

## Operationalizing Theoretical Sampling within a Grounded Theory Research

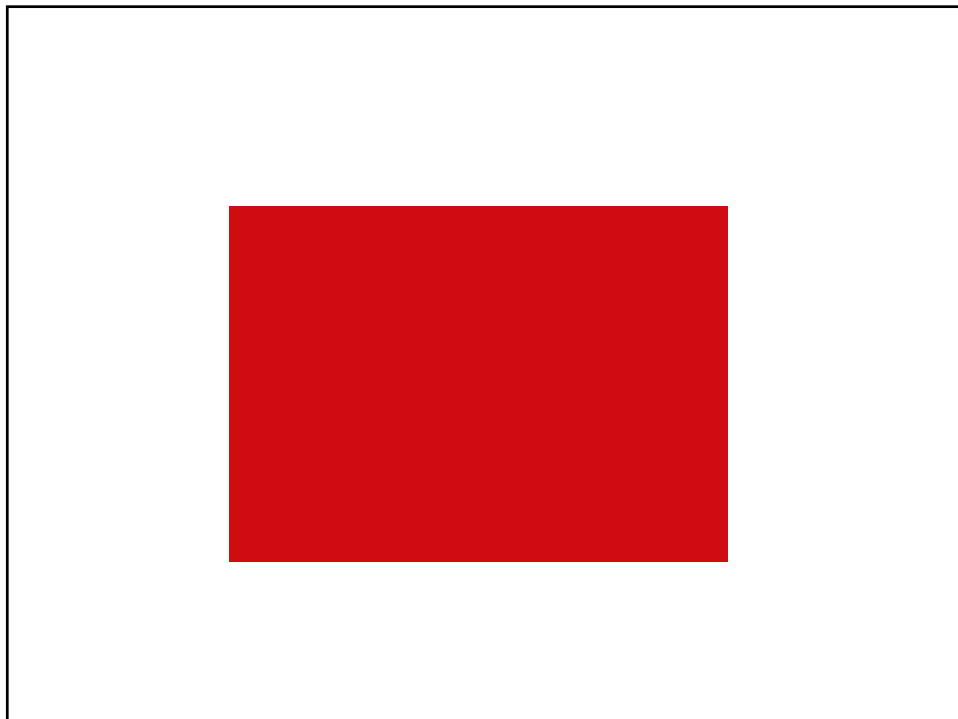
Jimmy Huang  
Reader in Information Systems  
Warwick Business School  
The University of Warwick



## Importance of Research Methods and Methodology

“Just as painters need both techniques and vision to bring their novel images to life on canvas, analysts need techniques to help them see beyond the ordinary and to arrive at new understanding of social life.”

Source: Strauss & Corbin (1998, p. 8)



## Case Study Research Design- An Overview

- ▣▣▣ Purposes fulfilled by qualitative case study
- ▣▣▣ Research strategy and design
- ▣▣▣ Procedures before, during and after data collection
- ▣▣▣ Data analysis- the grounded theory approach
- ▣▣▣ Writing up your case and findings

