Further Design Thinking

ICT Problems

Paper Prototyping

**How to Collect Data**

Wrap Up

# Qualitative & Quantitative Data

| | Qualitative | Quantitative |
|---|---|---|
| Conceptual | Concerned with understanding human behaviour from the informant's perspective | Concerned with discovering facts about social phenomena |
| | Assumes a dynamic and negotiated reality | Assumes a fixed and measurable reality |
| Methodological | Data are collected through participant observation and interviews | Data are collected through measuring things |
| | Data are analysed by themes from descriptions by informants | Data are analysed through numerical comparisons and statistical inferences |
| | Data are reported in the language of the informant | Data are reported through statistical analyses |

*Source:* Adapted from Minchiello *et al.* (1990, p. 5)

# Methods

- **Observation**
  - Direct, and participatory
- **Interviews**
  - Open and exploratory, scripted and focused
- **Focus groups**
  - Short and long

**Purpose**

1. To test understand of the problem
2. To assess user engagement and experience

# Questions…

Closed - yes, no, maybe

Leading – infers a default position

Open – exploratory and without judgement

Also… unstructured, semi-structured, structured

# **Exploratory** semi-structured interview phases

- **This is not a Usability test or a detailed guided interview, the purpose is different.**
- A great deal of the information you get or fail to realize from your interview relies upon the interview situation and how it turns out (Flick, 2009).

- Phase 1: Start by setting the scene and letting participants know what your aim is. Prompt the participant to ask any questions they might have.
- Phase 2: Open with a broad question – this allows the participant to explore the problem space and offer a broad array of answers.
- Phase 3: Follow up with a question that explores specific aspects you're interested in further. Prepare several sub-questions that relate and allow you to dig deeper based upon predicted participant responses.
- Phase 4: Either explore the space further based upon input from participants – generating questions on the fly.
- Phase 5: Close off interview and thank participant.
- Phase 6: Take copious post-interview notes.

# Key points for **Evaluating Questions** in Interviews

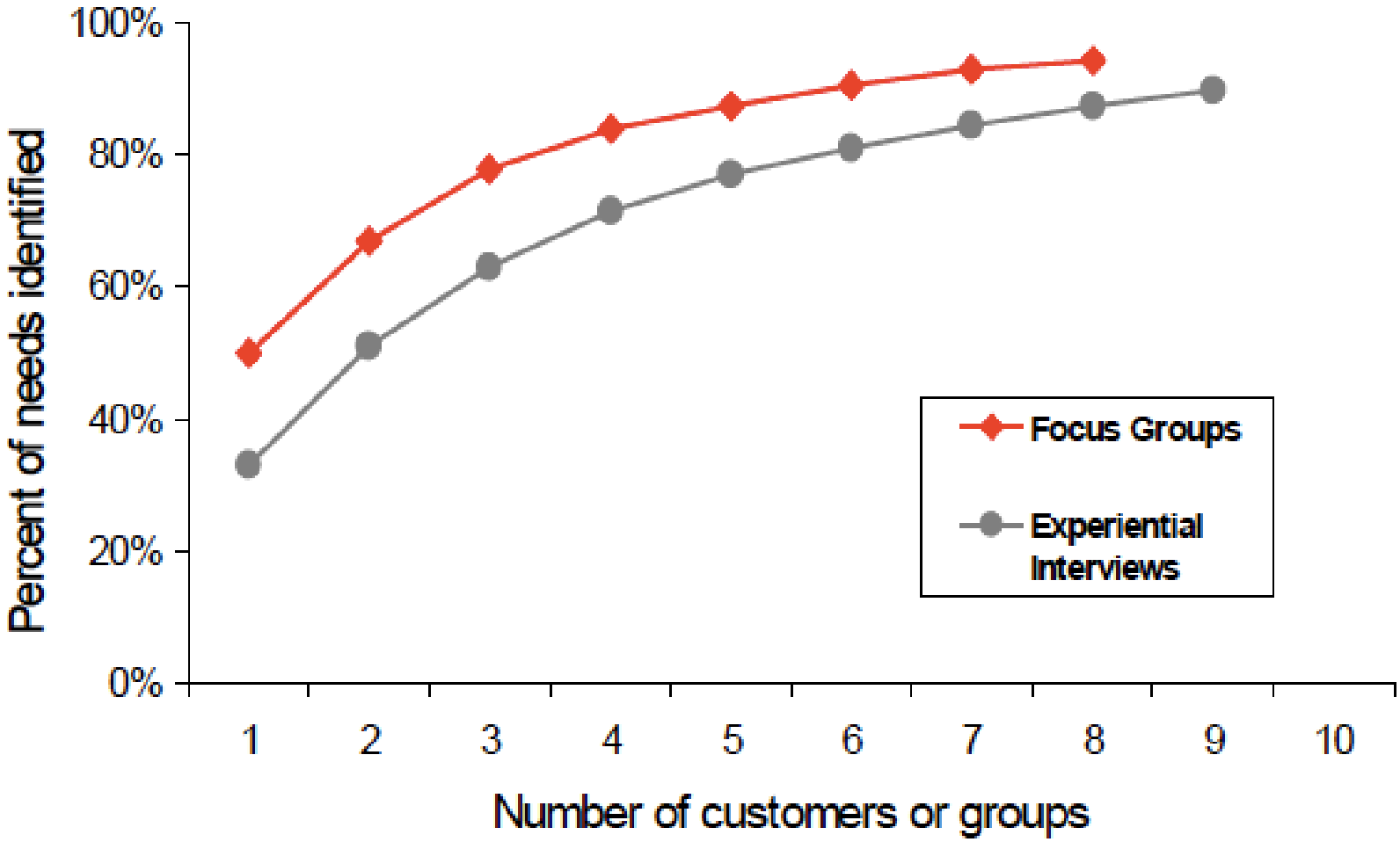
1. Why do you ask this specific question?
   - What is its theoretical relevance?
   - What is the link to the research question?

