

The Grounded Theory Review (2005), vol.5, no.1

The Grounded Theory Review: An international journal

Volume 5, Issue no. 1, November 2005

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Achieving Rigour and Relevance in Information Systems Studies: Using grounded theory to investigate organizational change

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Sociology Press

P.O. Box 400
Mill Valley, CA
USA 94942
Tel: 415 388 8431
Fax: 415 381 2254

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Sociology Press
Mill Valley, CA, USA

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The Grounded Theory Review: An international journal

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Contents

Publisher's Note p. iv

Editor's Comments p. iv

Staying Open: the use of theoretical codes in grounded theory

Barney G. Glaser, Ph.D., Hon. Ph.D.

with the assistance of Judith Holton p. 1

Keeping My Ways of Being: Middle-aged women dealing with the passage through menopause

Helene Ekstrom, Ph.D., M.D.; Johanna Esseveld, Ph.D. &

Birgitta Hovelius, Ph.D., M.D. p. 21

Weathering Change: Coping in a context of pervasive organizational change

Michael A. Raffanti, Ed.D., J.D.p. 55

Achieving Rigour and Relevance in Information Systems Studies: Using grounded theory to investigate organizational cases

Walter D. Fernandez, Ph.D. &

Hans Lehmann, Ph.D...... p. 79

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Publisher's Note

Sociology Press is pleased to publish **The Grounded Theory Review**. Our primary goal in publishing this journal is to provide a forum for classic grounded theory scholarship. To this end, we will focus our efforts on:

- publishing good examples of the grounded theories being developed in a wide range of disciplines
- publishing papers on classic grounded theory methodology
- creating a world-wide network of grounded theory researchers and scholars
- providing a forum for sharing perspectives and enabling novice grounded theorists to publish their work
- promoting dialogue between authors and readers of the journal

- Barney G. Glaser, Ph.D., Hon. Ph.D.

Editor's Comments

It's often said that the only thing constant in our world today is change. Change can impact on many dimensions – physiological, psychological, emotional, relational, contextual. As such, our response to change is a subject of endless curiosity and theory generation. This issue of the Review offers three papers on the subject of change, two of which offer substantive theories of change to explain how individuals resolve concerns regarding significant change events within their lives. Ekstrom et al. offer a "hypothesis of a general uncertainty-resolving pattern of behaviour" in how middle-aged women respond to the passage through menopause. Raffanti offers a theory of how educators "continually resolve their main concern of survival in the face of pervasive change" within their organizations. Fernandez and Lehmann's paper offers a methodological perspective on the value of grounded theory for enhancing both rigour and relevance in information systems and organizational change research.

The general implications suggested by Ekstrom et al.'s and Raffanti's theories are interesting to note. Both theories indicate that resolving uncertainty regarding the impending change is the main concern of the individuals involved. Each theory however focuses on a different aspect of resolution. Ekstrom et al. propose a basic social process in which women employ explore and consider personal beliefs and values in preserving and adjusting their sense of self to accommodate the passage through menopause. Raffanti proposes a process by which educators consider the impact of impending change in their organizational environment and offers a typology of response options for surviving the change "consistent with personal and professional needs, goals and values."

What is significantly different between the theories is the degree of inevitability of the impending change and its proximal impact on those concerned. For middle-aged women, menopause is an inevitable change with maximum proximal impact; for educators, the impact of

The Grounded Theory Review (2005), vol.5, no.1

organizational change, while of great concern, is neither necessarily inevitable nor maximally proximal. A comparison of the two theories suggests that the greater the inevitability and proximal impact of the change, the greater the focus on acceptance and integration of the change as opposed to resisting or deflecting. In exploring the general implications of their theory, Ekstrom et al. draw on Glaser and Strauss's (1971) formal theory of status passage; in particular, its properties of inevitability, desirability and centrality.

Even such a cursory comparison of the two substantive theories of theories of change offered in this issue of the Review illustrates how substantive grounded theory (SGT) "may have important general implication and relevance, and become almost automatically a springboard or stepping stone to the development of a grounded formal theory. SGT not only provides a stimulus to a 'good idea' but it also give an initial direction in developing relevant categories and properties and possible modes of integration (theoretical codes)". (Glaser & Strauss, 1967, p. 79) Given a sufficient number of substantive grounded theories of change, one can easily see the potential emergence of a formal grounded theory of change as a welcome addition to a crowded yet frequently conjectured theoretical field.

Rounding out this issue of the Review, we are pleased to offer another chapter from Dr. Glaser's latest book, The Grounded Theory Perspective III: Theoretical Coding. This chapter, "Staying Open: The use of theoretical codes in grounded theory" reminds us that the essential principle of earned relevance in grounded theory is not restricted to conceptual emergence but is equally important in the conceptual integration of the theory through the emergence of relevant theoretical codes. Dr. Glaser is currently at work on a new book on formal grounded theory. We shall look forward to keeping readers of the Review informed about this important development in advancing the methodology of classic grounded theory.

- Judith Holton

Submissions

All papers submitted are peer reviewed and comments provided back to the authors. Papers accepted for publication will be good examples or practical applications of grounded theory and classic grounded theory methodology.

Comments on papers published are also welcomed, will be shared with the authors and may be published in subsequent issues of the Review. See our website www.groundedtheoryreview.com for full submission guidelines. Forward submissions as Word documents to Judith Holton at judith@groundedtheoryreview.com

Call for Papers in Honor of Phyllis Stern on the Occasion of her 80th Birthday

A special issue of Health Care for Women International is planned in volume 27 as a festschrift to honor our Health Care for Women International Editor Emeritus, Phyllis Noergar Stern, on the occasion of her 80th birthday. Authors may consider any aspect of Dr. Stern's career and thus you may present new substantive research, teaching pedagogy, grounded theory methodology, or discuss Dr. Stern's contribution to the history of nursing. Please send three copies of your manuscript and include a cover letter indicating that your manuscript is to be considered for the festschrift to the editor-in-chief by January 31, 2006. Contact:

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The Grounded Theory Review (2005), vol.5, no.1

