

# In search of Common Grounds: Introducing Grounded Theory to IA

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## Setting the expectations

### Objectives

- Introduce Grounded Theory (GT) as a method of qualitative data analysis and interpretation used in social research
- Discuss fitness of the method to IA research and practice

### What the session will cover

- A overview of Grounded Theory, including its core principles, research practices, benefits and limitations
- Rationale for discussing the method in the IA context

### What the session will *not* cover

- Specific examples of using Grounded theory in IA work

## Session tags

[Research]

[Qualitative data]

[Practice]

[Maybe?]

[Applied science]

[Pattern finding]

[Social science]

[Building models]

## Explaining the name

Grounded

Theory

Rooted in behaviour, words and actions of those under study

A relationships model that usefully and pragmatically links diverse facts. The connection must represent the 'best fit' with the data: coherent, comprehensive and simplest.

## Grounded Theory and qualitative research

- GT is one of the most widely used qualitative analysis framework in today's social sciences
- GT overlaps with other qualitative research approaches, particularly, with ethnography and case studies
  - Less culturally-oriented than ethnography
  - Broader than focused case studies
- GT techniques of handling and interpreting data can be incorporated into other research methods

## Key concepts of Grounded Theory

- An approach to describe relationships where little is known or to provide a fresh take on existing knowledge
- A method to systematically build integrated sets of concepts from systematically obtained empirical data
- A process of composing knowledge through intimate contact with subjects and events under study
- A theory that is shaped by data as well as by the researcher



Key concepts:  
knowledge discovery, knowledge evolution, emergent relationships

## The specific nature of Grounded Theory

### A theory must fit, be relevant and adaptable

- Fitness**
  - The categories (elements) of the theory must fit the data
  - Data should not be forced to fit pre-existing categories
  - Categories emerge from data and are modified by data
- Relevance**
  - A theory should be able to explain what *happened*, predict what *will happen* and interpret what *is happening*
- Adaptability**
  - A theory must be modifiable, based on new data

## Why discuss Grounded Theory in the IA context

- Pattern discovery**
  - GT is a method of finding relationships and distilling patterns from loosely connected data
  - empirical observation → definition of concepts → building relationships between concepts → discovery of patterns
- Flexibility**
  - GT is equally suited for describing processes as well as static models, e.g., typologies
- Data universality**
  - GT works with qualitative data and can handle multiple data sources and formats simultaneously
  - The method prescribes no specific data collection operations

## Key terminology

- Concepts (categories)
  - Core stand-alone elements of the model, its 'building blocks'
- Memos
  - Notes written immediately after data collection, to document researcher's impressions and describe the situation
- Theoretical sampling
  - The process of data collection that is 'controlled' by the emerging theory (model)
- Saturation
  - Staying in the field until no new evidence emerges from subsequent data

## The GT process: Principles of data collection

- The researcher is clear about the purposes of the study, the issues she wants to illuminate and the practices the study might influence
- The researcher is competent in information or data gathering techniques and composing data documents
- The data are 'triangulated', e.g., collected from multiple relevant sources to provide different vantage points
- Whenever possible, the researcher avoids being too structured in her methods of collecting information
- Data collection follows theoretical sampling, whereby consequent data sources are guided by the existing data and emerging theory

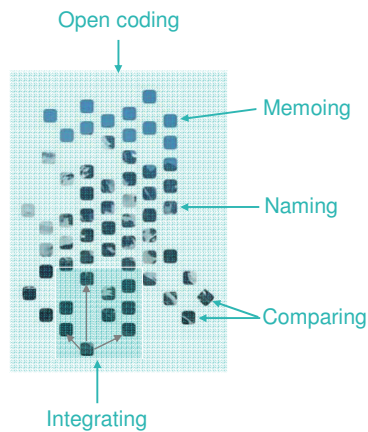
## Zooming in: Theoretical sampling

- The practice of actively searching and 'sampling' data
- Theoretical sampling directs data gathering efforts towards finding information that best supports development of the emerging model
- GT assumes that the researcher cannot identify in advance what categories will emerge; thus, cannot direct all data gathering efforts
- Whatever the unit of analysis is, a GT researcher always selects it according to the relevance of the developing model