## Purposes of Conducting a Qualitative Case Study

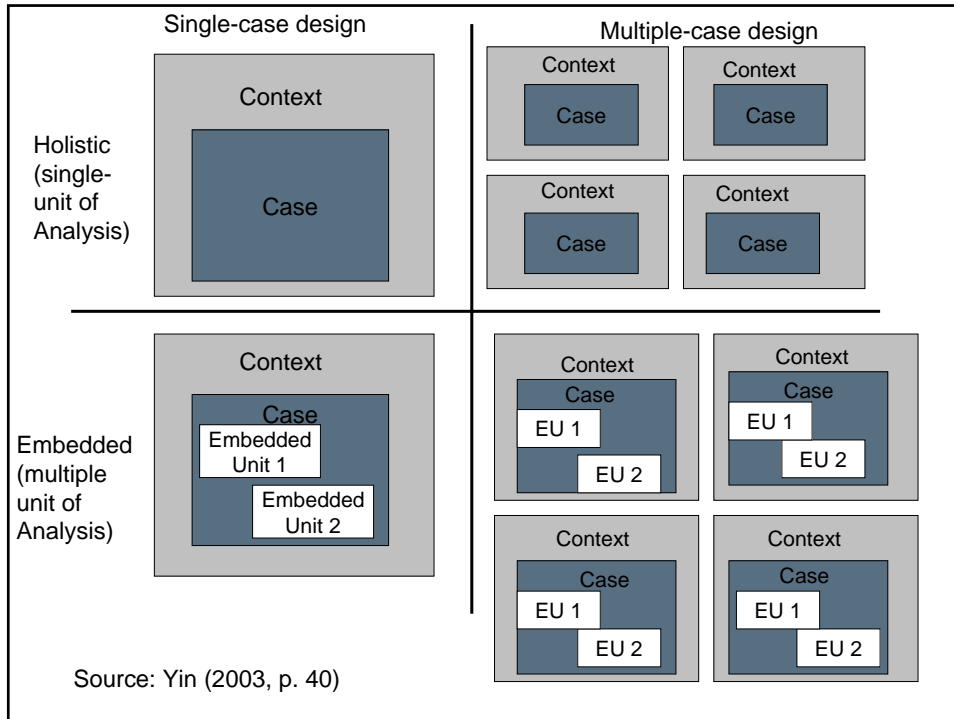
- ▣▣▣ The nature of enquiry: exploratory, generative and insightful
- ▣▣▣ It is not aiming for generalizable results
- ▣▣▣ For theoretical development which can be empirically tested at later stage
- ▣▣▣ Thinking about your research questions

## Research Strategy and Design

- ■ ■ Your plan for guiding research actions and communicating with other (academic) audiences
- ■ ■ Components of research design
  - ■ ■ Role of theory/theories
  - ■ ■ Unit of analysis
  - ■ ■ Data collection methods
  - ■ ■ Data analysis methods
  - ■ ■ Validity and reliability
- ■ ■ The need to devise a case study protocol

## Before Data Collection

- ■ ■ How many cases would you need?
- ■ ■ What role does the theory play?
- ■ ■ Identifying and framing your research phenomenon
- ■ ■ Considering your unit of analysis
- ■ ■ Devising a case study protocol
- ■ ■ Understanding criteria to judge your research design



## Case Study Protocol

- I. Introduction to the case study and purpose of protocol
- II. Data collection procedures
  - I. Names of sites
  - II. Data collection plan
  - III. Expected preparation prior to site visits
- III. Outline of case study report
- IV. Case study questions
- V. Evaluation

Adapted from: Yin (2003, p. 68)

## Evaluating Your Research Design (I)

Tests	Case Study Tactic	Phases of research in which tactic occurs
Construct validity	<ul style="list-style-type: none"> <li>▣ Use multiple source of evidence</li> <li>▣ Establish chain of evidence</li> <li>▣ Have key informants review draft case study report</li> </ul>	<ul style="list-style-type: none"> <li>▣ Data collection</li> <li>▣ Data collection</li> <li>▣ Composition</li> </ul>
Internal validity	<ul style="list-style-type: none"> <li>▣ Do pattern-matching</li> <li>▣ Do explanation-building</li> <li>▣ Address rival explanations</li> <li>▣ Use logic models</li> </ul>	<ul style="list-style-type: none"> <li>▣ Data analysis</li> <li>▣ Data analysis</li> <li>▣ Data analysis</li> <li>▣ Data analysis</li> </ul>

Source: Yin (2003, p. 34)

## Evaluating Your Research Design (II)

Tests	Case Study Tactic	Phases of research in which tactic occurs
External validity	<ul style="list-style-type: none"> <li>▣ Use theory in single-case studies</li> <li>▣ Use replication logic in multiple-case studies</li> </ul>	<ul style="list-style-type: none"> <li>▣ Research design</li> <li>▣ Research design</li> </ul>
Reliability	<ul style="list-style-type: none"> <li>▣ Use case study protocol</li> <li>▣ Develop case study database</li> </ul>	<ul style="list-style-type: none"> <li>▣ Data collection</li> <li>▣ Data collection</li> </ul>