The Grounded Theory Review: An international journal

Published by Sociology Press

P.O. Box 400

Mill Valley, CA

USA 94942

Tel: 415 388 8431

Fax: 415 381 2254

ISSN 1556-1542 (print version)

ISSN 1556-1550 (electronic version)

The Grounded Theory Review (2005), vol.5, no.1

The Grounded Theory Review: An international journal

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Staying Open: The use of theoretical codes in grounded theory

By Barney G. Glaser, PhD., Hon. PhD. with the assistance of Judith A. Holton

Abstract

Theoretical codes (TCs) are abstract models that emerge during the sorting and memoing stages of grounded theory (GT) analysis. They conceptualize the integration of substantive codes as hypotheses of a theory. In this article, I explore the importance of their emergence in the development of a grounded theory and I discuss the challenge of the researcher in staying open to their emergence and earned relevance rather than their pre-conceived forcing on the theory under development. I emphasize the importance of GT researchers developing theoretical sensitivity to a wide range of theoretical perspectives and their associated codes. It is a skill that all GT researchers can and should develop.

Introduction

The full power of grounded theory comes with staying open to the emergent and to earned relevance when doing grounded theory (GT). This is especially so with regard to writing up a GT with emergent theoretical codes (TCs). Researchers seem to have the most trouble at this stage of the generating Process – sorting memos and writing up the theory with emergent TCs. Substantive coding comes comparatively easily and is exciting, giving the researcher the exhilarating feeling of discovery. Theoretical coding does not come easily as an emergent and has a beguiling mystique. As one PhD student emailed me: “theoretical codes and interchangeability of indicators were the two aspects of GT that I found the most difficult to comprehend.” (Holton email January 26, 2004). Another GT researcher writes, “The author of this current paper suggests that theoretical coding perhaps places the most

The Grounded Theory Review (2005), vol.5, no.1

demand upon the grounded theorist's creativity" (Cutcliffe, 2000).

Theoretical codes are frequently left out of otherwise quite good GT papers, monographs, and dissertations. The novice GT researcher finds them hard to understand. This article begins the process of trouble shooting this problem by dealing with many facets of theoretical coding and will consider several sources of difficulty in using TCs. The goal is to help the GT researcher stay open to the non-forced, non-preconceived discovery of emergent TCs.

The reader may consider this article hard to understand unless he/she has read and studied my several former books. There will be some repetition of the ideas I have already written, but they will be in the service of offering new insights regarding TCs. Readers who are challenged in staying on a substantively abstract level of conceptualization may find this article even harder. Keeping researchers on an abstract or conceptual level is hard -- especially for those in nursing, medicine, business and social work -- since they are trained at the accurate description level. They tend to slip easily into a theoretical descriptive level as the trained style and practical considerations of their professional field take over. Staying open to TCs will help maintain the substantively conceptual level required by GT and will increase its power.

This article is grounded in my origination of GT, in supervising many, many GT researches and dissertations, in reading many dissertations and GT monographs and in intense study of noted QDA methodology books. It is grounded in the hard study of the above caches. It is NOT a "think up" article. It is grounded in what is going on in GT research. The focus of this article, as is my many books, is to help researchers get GT research done -- achieve GT products that receive the rewards of PhD degree and career moves. It is not an epistemological rhetorical wrestle that gets wordy and goes nowhere. People are doing GTs all over the world and GT methodology helps them achieve their product. Epistemological discussions are of no potential help to the actual doing of research. Rather, they can easily have the

The Grounded Theory Review (2005), vol.5, no.1

negative effects of sowing doubt in the emergence of categories and causing premature judgements of relevance.

As I have defined previously, "Theoretical codes conceptualize how the substantive codes of a research may relate to each other as hypotheses to be integrated into a theory. They, like substantive codes, are emergent: they weave the fractured story back together again. Without substantive codes they are empty abstractions." (Glaser, 1978) TCs are abstract models, allowing the researcher to talk substantively of categories and properties while thinking conceptually. The important point is that the reader should develop a clear notion of their conscious use and relevance in generating theory. Then she/he can use, with theoretical sensitivity, an emergent theoretical code or codes to put a theory together. This consciousness can help in staying open. Reading my previous books will help achieve this abstract level. TC abstraction and use come with GT experience over many researches. It is part of the experiential growth of GT skill development. This abstraction avoids the flat, descriptive and often superficial presentations of QDA products.

Staying Open

Staying open to the emergent, earned relevance of theoretical codes is the point of this article. Repetitions that come from sections in Theoretical Sensitivity and Doing Grounded Theory (Glaser, 1978, 1998) are in the service of this goal. Staying open to earned relevance means that theoretical codes are not to be forced by disciplines, supervisors or pet codes. Trusting to emergence and one's own theoretical sensitivity is paramount.

For the researcher, staying open to earned relevance of TCs means being open to the fullest possible array of TCs. The researcher must learn and master sensitivity to as many TCs as possible. The more TCs the researcher learns, the more this requirement becomes moot. There are hundreds. The lists in Theoretical Sensitivity and Doing Grounded Theory (Glaser, 1978, 1998) offer the most

The Grounded Theory Review (2005), vol.5, no.1

frequently used and familiar ones, but they are a small list compared to the possible number of TCs to which one can be open by perusing the literature of many scientific fields.

GT is NOT a methodology guided by one theoretical perspective and its TCs. GT is a general method, based on a concept-indicator model that can use any TC derived from any theoretical perspective. This theme is hard to sustain in actual research. It is not easy to stay open because of previous training, the tremendous grab of some TCs – e.g. basic social process – and the tendency to cling to a particular theoretical perspective and its attendant idols or great men—e.g. symbolic interaction. The researcher sees what he has been trained to see. Breaking out to being open takes time and is hard both personally and in a framed research context. I realize that what I am saying is easier said than done. But it can be done. Many do. The basic idea is to become open and sensitive to the emergent, earned relevance of TCs. The procedure is to stop preconceived forcing based on discipline, supervisors, pet codes, a “grande” perspective and unwarranted hunches.