2. For what reason do you ask this question?
   - What is the substantial dimension of this question?

3. Why did you formulate the question in this way (and not differently)?
   - Is the question easy to understand?
   - Is the question unambiguous?
   - Is the question productive?

4. Why did you position this question (or block of questions) at this specific place in the interview guide?
   - How does it fit into the rough and detailed structure of the interview guide?
   - How is the distribution of types of question spread across the interview guide?
   - What is the relation between single questions?

# Data saturation/depth



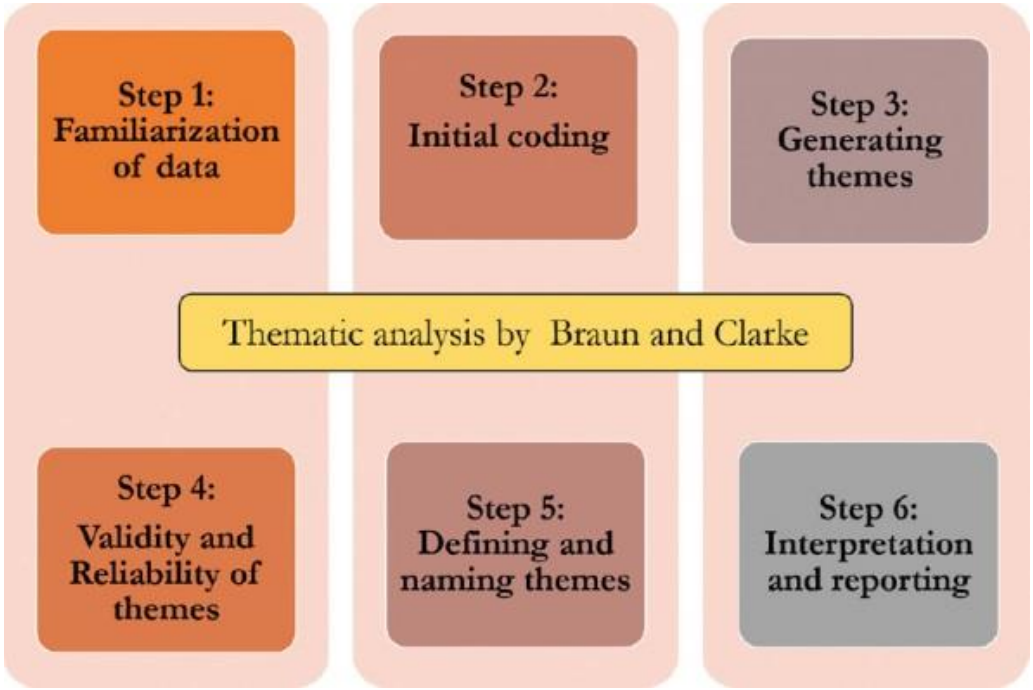
# Thematic Data Analysis

"Thematic analysis is a method for identifying, analysing and reporting patterns (themes) within data. It minimally organizes and describes your data set in (rich) detail. However, frequently it goes further than this, and interprets various aspects of the research topic"(Braun.V, Clarke.V, 2006)

TDA can be very complex and time consuming and as a result, we are only interested in a few aspects of how it works for IFB103. We wish to use it as a basis for creating themes and trends in our data.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, *3*(2), 77-101.