Source: Yin (2003, p. 34)

## During Data Collection

- ■ ■ Useful and appropriate data collection method(s)
- ■ ■ Obtaining and managing your data
- ■ ■ The need for multiple sources of evidence
- ■ ■ Seeking insights, stories and examples
- ■ ■ Continuously refining your focus

## After Data Collection

- ■ ■ Preparation prior to data analysis
- ■ ■ Data analysis methods- their selection and usage
- ■ ■ Iteration between data, literature and your findings
- ■ ■ Writing up your case study

What are the key characteristics of grounded theory?

- ■ ■ As a philosophical underpin
- ■ ■ As a combination of inductive and deductive reasoning
- ■ ■ As a strategy for research design
- ■ ■ As a systematic procedure for data analysis and theorising

	<b>Front-end application</b>	<b>Back-end application</b>	<b>Integrative application</b>
<b>Nature of the Research</b>	Qualitative	Quantitative	Pluralism
<b>Orientation towards theory</b>	Theory generation	Theory testing	Combination of both
<b>Mode of reasoning</b>	Inductive	Deductive	Inductive first & deductive after

When do you need to use the grounded theory?

- ■ ■ ■ When your research area is theoretically underdeveloped
- ■ ■ ■ When your philosophical stance (e.g. symbolic interactionism) demands it
- ■ ■ ■ When you are overwhelmed by the sheer amount of data you collected
- ■ ■ ■ When you need an analytical approach to strengthen your findings

Issues to take into account (I)

- ■ ■ ■ To clarify your philosophical underpin to ensure that your ontological and epistemological assumptions fit into the logic of grounded theory
- ■ ■ ■ To evaluate the strengths, weaknesses and adequacy of using grounded theory as part of your research strategy
- ■ ■ ■ To ensure that the methods you use to collect data suit the grounded theory orientated data analysis

## Issues to take into account (II)

- ■ ■ ■ To ensure the logical coherence and correctness between your philosophical stance, research design, data collection methods and data analysis
- ■ ■ ■ To ensure the continuous iteration between your data, findings and analysis techniques

## Definition of “Description”

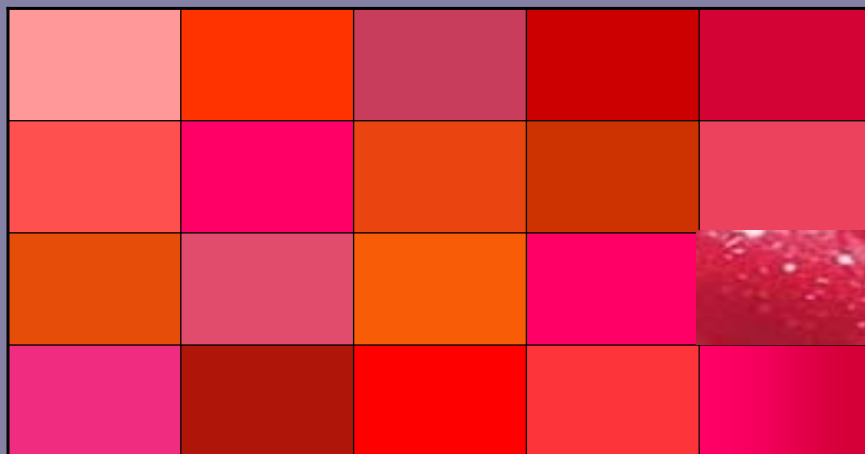
The use of words to convey a mental image of an event, a piece of scenery, a scene, an experience, an emotion, or a sensation; the account related from the perspective of the person doing the depicting

Source: Strauss & Corbin (1998, p. 15)

## Definition of “Conceptual Ordering”

Conceptual ordering: Organising and sometimes rating of data according to a selective and specified set of properties and their dimensions

Source: Strauss & Corbin (1998, p. 15)