Hard To Stay Open

Staying open is not easy. It is hard. Most people attempt a GT research framed, or inculcated in a theoretical framework, either consciously or unawares. Perhaps it is hard to truly become open, but it is quite possible as GT procedures from start to finish are designed to open up the researcher and keep her/him open to the emergent and to earned relevance. When the researcher gets the point, GT procedures provide ways to perpetually suspend the frameworks of any forcing theoretical perspective in favour of what substantive and TCs emerge. Staying open then becomes relatively easy. Not knowing before the emergent becomes fun and discovery exciting.

Most GT researchers I have read to date get the staying open point easily for substantive coding, but not for TCs. They miss the point for TCs for failure to study them, thus not becoming sensitive to what TC might emerge. Rather, they use the TC of their theoretical perspective of

The Grounded Theory Review (2005), vol.5, no.1

trained origin. In restricting TCs to their field of origin, they miss possible emergent TCs by not being sensitive to a fuller array of them.

One normal block to staying open is to describe GT by a popular TC "as if" GT research always yields that TC. "I have often described grounded theory as an explanation of some underlying basic social process, and so I guess, in my mind, the development of a GT is really a qualitative causal modelling process" (Olsen email March 7, 2003, Institute for Qualitative Methodology). To be sure, basic social processes (BSPs) frequently emerge and are pervasive, but not always, as I clearly said in Theoretical Sensitivity (Glaser, 1978). In fact, in our now famous book, Awareness of Dying, the core category was a typology of dying expectations (Glaser & Strauss, 1965).

In The Grounded Perspective II: Description's Remodeling of Grounded Theory Methodology, I detailed at length the remodeling of GT by the QDA methodologists (Glaser, 2003). GT has been used to "jargon up" QDA methodology and, in the bargain; TCs are caught up in the method mix jargon. QDA methodology stultifies GT. Staying open to a full array of sensitively emergent TCs is restricted to the author's forced theoretical perspective, frequently symbolic interaction or systems theory. TCs become "assumed" by the framed researcher.

Staying open to whatever TC is relevant is the goal in my effort to extricate the forcing of TCs by the qualitative methodologists and their "grande" theoretical perspectives. There is nothing wrong with using structural or symbolic interactional TCs if they earn relevance, but my effort is to stop the ascendant default remodelling caused by the routine forcing of TCs. I especially wish to stop, or at least curb, the use of a TC to remodel GT to another QDA method. For example, using Strauss's conditional matrix "as if" always relevant and irrespective is pure forcing. One reads of Strauss's conditional matrix everywhere in the QDA literature. Remember, GT is a general methodology than can use any data and therefore any TC.

The Grounded Theory Review (2005), vol.5, no.1

Milliken and Schreiber argue for the generality of GT when they write about the epistemology of GT (Milliken & Schreiber, 2001). They say, "Epistemology has been defined more loosely in sociology to encompass the methods of scientific inquiry used to study knowledge. Thus, epistemology can be seen both as a philosophy of human knowing and how one learns about it. Inherent in different epistemologies are different assumptions and beliefs about the nature of know, of what can be known, and who can be the knower ". In applying these thoughts to GT, they say: "In contrast to quantitative methods, in which the researcher is the expert, in grounded theory the researcher defers to the experience of the participant, who has experience with the phenomenon of study. The researcher's job is to investigate the socially constructed meanings that form the participants' realities and the behaviors that flow from these meanings. That is, we want to know how they understand and act within their worlds. What can be known of the covert and overt behavior of participants is negotiated between the researcher and participant, toward a shared understanding. Clearly, in our view, the epistemology of grounded theory is steeped in symbolic interaction." (Milliken & Schreiber, 2001), p.180)

This view is patently wrong. It is pure QDA rhetoric in the quest of worrisome accuracy (Glaser, 2002). It neglects conceptualization. It uses a "grande" theoretical perspective and its TCs to define GT, thus denying that GT is a general method that can use any type of data and the TCs of any theoretical perspective. GT searches for the latent patterns in any type of data to articulate a grounded theory. Latent patterns are everywhere and all is data for GT including the use of any TC from whatever perspective. To be sure, interactionally constructed data exists BUT it only a piece or one type of the data used in GT studies. To be sure, GT as a general method picks up constructed data in many studies these days, but these researchers must transcend the data type to see the general use of GT methodology and enrich their research by using "all as data" (Glaser, 1998). GT does not need a "grande" epistemology, as such, to justify its use. It is based on a latent structure analysis approach using a concept-indicator

The Grounded Theory Review (2005), vol.5, no.1

model yielding emergent theoretical frameworks to which the researcher must stay open.

Two experienced grounded theorists express the staying open requirement well. Phyllis Stern says "theoretical coding...simply means applying a variety of analytic schemes to the data to enhance their abstraction" (Stern, 1980). Holly Skodol Wilson says, "Theoretical codes are the ways in which substantive codes and data they express are interrelated. There are innumerable families of theoretical codes. All are ways of relating variables theoretically. I attempted to discover multiple and varied relationships between and among concepts. Such an approach is designed to yield molecular rather than linear theoretical models". (Skodol Wilson, 1977). Thus, the true nature of TCs has been around for many years and cannot be allowed to be remodeled by a single theoretical perspective as others, especially the QDA methodologists, would try.

Theoretical codes come from all fields and their theoretical perspectives, whether social psychology, sociology, philosophy, organizational theory, economics, political science, history, biochemistry, etc. Staying open to TCs from these fields is very enriching of GT. For example, the random walk TC from biochemistry is very useful in GT. Conjunctural causation from political science is an eye opener for GT.