## The GT process: Principles of data interpretation

- Collected data are analysed simultaneously, by looking for all possible interpretations
- The researcher develops concepts to account for perceived patterns in sets of data observations
- The researcher uses *memoing* as a reflexive practice that helps capturing and articulating ideas about the data
- The researcher holds back existing ways of thinking about the subject, to prevent from prematurely giving form to the data
- Iteration (constant comparison) is a distinctive and critical feature of the method at all stages throughout the analysis

## The GT process: Data coding



- **Open coding:** breaking down the data into distinct units of meaning
- **Memoing:** capturing an idea that has been sparked by an incident in the field
- **Naming:** conceptualising and interpreting what is happening in a given data incident; 1<sup>st</sup> step in creating conceptual categories
- **Comparing:** looking at what is similar and different across data incidents; 2<sup>nd</sup> step in creating conceptual categories
- **Integrating:** organising the emerging conceptual categories

## Zooming in: Concept and category development (1 of 2)

- At the beginning, the researcher may identify hundreds of codes that could have potential meaning and relevance
- Coding in every possible way allows for proliferation of directions before becoming more selective
- As a result of constant comparison of subsequent data, codes are reduced and grouped into meaningful categories
- Abstract concepts include a number of more concrete instances and meanings found in data

## Zooming in: Concept and category development (2 of 2)

- The significance of a concept is determined by its relationship to other concepts or by its connection to a broader subject
- Focus of a concept should be on its meaning, not on number of data instances related to it
- Once a concept has been identified, its attributes may be explored in greater depth
- Concepts are subsumed into a core category which forms the basis for the emergent model
- Development of the core category can be traced back through data

## Zooming in: Five criteria of a core category

- Must be central and account for a large proportion of the context
- Must be based on recurring themes drawn from the data
- Must relate meaningfully to other categories
- Should form the basis for the analysis of the whole dataset
- Should be modifiable

## The GT process: validation of the model

- A model is usually considered valid only if the researcher has reached the point of saturation
- A valid model is *pragmatically useful*, e.g. understandable to those who operate in the kinds of environment studied
- A valid model is credible, e.g., can demonstrate how, why and from where early concepts and categories derived

## Common pitfalls when using Grounded Theory

- Too much emphasis on identifying codes and categories without explaining how they relate to each other
- Constant comparison is not maintained throughout the analysis
- The researcher analyses data with preconceived framework

## Manual vs. computerised data processing

"Users should be aware that many computer techniques are only marginal to the task of grounded theory. The process of theory emergence requires a different ability: to see the data as a whole, then to leave data behind, exploring the lines of this segment of that text. To code and retrieve text is to cut it up. The 'grounded theory' method leaves text almost untouched. The researcher's contact with data is light, hovering above the text and rethinking its meanings, then rising from it to comparative, imaginative reflections. It is the difference between the touch of scissors and that of a butterfly."

*Richards & Richards*

(Pathetic pragmatists and busy practitioners may want to try NUD.IST, NVivo or ATLAS.ti software packages)

## A brief summary of the process

- Grounded Theory searches for meaning and understanding, to build an innovative model and not universal laws
- Data collection and sources are directed by the findings of the analysed data, rather than by specification prior to collecting data
- The process involves coding strategies; the data are initially broken and then clustered into descriptive categories
- Categories are re-evaluated for their relationships and gradually submitted into higher order categories that describe the model

## Getting real

- Grounded Theory takes time – and a lot of it
- Doing GT research is a lifestyle – and often a frustrating one
- Get inspired and try using GT techniques in practice
- Don't use the buzzword, if you don't do full-scale GT
- Do GT, if you are patient, flexible, eclectic and open-minded
- Don't do GT, if you are after neatness, certainty and objectivity

## Audience barometer

Gee, it's all  
Greek to me!

I've been doing this  
without calling it GT

No, thank you, not  
my cup of tea

Maybe... dunno

Oh, yes!!! Starting  
tomorrow!

## References

- A good annotated list of GT references can be found at <http://www.qual.auckland.ac.nz/grndrefs.htm> (last checked 28/03/06)
- The list suggests essential reading for newcomers to the field, as well as citations related to using the method in Information Systems

For questions, feedback and to suggest illustrations of using Grounded Theory in IA/UX, please contact

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