics</p> <p>Bibliographic</p> |
| <a href="#">Annotations</a>     | <p>Text linked to specific content in a source.</p>  | <p>Comments</p> <p>Reminders</p> <p>Observations</p> <p>Footnote</p> <p>Scribbled notes in the margin</p>                                    |



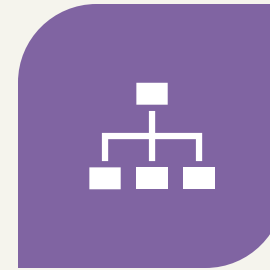
# OUR TASKS FOR TODAY:



1. PREPARE DATA



2. READ AND UNDERSTAND  
THE DATA THROUGH  
EXPLORATION & CODING



3. PRODUCING OUTPUT  
AND STRUCTURING THE  
WRITE UP



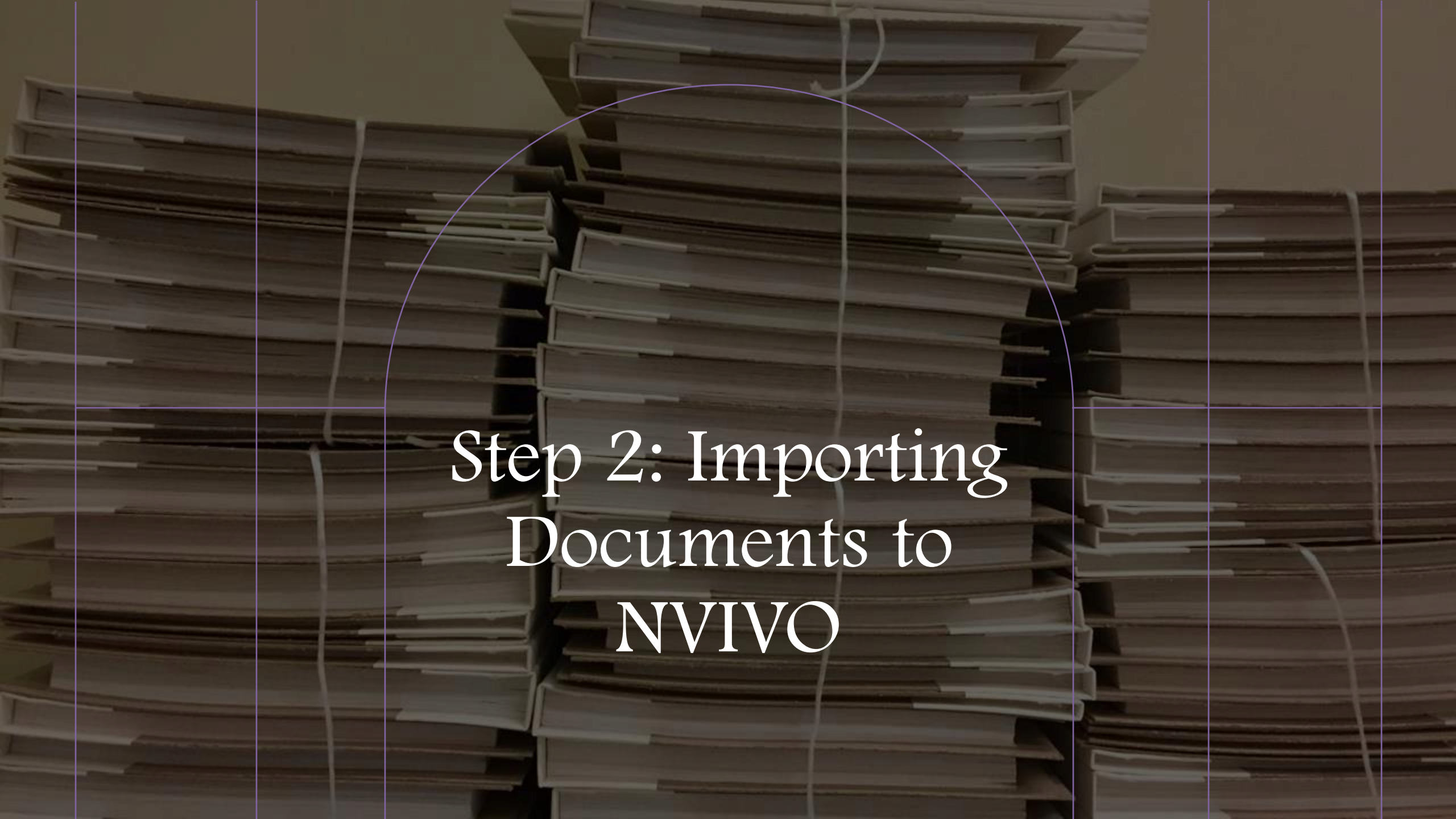
4. BACKUP

A close-up photograph of several people's hands clasped together in a circle, symbolizing teamwork and collaboration. The hands are of various skin tones and are positioned in a way that suggests a group huddle or a shared activity. The background is dark and out of focus, emphasizing the hands. A thin purple line forms a circle around the hands, and a thin purple crosshair is overlaid on the image.

OK LET'S BEGIN THE  
HANDS~ON ACTIVITIES!