Staying open to what can emerge can be turned in on itself, however, "as if" to be open somehow cannot be based on the researcher's ability to suspend knowledge. This inability is seen as routine and unavoidable and to be expected of expert knowledge. Katherine May argues that expert knowledge in qualitative research consists of an exquisitely tuned capacity to know where to look and the ability to ferret out similarities and differences based on experience. Although entering the field with as open a mind as possible has advantages, she contends that her experience in the health care arena was an undeniable asset. She says "expert analysts are virtually always informed by extant knowledge and use this knowledge as if it were another informant" (May, 1994). Thus, her view is

The Grounded Theory Review (2005), vol.5, no.1

that staying open is not possible for the learned and that, alternatively, experienced preconceptions are useful. Thus she implies that experienced researchers get formed in their field and cannot transcend their experienced view. They see it everywhere, rather than staying open. I say not so! Experienced people are more able to suspend their knowledge of a literature and research field based on their skilled, competent research ability to stay in control of perceptions and thereby stay open. They can spot preconceptions both substantively and for TCs quite easily, since they are more aware (Morse, 1994). While it is easy for the novice researcher to be open due to lack of knowledge (Glaser, 2003), it can be just as easy for the experienced researcher - if not more so - based on awareness of more subtle forcing.

Learning TCs

By now the reader may be throwing up his/her hands and feeling that she/he cannot stay open; that it is too hard to leave the stability, comfort and safety of the cherished, learned and trusted TCs of their field. Not so! They are not to be given up. They are to be extended by learning more TCs, by being sensitive to these and then letting earned relevance dictates their use. Staying open to emergent TCs requires learning as many as possible so the researcher is sensitive to what may earn relevance.

First of all, the researcher should study TCs beyond the boundaries of his current discipline and keep studying them. It never ends. There are so many. Learn as many as possible. The possibilities are endless. As Hans Thulesius wrote me, "Theoretical codes are tricky and I have more to learn there for sure". (Thulesius email, December 14, 2002). He is open to the endless task and its possible difficulties.

Start with the TCs I have listed in Theoretical Sensitivity and in Doing Grounded Theory (Glaser, 1978, 1998). They are exciting to learn because of their abstract view of data. Take time to assimilate them when they seem difficult to grasp quickly. The wider the array of TCs that one learns, the less the tendency to force a pet or

The Grounded Theory Review (2005), vol.5, no.1

discipline TC on a substantive theory and the easier it is to stay open and sensitive to the emergent.

The excitement of learning TCs is well put by Walter Fernandez when he says, quite rightly, "Theoretical coding conceptualizes how the substantive codes are interrelated by generating hypotheses that are then integrated into a theory. The grounded integration of concepts is a flexible activity that provides a broad picture and new perspectives. The theoretical flexibility, however, must remain grounded on data. The concept of flexibility implies theoretical sensitivity to a number of possible coding paradigms, or coding families, consciously avoiding over-focusing on one possible explanation. Glaser (1978, 1998) provides a comprehensive (but not definitive) list of code families allowing for this flexibility" (Fernandez, 2003). Fernandez then provides his reader with a two-page chart of 26 TC families. Each family includes several TCs. The list is taken from my books. Being sensitive to all of these possible TCs immensely increases the researcher's ability to stay open. Staying open to the emergent is what Fernandez means by "flexibility", while he insists on earned relevance.

The more TCs a researcher learns, the less the tendency to derail a GT into a routine QDA by diluting the GT with a pet or discipline TC -- e.g., its all constructed interaction or the conditional matrix -- which is so, so wrong (Glaser, 2003). There is no argument for the routine discipline use of a TC for, by consequence, it closes staying open. Stern and Schreiber say, the researcher using GT needs to exercise care to avoid a departure from the intent of the authors who developed it, Glaser and Strauss. In short, there are a number of variations in doing GT, all of which are acceptable. On the other hand, there are a lot of wrong ways of doing it". (Schreiber & Stern, 2001)

Imposing TCs is a wrong way of doing GT. Earned relevance of one or a mix of TCs is the acceptable way. There is no "for or against" argument for the discipline TCs as they are just some of many that may emerge. This is the GT procedure: Let TCs emerge in mature memos and in sorting. Do not worry about results and remember- no GT is better than the skill development of the researcher and,

The Grounded Theory Review (2005), vol.5, no.1

in the bargain, no TC is better than what the researcher is sensitive to – unless it is forced. TCs, like substantive codes, are a result of the researcher’s learning curve.

The TC learning curve requires the study of many fields and their theoretical perspectives. In Doing Grounded Theory, I said, “the fact that many do not use or understand TCs simply means that they should start learning them. One reads theories in any field and tries to figure out the theoretical models being used. It is a fun exercise. It is a challenge to penetrate the patterns of latent logic in other’s writings. It makes the researcher sensitive to many codes and how they are used. He or she should take the time it takes to understand as many theoretical codes as possible by reading research literature also. This is a very important part of developing theoretical sensitivity” (Glaser, 1998). Skimming and dipping in papers for TCs from other fields is fun and easy. They pop up. Let me give some examples.

In perusing a biochemical paper, I came upon the “random walk” model. This means all variables are in unorganized flux until one crucial variable is introduced and then, all of a sudden, all the variables fall into stable organization. This is highly applicable to social life and action. People mixing around and visiting in all directions before a meeting, suddenly come to order when a host, teacher, or lecturer appears. It happens in fancy seminars, courts, staff meetings, and in kindergarten classes. In some cases, a gavel is pounded and “come to order” is announced. The formal and sentimental order of the occasion is produced almost immediately.

Another powerful TC that comes from economics is “amplifying casual looping.” This is part of the interaction of effects family. As consequences become continually causes and causes continually consequences, one sees either worsening progressions or escalating severity. This applies to spousal power abuse or authority power abuse as the abuse gets worse. It applies to increasing organizational failure. It applies to falling in love. I am sure the reader can now see more possible applications. Causal looping amplified in either direction - positive or

The Grounded Theory Review (2005), vol.5, no.1

negative. This TC integrates substantive codes nicely, when it emerges. It applies to the bullying self-socialization phenomenon that we saw in the Columbine massacre (Gisburne, 2003). For additional economic models, see Frederic S. Lee, "Theory Creation and the Methodological Foundation of Post Keynesian Economics" (Lee, 2002). Lee focuses on repeatable causation and mechanisms thereof.

Yet another powerful TC – "conjunctural causation" – comes from political science. Ragin (1987) explains it clearly: "The other characteristic form of the problem of order-in-complexity concerns the difficulty involved in assessing causal complexity, especially multiple conjunctural causation. When an outcome results from several different combinations of conditions, it is not easy to identify the decisive causal combinations across a range of cases, especially when the patterns are confounded". The problem is not to specify a single causal – consequence model using Strauss's conditional matrix. The problem is to determine the character of more complex causal models that exist in the substantive data. And many causes may not be relevant; only high impact causes have earned relevance.