## Types of Conceptual Ordering

- ■ ■ ■ An ethnographic account that reflects the actor's perspectives and actions and is presented and organised around organised themes
- ■ ■ ■ To order data according to steps and stages
- ■ ■ ■ To order data according to different types of actors or actions

## Definition of "Theory"

Theory: A set of well-developed concepts related through statements of relationships, which together constitute an integrated framework that can be used to explain and predict phenomena

Source: Strauss & Corbin (1998, p. 15)

S  
o

## Framing Research Question(s)

- ■ ■ A research question is a statement which identifies and portrays the research phenomena you are studying
- ■ ■ Starting with something broad and narrowing it down during the research processes, when concepts and their relationships are discovered

## Maintaining an Objective Stance

- ■ ■ Subjectivity cannot be completely avoided, but should be carefully managed
- ■ ■ Techniques to maintain objective
  - ■ ■ Think comparatively
  - ■ ■ Obtain multiple viewpoints
  - ■ ■ Check out underlying assumptions
  - ■ ■ Periodically step back and ask “what is going on here?”
  - ■ ■ Maintaining an attitude of skepticism and regarding analysis as provisional
  - ■ ■ Follow the research procedure

## Definition of “Microanalysis”

The detailed line-by-line analysis necessary at the beginning of a study to generate initial categories with their properties and dimensions and to suggest relationships among categories

Source: Strauss & Corbin (1998, p. 57)

## Being a Creative Thinker

- ■ ■ Being open to multiple possibilities
- ■ ■ Generating a list of options
- ■ ■ Exploring various possibilities before choosing any one
- ■ ■ Making use of multiple avenues of expression, such as art, and metaphors to stimulate thinking
- ■ ■ Using nonlinear forms of thinking such as going back and forth and circumventing around a subject to get a fresh perspective

## Analytical Tools (I)

- ■ ■ Definition: Devices and techniques used by analysts to facilitate the coding process
- ■ ■ Analysis of a word, phrase or sentence
- ■ ■ The use of questioning, in particular using a broad range of “who” “when” “why” “how” and “where” types of questions

## Analytical Tools (II)

- ■ ■ The flip-flop technique: Comparing extremes or opposites to bring out significant properties
- ■ ■ Systematic comparison of two or more phenomena: Comparing an incident in the data to those from experience or existing literature
- ■ ■ Waving the red flag: Recognising the analyst’s bias and assumption that can potentially affect the analysis

## Open Coding (I)

- ■ ■ ■ Breaking down and examining discrete parts through microanalysis
- ■ ■ ■ Identifying and comparing data for similarities and differences
- ■ ■ ■ From the similarities and differences to discover concepts
- ■ ■ ■ Name the concepts (labeling vs in viva code)
- ■ ■ ■ Identifying a concept's properties and dimensions through questioning

## Open Coding (II)

- ■ ■ ■ To classify objects and events that share one or more recognizable properties (characteristics) and take the same actions regardless the object's shape, size and so on
- ■ ■ ■ Name the categories
- ■ ■ ■ Name the subcategories based on the aspects of why, when, how and where a phenomenon is likely to occur

## Axial Coding (I)

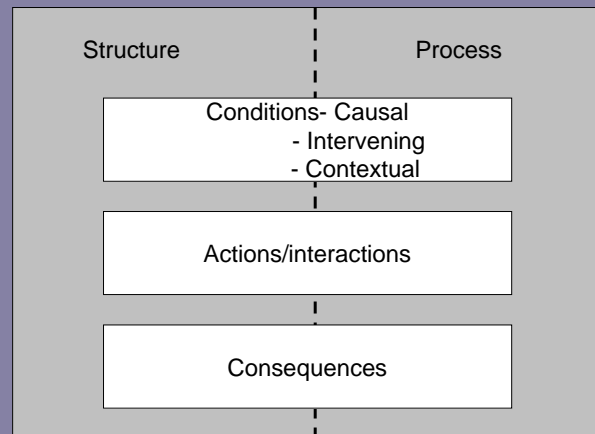
- ■ ■ Axial coding is the process of relating categories to their subcategories
- ■ ■ It is axial because coding occurs around the axis of a category, linking categories at the level of properties and dimensions
- ■ ■ Even though the data provide various clues, it is the analyst who provides the conceptual linking and its explanations

