From Grounded Theory to Design Practice

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Grounded Theory methodology was not developed with the aim of informing design, but we have found it useful for doing so. Using Grounded Theory to inform design does, however, raise a number of issues (such as whether to 'stop short' of generating a theory, how to analyse data at a suitable level of abstraction and how to support revolutionary as well as evolutionary design). We discuss these issues, and potential solutions.

Grounded Theory, Grounded Analysis, Qualitative Research, Qualitative Methods, Qualitative Analysis

1. INTRODUCTION

Many existing qualitative methods and methodologies, including Glaser and Strauss's (1967) Grounded Theory have been used to gain a rich understanding of users' technology needs and interactions with technology. Some of these methods, such as Contextual Inquiry, are aimed specifically at informing design (see Beyer & Holtzblatt, 1998). Others, such as Grounded Theory are not (but are still useful for this purpose). We discuss how we have used Grounded Theory to inform design and highlight issues and potential solutions in moving from data to design.

2. GROUNDED THEORY INFORMING DESIGN

In our research, we have used Grounded Theory methodology (Corbin & Strauss, 2008) to provide a detailed understanding of users' interactions with technology in the context of their work. In particular, we have used the method to conduct interviews and naturalistic think-aloud observations of information acquisition and use in various domains, including librarianship (Makri et al., 2007), law (Makri et al. 2008) and architecture (Makri & Warwick, 2010). In each of these studies, we have used the understanding of information behaviour gained to make suggestions for the design and improvement of digital information environments.

3. ISSUES MOVING FROM DATA TO DESIGN

In Grounded Theory methodology, codes are assigned to similar phenomena and then related to each other (usually referred to as 'open' and 'axial coding, or sometimes just as 'coding'). Often a 'core code' category emerges from the data and this code becomes central to describing the data. All other codes are then discussed in terms of the 'core' code. The core code becomes the centrepiece of the grounded 'theory' that is created. When conducting Grounded Theory to inform design, it is often necessary to 'stop short' of generating a theory. This is because the purpose of a design-focused study is not to generate a theory of users' technology-related needs or behaviour per se, but to find out enough about user needs and behaviour to usefully inform design.

Other issues we have encountered when moving from Grounded Theory to design (and potential solutions) include:

- **Analysing data at a suitable level of abstraction for informing design**; supporting a broad interactive information behaviour such as 'searching' is arguably more difficult than supporting a narrower behaviour such as 'search reformulating' as it requires making a bigger 'creative leap' between the behaviour observed and a design solution. We have found that it is most useful to present our findings at a level which is not so broad as to require a big creative leap from data to design, nor so narrow as to overly prescribe potential design solutions.
- **Supporting revolutionary as well as evolutionary design;** we found basing design suggestions on observations of existing user needs and behaviour was useful for spurring incremental design improvements, but it was also necessary to 'step back' from the data and think of how to support existing needs and behaviour in new ways and to consider whether novel functionality might also be implemented that might change future behaviour and highlight new needs to be addressed with technology.

4. REFERENCES

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