My three examples show how complex causal models that emerge can provide integration of substantive codes that go far beyond simple causation that is forced "as appropriate". The reader will find it fun to skim theories from other fields to pick up their TCs and thereby open themselves up to many TCs, assimilating and becoming sensitive to their particular meaning. The more this is done, the more the researcher will have the realization that the number of TCs is endless and yet to be named and that staying open and sensitive to whatever TC emerges is the only way to do GT. In the alternative, it is a pure shut down to remodel GT by saying it has only one theoretical perspective. This learning approach to TCs solves the problem that Marjorie MacDonald neatly articulates -- the almost total absence of theoretical codes in current nursing GT research due to a lack of integrating the macro and micro levels of social action (Schreiber & Stern, 2001).

TCs are Slippery

As I have said above, theoretical coding is the least understood aspect of generating GT. When GT is used merely as a legitimating jargon to QDA, then of course, understanding TCs is a moot issue. But when the researcher is genuinely trying to do GT, the first confusion is the general idea of theoretical coding of the data for substantive categories and TC models with TCs. This is an unfortunate terminological confusion. Both types of codes emerge in memos. They occur in mixes, and TC mixes are often the integrative picture that fits and works. For example, a causal model can easily be mixed with a zone of tolerance and two outside cutting points. Learning TCs emphasizes the earned relevance of these mixes as they model substantive codes. The possibilities are not as infinite as it might seem; they are grounded empirically.

Unlike substantive codes, the underlying "groundedness" of a TC is less clear, since they are abstract models of integration based on best fit. Their fit is not as underlying tight with the data as a substantive code. Their organization of a theory is not wrong so much as variable, for an abstract level can have alternatives; whereas the grounding comes out in the work, fit and relevance of substantive codes.

This "slipperiness" often results in confusion, depression and anxiety over non-emergence or the best way of integrating. Commitment to one model is seen as "dangerous". Of course, best fit is required in TC emergence, but given the ready modification of a GT in the hands of others, the TC model can easily get adjusted, changed or corrected. The slipperiness of abstract TCs is a power. Using a theoretical code is not dangerous; it formulates the confusion around putting the GT into writing. This is why forcing a TC is often a tendency and a premature way out of the confusion of waiting and working for the TC of earned relevance. It is best to let the TC emerge. Forcing leads to familiarity within a discipline but also to irrelevancies. For example, every GT is not a BSP

The Grounded Theory Review (2005), vol.5, no.1

(basic social process) and, rich as this TC is, forcing stages on a theory can dilute its fit, work and relevance.

The goal of a GT researcher is to develop a repertoire of as many theoretical codes as possible. There could be hundreds. The more theoretical codes the researcher learns, the more she/he has the variability of seeing them emerge and fitting them to the theory. They empower an ability to generate theory and keep its conceptual level.

Theoretical Coding: Substantive Codes vs. Theoretical Codes

To revisit what I have been saying: "If and when the researcher gets beyond substantive coding and a full memo bank, he begins to sort and then he will use emergent theoretical codes, explicit or implicit, to integrate his theory." However, "there is confusion between substantive codes and TCs among some researchers" (Glaser, 1998). Needless to say, substantive codes are the categories and properties of the theory that emerges from and conceptually images the substantive area being researched. They are used to build the conceptual theory, but are not theoretical codes. This is a bit confusing to some, especially those with little or no theoretical training.

In contrast, theoretical codes implicitly conceptualize how the substantive codes will relate to each other as a modeled, interrelated, multivariate hypothesis in accounting for resolving the main concern. They are emergent and weave the fractured substantive story - turned into substantive concepts - back into an organized theory. They provide the models for theory generation and emerge during later coding, memoing and especially in sorting. Theoretical codes must also pattern out to be verified and provide grounded integration.

"Without substantive codes, theoretical codes are empty abstractions; but substantive codes can be related without theoretical codes. The result, however, is usually confused, theoretically unclear, and/or typically connected by descriptive topics but going nowhere theoretically. It is the interaction between substantive and theoretical coding

The Grounded Theory Review (2005), vol.5, no.1

which characterizes GT as an analytic inductive research methodology rather than conceptual journalism" (Glaser, 1998), p.164). This statement is simple enough to say but leads to confusion in many ways. Everyone understands substantive coding, but TCs, and how to code for them, are not well understood. TCs are confused with substantive codes on a conceptual level, by similar words, in mixing, and in research action, calling it theoretical coding for both types of codes, and just missing the TC involved.

Everyone loves and understands the constant comparative method for generating substantive categories and their properties. Their discovery produces a high with tremendous grab for the researcher. As one researcher wrote me, "your phrase 'fluctuating networks' has really grabbed my attention. Thanks for these little flashes of brilliance" (Holton email June 9, 2003). But this joy and grab is not so for TCs, except for perhaps discovery of a BSP. TCs are often ignored; left implicit or just plain missed and not understood. Researchers generate categories naming latent patterns all the time. The patterns are about social action and recognized in life by the naming with a category. The same researchers often do not systematically generate TCs except to mumble at times cause, consequence or process. The reason is simple. Substantive categories grab by denoting recognizable patterns whereas TCs seldom have this grab since they denote abstract models that are usually implicit in the theory, not consciously used and seldom explicitly mentioned. Another source of mentioning a TC non-purposely occurs when it is virtually the same as the substantive category, such a balancing or process.

Thus, it is clear that substantive and theoretical codes are on a different conceptual level of abstraction and TCs are a more abstract level since they model the integration of substantive concepts. Thus, substantive codes and theoretical codes not only differ in abstract level but in kind. Substantive codes refer to latent patterns and TCs refer to models. However, many confuse the two types of codes in different ways by mixes that take figuring out.