# Step 1: Create New Project in NVIVO



# Step 2: Importing Documents to NVIVO

# Step 3: Exploring your data

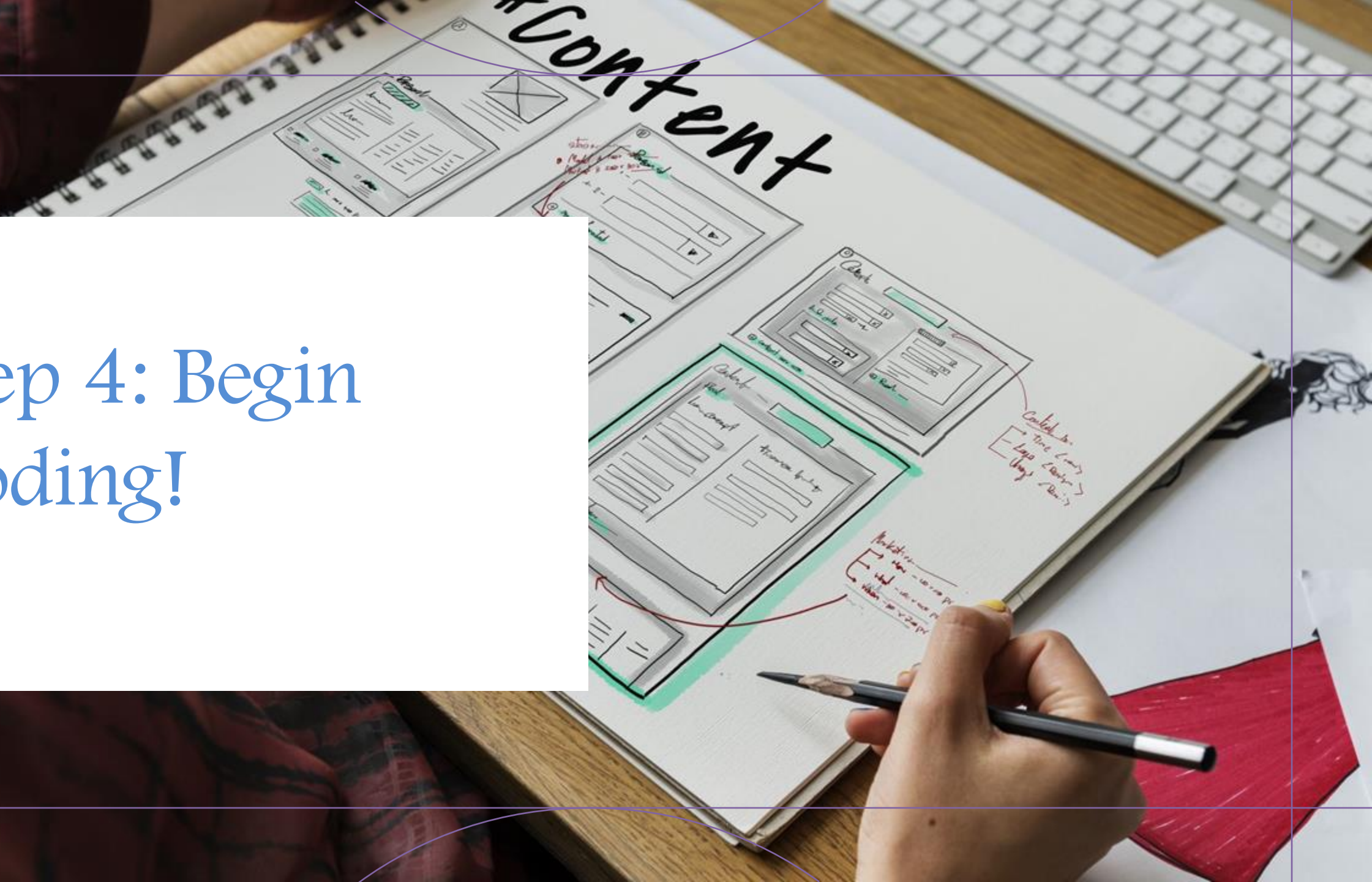


WORD CLOUD/ WORD  
LIST



TO GET THE GENERAL  
IDEA ABOUT THE DATA  
BEFORE BEGIN CODING

# Step 4: Begin Coding!



# Step 5: Create Output/Report



NETWORK  
(VISUAL)



REPORT  
(TEXTUAL)


# Demonstrate the credibility of your findings in the following ways:

- If you used NVivo for your literature review, run a [query](#) or create a [chart](#) to demonstrate how your findings compare with the views of other authors.
- Was an issue or theme reported by more than one participant? Run a [Matrix Coding query](#) to see how many participants talked about a theme.
- Were multiple methods used to collect the data (interviews, observations, surveys)—and are the findings supported across these data files? Run a Matrix Coding query to see how often a theme is reported across all your files.



|                     | A : Interview ▾ | B : Survey ▾ | C : Journal Art... ▾ |
|---------------------|-----------------|--------------|----------------------|
| 1 : Habitat ▾       | 17              | 7            | 2                    |
| 2 : Water quality ▾ | 32              | 0            | 9                    |

Concern about water quality is prevalent in a number of interviews but is not mentioned in survey results. Why?



Step 6: Backup!



# Additional Notes: Validity and Reliability in Qualitative Research

## *Reliability*

- Extend to which evidence is independent of the person using it (quantitative)
- In qualitative-reliability depends on whether the researcher has adopted appropriate and reliable research methods and procedures
- Called Procedural Reliability=audit trail

## *Validity*

- External validity=extend to which findings can be generalized into other settings (quantitative).
- In case study research=theoretical generalization
- Internal validity/contextual validity-indicates the credibility of the evidence and the conclusion drawn therefrom.
- So, each piece of evidence should be compared to other evidence=Triangulation (data source, researcher, theory, and method)

(Source: Ryan, Scapens, Theobald (2002))

# Thank you!

**Dr. Saidatul Nurul Hidayah Jannatun Naim Nor Ahmad**

**Tunku Puteri Intan Safinaz School of Accountancy**

**College of Business**

**Universiti Utara Malaysia**

**[saidatul@uum.edu.my](mailto:saidatul@uum.edu.my)**

**018-9524228/04-9287289**