## Axial Coding (II)

- ■ ■ The paradigm is to create an analytic tool to integrate structure with process
- ■ ■ The paradigm is a perspective (analytical stance) taken to make sense of the data
- ■ ■ Key components of the paradigm
  - ■ ■ Conditions
    - ■ ■ Causal
    - ■ ■ Intervening
    - ■ ■ Contextual
  - ■ ■ Actions/interactions
  - ■ ■ Consequences

## Axial Coding (II): The Paradigm

### Phenomena



## Axial Coding (III)

- ■ ■ Writing relational statements to outline how each category interrelates with its subcategories
- ■ ■ Further development of categories and subcategories till saturation
- ■ ■ Moving between induction and deduction

## Selective Coding

- ■ ■ ■ Selective coding refers to the process of integrating and refining categories from the analysed data to derive the theory
- ■ ■ ■ Integration means reducing raw data into different concepts and then linking different concepts through relational statements that can be used to explain what is going on

## Steps for Selective Coding (I)

- ■ ■ ■ Discovering the central category which represents “what the research is all about”
- ■ ■ ■ Writing the storyline
  - ■ ■ ■ Identify the story through memos
  - ■ ■ ■ Descriptive story
- ■ ■ ■ Moving from description to conceptualisation
- ■ ■ ■ Reviewing and sorting through memos

## Steps for Selective Coding (II)

### ■ Refining the theory

- Reviewing the scheme for internal consistency
- Filling in poorly developed categories
- Validating the theoretical scheme
- What if a case does not fit?
- Building in variation

## Theoretical Sampling- Definition

“Data gathering driven by concepts derived from the evolving theory and based on concept of ‘making comparisons’, whose purpose is to go to places, people, or events that will maximize opportunities to discover variations among concepts and to densify categories in terms of their properties and dimensions”

Source: Strauss & Corbin (1998, p. 201)

## Characteristics of Theoretical Sampling

- ■ ■ Theoretical sampling evolves during the process of a research, rather than being predetermined at the beginning of a research
- ■ ■ It is suitable for exploring new or uncharted areas
- ■ ■ Theoretical sampling is linked to the development and refinement of the major category
- ■ ■ Theoretical sampling help to maximise the variation of the major category
- ■ ■ Theoretical sampling is driven by the emergence of the new theory

## Key Considerations of Theoretical Sampling

- ■ ■ Where to select the site or group to study
- ■ ■ What type of data to collect and use
- ■ ■ How long an area should be studied
- ■ ■ How initial decisions about the research goals, procedures and schedules should be modified

## Sampling Procedures

- ■ ■ Sampling in open coding
- ■ ■ Variations in open sampling techniques
- ■ ■ Relational and variational sampling for axial coding
- ■ ■ Discriminate sampling for selective coding
- ■ ■ Validation
- ■ ■ Theoretical saturation

## Writing Up Your Case and Findings

- ■ ■ How would you structure your storyline?
- ■ ■ How do you define your scope?
- ■ ■ How do you present your findings?
- ■ ■ When and how do you compare your findings with prior studies?

## When do problems occur?

- Insufficient understanding of the current literature
- Inadequacy in identifying research gap(s)
- Poor understanding of other data analysis methods
- The lack of clarity in terms of how the data are processed and transformed
- Inappropriate presentation of the findings

## Have you made enough methodological contribution?

- Researchers might not have spent enough time to understand methodology
- The importance of methodological contribution is often under-estimated
- Methodological contribution made by a thesis is often under-articulated, in particular to illustrate the unique relationship between the chosen research context and the methodology

Writing a journal submission based on the grounded theory approach

- ■ ■ The diverse attitudes towards and understanding of grounded theory
- ■ ■ The difficulty of justifying that “there is no adequate theory to build on”.
- ■ ■ There is not enough space to explain your analysis in detail.