The Grounded Theory Review (2005), vol.5, no.1

First, TCs are confused with core variable in many writings. A core variable may be TC'd but it is not the core. For example, becoming or cultivating may be a core substantive code and they are basic social processes; but the basic social process is not the core. It is just a TC that models the substantive code. Jan Morse clearly makes this confusion when she says, "The theory (GT) is ...usually organized around a central theme (basic social processes or core variable/categories). Can the theory have two or more competing major basic processes or major core variables/categories? Perhaps, but this is rarely seen. The basic social process or core variables/categories appear to serve the purpose of focusing the researcher..." (Schreiber & Stern, 2001). Clearly, she confuses the model with the substantive.

Morse also, in the above citation, confuses the level of GT by mixing the substantive with the theoretical code. She says, "The theory is usually categorized as mid-range" to paraphrase Merton's notion of middle range. This is patently incorrect. A GT can be generated at any level varying from a very specific grounding to the general implications of a substantive theory to high level formal theory. For example (and there are many), a very grounded theory of cautionary control generated in the study of dentists dealing with HIV patients has much general application to cautionary control in all dentistry and medicine. Indeed, it can be turned into a high level formal theory dealing with cautionary control policy and action in all of society as it seeks to protect its citizens. In short, it is up to the researcher to choose the level of his GT. But to be sure, increasing the level of a GT does not just come by forcing a TC on it like "conceptualization" - a popular QDA strategy these days.

Ian Dey offers another "authoritative" but confusing description of theoretical and substantive codes (Dey, 1999). I say "authoritative" as Dey talks with nothing but self-styled authority. The reader can, if he wishes, figure out the confusion. I offer it merely as another example: "First, the distinction between substantive and theoretical coding is not very clear. Glaser presents theoretical coding

The Grounded Theory Review (2005), vol.5, no.1

as "implicit" in substantive coding; suggesting that in doing the latter, one is inevitably engaged in the former. He presents theoretical coding itself as a separate activity – that of relating the substantive categories. One question this raises is whether categories at some level can be identified which do not already involve some theoretical elements, for example, such as causation, process, degree and soon. Do categories "stand by themselves" or are they not always part of a broader concretization that already implies relationship among the categories?" (Dey, 1999, p.108) He then asks two questions about theoretical coding. "Is theoretical coding an aspect of substantive coding or a separate activity?" and "How do we select among theoretical codes that all fit the data?"

These comments by Dey are too descriptive, in which in pure data everything is involved at once. GT abstracts out of data substantive categories and theoretical codes separately. On the abstract level, the two types of codes are quite different. Also, since he is descriptive and not following GT procedures, he does know about sorting and how by sorting a TC emerges that integrates. Dey asks the question, "Do processes divide naturally into stages, or is this rather a construct used by the analyst to order events?" It is not either/or. It is empirically both or only one source of a process may emerge. If a few TCs emerge, they can be mixed or the researcher can choose the one he thinks best articulates the theory. It is his autonomy to choose which of the emergent and further, it is just conceptual theory that can be modified, not QDA accurate description with its concern for worrisome accuracy. At least the theory is grounded as best possible, NOT conjectured out of a fertile, reifying mind.

In sum, Dey is not aware of the abstract nature of GT, being firmly entrenched in the QDA methodology. Therefore, his ability to discuss GT issues is nil, since it is on the descriptive level. He has no sense of GT abstraction. He is using GT jargon on the data level of description, leading to multiple views and worrisome accuracy and this "allows" him to doubt GT as a method. This article and my many books on the GT perspective

The Grounded Theory Review (2005), vol.5, no.1

easily allow us to discount his binary analysis (good vs. bad) as not relevant to GT as an abstracting methodology. His work is a classic case of remodeling GT to a QDA method. On the abstract level, the distinction between substantive coding and theoretical coding (modeling) is easy. On the descriptive level, the distinctions are easily muddled.

Are TCs Necessary?

The answer is "no", but a GT is best when they are used. TCs help. TCs are always implicitly there even when not consciously used. But a GT will appear more plausible, more relevant and more enhanced when integrated and modelled by an emergent TC. The hypotheses will be clearer and stand in relief. TCs avoid the superficiality of QDA methods. Using a TC at the later stages of memoing makes generating substantive categories and their properties easier and the resulting theory more complex and multivariate. TCs are always latent in the substantive coding, but being sensitive to enough TCs to see one emerge helps theoretical sampling, theoretical saturation, delimiting the theory and reaching theoretical completeness because the TC becomes an emergent guiding framework.

Of course, the researcher can analyze without an emerging TC framework, but it is harder. Applying the emerging TC framework is of great help in the ensuing analysis. Actually, it is hard not to apply a TC framework but be cautious. The TC must emerge and not be forced. Categories and their properties emerge easier when one can see their relation to other categories within a framework. Then, memoing on the relations between categories becomes easier also as the memos capture the theory with a TC model.

In conclusion, while not necessary, the need for a TC is great in generating a GT. It is easy, by prior training, to force one on the theory as a framing tendency. I can only counsel to let it emerge. For example, every study is NOT

The Grounded Theory Review (2005), vol.5, no.1

a BSP. John Cutcliffe says this clearly, if somewhat over strongly: "Few would argue that substantive coding is an integral part of data analysis within grounded theory, but if the intellectual rigor halts at substantive coding then it is debatable that the researcher used a grounded theory methodology. The author of the current paper would argue not. Glaser (1978) argues that it is the theoretical coding, the conceptualization of how the substantive codes may relate to each other as hypotheses, which enable the substantive codes to be integrated into a theory. It is the theoretical coding that can provide the full rich understanding of the social processes and human interactions that are being studied. The author of this current paper suggests that theoretical coding perhaps places the most demand upon the grounded theorist's sensitivity. Further, it is perhaps theoretical coding and the postulating of previously undiscovered or unarticulated links that enable the development of the theory." (Cutcliffe, 2000) As I said, his statement is a bit zealous, but its promise is correct. Staying open to emergent TCs is important, if not totally necessary.