# Organizing your data




Braun, V., & Clarke, V. (2013).
*Successful qualitative research: A practical guide for beginners*. sage.

You can dissect the data gathered from your participants using these steps.

Your data will likely look like notes, recordings or a collection of conversations with users.

# Visualising your data

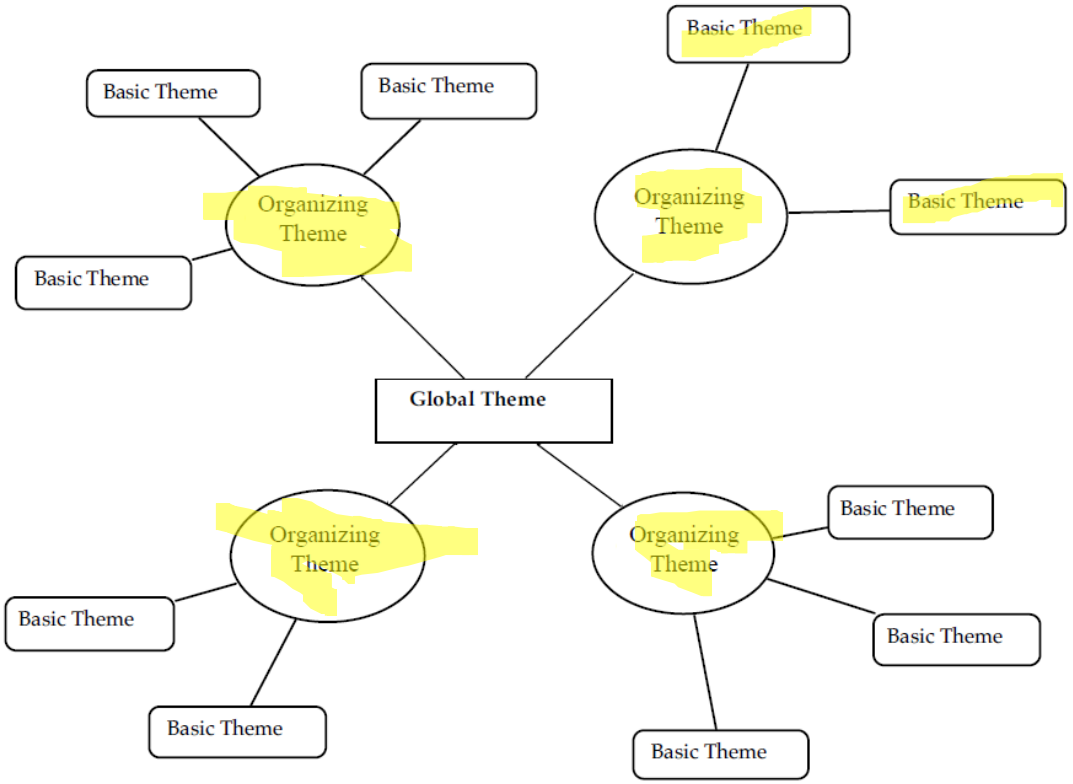



FIGURE 1. *Structure of a thematic network.*

Attride-Stirling, J. (2001). Thematic networks: an analytic tool for qualitative research. *Qualitative research*, *1*(3), 385-405.

# Thematic Data Analysis

Please use TDA when analysing your data. This will provide a richness of feedback that has been carefully grouped and interpreted.

The more data you have, the richer your results will be. This feedback/data will aid in creating a stronger iteration of your next idea or prototype.

Questions

Curiosities

Concerns

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**Wrap Up**

# Drawing it **all** together

**Design Thinking** is a powerful approach to solve issues in ICT. Example problem spaces in ICT exemplify this.

There are qualitative and quantitative ways of gathering data. Displaying your data in a communicable way is of paramount importance.