Grounded Theory

1. Background

Unlike in case of other methods, in the grounded theory method, there is no initial theory that the researches try to prove by studying specific individuals. Instead they try to interact with the individuals to build the theory. The nature of the method is therefore inductive. It can easily be used to deduct how users of specific technology or application interact with it, in order to improve it later. It can also be used to build theories about individuals working in different IT environments.

Grounded theory combines diverse traditions in sociology, positivism and symbolic interactionism as it is considered “methodologically dynamic”. According to Glaser the strategy of Grounded Theory is to take the interpretation of meaning in social interaction on board and study "the interrelationship between meaning in the perception of the subjects and their action". Therefore, through the meaning of symbols, human beings interpret their world and the actors who interact with them, while Grounded Theory translates and discovers new understandings of human beings' behaviors that are generated from the meaning of symbols.

I believe that the method matches the “Theory-creating approaches” in “Jarvinen’s Taxonomy or Research Methods”. Just like the taxonomy describes, the in grounded theory approach the researchers don’t make any assumptions before the research, but instead try to create a theory based on the conducted research.

The method was previously used for instance for researching the collaboration methods in virtual teams (teams working on one project, where each member of the team is in a different physical location - http://dl.acm.org/citation.cfm?id=506745&CFID=844529490&CFTOKEN=71559733).

2. Data collection

Data was collected from several sources at different points in time. Two main types of data were collected: the communication transactions among virtual team-members (both public and private); and team-members' reflection of their experience at the end of the project. The table below summarizes the data collection efforts.

Source of data	**Nature of data collected**	**Time/frequency of data collection**
Webboard	All messages and attachments posted	Throughout the life of the project
Electronic mail	- E-mails sent directly to facilitators, PA or PB - E-mails exchanged among team-members	- At different times - Compiled and submitted by each team at the end of the project
Videoconferencing	- Real-time observations by facilitators during the meeting - Videotapes of the meetings	During the three videoconferencing sessions
Participant/direct observation by facilitators	Informal feedback from participants and direct observations	Throughout the life of the project
Final team reports on project	Substantive description of the problem, the design, development and collaboration process	At the end of the project

Reflection documents	Summary of individual experiences in the project, and lessons learned	At the end of the project
Evaluations of other team members	Quantitative and qualitative feedback on team-members' performances through e-mail to the facilitators	At the end of the project
On-line feedback (optional)	Comments on the virtual team project itself	As and when completed by participants

Open coding was done line-by-line, and thereafter, open sampling and open coding was done at the web board message/e-mail message level. Other documents such as reports, reflections, diaries, etc. were sampled and coded at a document level. Also, during the open coding process, as predicted by Strauss and Corbin, a portion of axial coding was done informally (linking sub-categories to categories), as codes were generated and refined.

3. Implementation

The testing sample was formed out of students of 2 different universities: one located in US and the other one from Canada. Additionally the students had to contact the representatives of an IT company to define the system requirements. The students were divided into groups, so that each group consisted out of 4-5 students from each university (8-10 students per group). The projects lasted for about 14 weeks. A total of 12 teams participated in this study.

As a result the researchers collected all the information about the communication between the team members from two different universities.

Turns out that the method was not totally suitable for this specific research as researches faced several problem on the way. The researchers were unsuccessful in developing dimensionalized properties of each category/sub-category, proposed by Strauss and Corbin. The problem during coding was that it was difficult to distinguish between properties and sub-categories in many instances. Furthermore it became clear, given the large number of categories/sub-categories that were emerging, that it would be virtually impossible to hypothesize and deductively validate relationships (among sub-categories and categories during axial coding, and between the core category and other categories during selective coding) based on all combinations of properties. Effectively you could argue about the reliability of the method.

As for the ethical issues, I suppose it is arguable whether accessing the private in-team correspondence is ethical or not. After all, when you send an email to a certain person, only that person is meant to read it. Nevertheless, the team members agreed to this kind of practice, hence I believe the approach is rather ethical.