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The Grounded Theory Review (2005), vol.5, no.1

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Keeping My Ways of Being: Middle-aged women dealing with the passage through menopause

By Helene Ekström, Johanna Esseveld and Birgitta Hoveliuss

Abstract

The meanings given to menopause by women themselves are often left aside. In this grounded theory study, based on interviews and on open-ended questions in questionnaires answered by middle-aged women, the authors found that not being able to know what would happen and what influence menopause would have were sources of uncertainty for the women. The process, *Keeping My Ways of Being*, emerged in the analysis as the pattern of behavior through which the women endeavored to resolve their uncertainty. The intensity of the process and the use of its three different stages, those of *Preserving* present ways of being, *Limiting* changes and *Reappraising*, were considered to be dependent upon the central *Personal Calculation Process*, in which the women used their individual explanatory beliefs and evaluations of need. The theory, used as a model of thinking in consultations with middle-aged women, might show a high degree of workability in explaining what is going on.

Key words: Grounded theory, menopause, hormone therapy, ways of being, personal calculation

Background

Midlife is not a clearly demarcated period and it was the last segment of the life-span to be discovered (Lock, 1998). It tends to be characterized more by key events than by a particular age period, although this depends on what cohort, culture or context is of primary concern (Lachman & James, 1997). In Sweden, the terms "climacteric" or "transition-age" are commonly used for the years before and after the final menstrual period. In common parlance the terms are used for a wide range of symptoms and circumstances during these years, and thus

The Grounded Theory Review (2005), vol.5, no.1

similar to the content often given to the term "menopause" (Ballard, Kuh, & Wadsworth, 2001).

Menopause is a physiological event occurring universally in women who reach midlife. In the medical literature, midlife or middle-age is often redefined for women in terms of menopause (Esseveld & Eldén, 2002). This redefinition implies an emphasis on the loss of fertility and on estrogen deficiency, followed by a focus on problems, symptoms and risks of various diseases (Esseveld & Eldén, 2002; Lock, 2002; Murtagh & Hepworth, 2003). Menopause has been promoted as a critical point of choice in women's lives. The choices they then make influence their lives and health into old age (Murtagh & Hepworth, 2003).

This approach to menopause and the promotion of hormone therapy (HT) have been the subject of intense debate among social scientists, feminists and medical professionals (Guillemin, 1999; Hemminki, 2004; Lock, 1998; Murtagh & Hepworth, 2003). Medical practice in the form of HT has been widely advocated as a remedy for relieving such symptoms as hot flushes, cold sweats and vaginal dryness as well as for the prevention of public health problems such as heart disease and osteoporosis (Hemminki, 2004; Murtagh & Hepworth, 2003). However, in the late 1990s and in the early years of the 21st century, results from randomized controlled studies such as the Heart and Estrogen/Progestin Replacement Study (HERS) and Women's Health Initiative (WHI), has turned medical counseling on HT upside down. Today, HT is recommended for the treatment of menopausal symptoms only (EMEA, 2003). In Sweden, general practitioners as well as gynecologists prescribe HT. In general, no referrals are needed and women's choice of physician does not carry with it a major difference in costs for them.

In contrast to the bio-medical conception of menopause, social scientists and feminists but also some medical professionals have emphasized its social construction and have promoted an alternative vision of menopause as being a time for growth and development (Ballard et al., 2001; Busch, Barth-Olofsson, Rosenhagen,

The Grounded Theory Review (2005), vol.5, no.1

Collins, 2003; Guillemin, 1999; Lock, 1998). Approaches of this sort have been criticized for making menopause an ideological construction and neglecting issues regarding the meaning assigned to menopause by women themselves (Guillemin, 1999; Lock, 1998). In the different discourses, women are often reduced to a uniform mass or defined as "the menopausal woman", irrespective of how they conceive of themselves or how they experience or reflect upon their lives (Ballard et al., 2001; Busch et al., 2003; Esseveld & Eldén, 2002; Jones, 1997; Lock, 1998).

The present study was conceived when differences between the first author's daily medical practice as a general practitioner, her encounters with women of middle-age and different perspectives on menopause in the literature had aroused her curiosity. In an earlier quantitative study by Ekström & Hovelius (2000) we found that quality of life (QoL) ratings were lower in women with experience of HT than in those without such experience but that QoL was not negatively affected by menopause or ageing.

The present study is part of a research program aimed at investigating, from a gender-sensitive perspective, middle-aged women's QoL, health and sense of well-being in relation to such factors as age and ageing, menopause and the adopting of HT. In its design, the research program combines both quantitative (questionnaires, 2000-2004) (Ekström, Esseveld, & Hovelius, 2003; Ekström, 2005) and qualitative methods (open-ended questions included in the questionnaires, in-depth interviews).

While our earlier studies took their starting point in a biomedical model, in the present study women's experiences and concerns were placed at the centre. The research question that guided the study was: How do middle-aged women deal with menopause and with issues of HT?

Method

Grounded theory (GT), as developed by Glaser (1978, 1998), was selected as the method for conducting the

The Grounded Theory Review (2005), vol.5, no.1

study and analyzing the data. It is a method for conceptualizing patterns of behavior people are engaged in. GT is based on the belief that common patterns of behavior can be discovered while starting from the personal perspectives of the individuals that belong to a particular group. In the present study, the patterns of behavior are those middle-aged women engage in during the menopause passage. Thus, in GT it is not people but behaviors that are categorized (Glaser, 2001). The rigorous steps that GT involves allow categories and their properties to be derived from data and to be integrated into hypotheses that result in a theory. The theory generated is a conceptual probability statement explaining the preponderance of behavior that accounts for the resolving of a main concern for the participants (Glaser, 2003).

Data Collection

The study-population consisted of all women in two primary health care districts who in the years 2000, 2001 or 2002 were aged 45, 50, 55 or 60. The geographical area involved, consisting of villages in the countryside in the County of Kronoberg in Sweden, has approximately 15000 inhabitants. During these years, 30 to 35 % of the women participating in the quantitative study had ever used HT. Levels of HT use in our area and changes in it; described by us in two other studies, accord with the pattern of total purchases of HT in Sweden (Ekström & Hovellius, 2000; Ekström, 2005). In-depth interviews, conducted in Swedish by the main author, and answers to open-ended questions in questionnaires (2000-2002) were the two sources of data for the qualitative analysis presented in this article. The study was approved by the Regional Ethics Committee at Lund University and interviews were conducted with informed consent from participants.

In the year 2000, the questionnaire that was sent to women who, in that particular year were either 45, 50, 55 or 60 years old, included an invitation to participate in an interview study. Of the 253 women returning the questionnaire, a total of 53 indicated their interest in participating in the interviews. Information regarding these women was limited; only information about their age and in

The Grounded Theory Review (2005), vol.5, no.1

some cases their occupation being available, since the questionnaire was anonymous and the women sent their applications to participate separately.

Participants were at first randomly selected among these 53 women. Later, making use of the principles of GT, the concurrent analysis directed what data to collect next and in which age-group it was likely to be found (Glaser, 1998). Recruitment of participants ended when the analysis reached theoretical satisfaction implying that no new information emerged or was theoretically needed.

The open-ended questions providing further data were "Can you describe how it is to be in your age?" and "What does menopause imply for you?" in the 2000-2002 questionnaires (850 participants) and the question "Can you describe how you think about using or not using hormone therapy?" in the 2002 questionnaire (280 participants). The answers provided were selected and used as data, according to the theoretical needs of the ongoing analysis.

A total of 24 women were interviewed, 45-60 years of age at the time. The interviews ranged from 45 minutes to just over 2 hours in length. The interviews were unstructured in the sense that no interview guide was employed and that the focus of the interviews depended on what the women wished to tell and which phase the analysis was in. Certain themes that corresponded with the open-ended questions were covered in most of the interviews nevertheless. All the interviews were audio-taped and transcribed verbatim.

When all the interviews had been conducted the participants were found to encompass both native- and foreign-born women of differing marital status, with and without children and of differing employment status and occupation. Both post- and pre-menopausal women as well as those who were unsure of their menopausal status were represented although the majority had experienced cold sweats, hot flushes or bleeding irregularities. All kinds of

The Grounded Theory Review (2005), vol.5, no.1

histories of HT use as well as use of natural remedies were represented.

Data Analysis

Analysis of the data began immediately after the first interview and continued throughout the study. From the start of the analysis, emerging patterns of behavior were named in English. The illustrating quotations are translated from Swedish by a professional translator.

The first part of the analysis, open coding, involved coding an interview line-by-line in every way possible. The cyclic process of collecting and coding data, which happened concurrent with comparing incidents identified in the data with each other and with emerging concepts, ended after the first ten interviews. Analysis of the data had by then moved from descriptive concepts, such as looking for an explanation and observing others' symptoms, to broader concepts such as searching for knowledge. The prospect for a theory about patterns of behavior that resolved a main concern the women had in passing menopause could be perceived. A tentative core variable was found, termed *Keeping My Ways of Being*.

Through selective coding, a delimitation of categories was achieved, primary categories related in some way to the core variable were selected and their properties established. This selective coding phase involved going over the first group of interviews again, collecting further data through interviewing more women and through obtaining answers to the open-ended questions. A constant comparing of incidents, concepts and categories was going on all the time to establish the patterns named by categories and the sub-patterns, which were their properties. In this way, searching for knowledge was established as one dimension of the subcategory *augmenting know-how*.

In the last stage of analysis the elements of time, place and individuals were left behind, while linkages and relationships between the core variable and the various categories were being sought. At this stage, a sorting of ideas (analytical memos) rather than of data took place

The Grounded Theory Review (2005), vol.5, no.1

(Figure 1). During this phase of integration and further delimitation of the theory the three conceptual patterns of behavior represented by the main categories of *Limiting*, *Preserving* and *Reappraising* emerged as stages or strategies of the process *Keeping My Ways of Being*. Following the example we have used to illustrate the process of analysis, *augmenting know-how* was at this stage found to be one dimension of *mastering*, a property of *limiting*, and thus its linkage to the core variable was established. The category *Personal Calculation* was at this time theoretically established as a process of its own. It was at the same time found to constitute the hub in the process *Keeping My Ways of Being*. Following grounded theory principles a literature review was first carried out after the theory had been formulated.

The Theory

Learning as a woman that one has passed menopause is only possible retrospectively since postmenopausal status is defined medically by the occurrence of the last menstrual period 12 months ago (Kaufert et al., 1986). The analysis revealed that not being able to know just what would happen and the influence of menopause on them as individuals were sources of uncertainty for the women. One of the women expressed this in saying:

I don't really know how it ought to feel...I try to take stock each day of how it feels...How should it feel?

This unpredictability of menopause refers to the fact that both the beginning and the end of menopause are blurred and to the impossibility of knowing whether, when and what symptoms will occur. Uncertainty was also apparent in the women's expressed difficulties in disentangling menopause from ageing and from other events affecting their lives and themselves when trying to understand whether the symptoms they had were due to illness, stress, menopause or to something else:

Disturbing! Things happen with my body that I don't understand, that I don't like and that no one wants to talk about.

The Grounded Theory Review (2005), vol.5, no.1

Other sources of uncertainty expressed by the women were having the issue of HT, good or bad; frequently thrust upon them, as well as that changes such as the development of osteoporosis, breast-cancer, or sleeping problems, could occur or were already affecting their sense of personhood or impairing their way of life. The women also expressed uncertainty about how to conceive of themselves, both in terms of the medical definition of their menopausal state and their assessments of themselves when reminded of being of that "age" by people around them, by the media and by health-care personnel. Uncertainty was thus identified in the analysis as one main concern for the women during their passage through menopause.

The process *Keeping My Ways of Being* emerged in the analysis as the pattern of behavior through which the women endeavored to resolve their uncertainty. My ways of being was defined in the study by the way the women spoke of themselves in expressing both their own sense of self and the way they lived or wanted to live their lives:

That's not the way I wanted things to be. I didn't like it and I wanted to do something about it. There are limits to everything but I am the way I am.

The individual clearly plays an important role here," the menopausal ageing woman" considered as an object becoming "the woman I am", a subject.

Whether something is judged as uncertainty or not stems from the *Personal Calculation Process*, which represents the hub in the process *Keeping My Ways of Being* (Figure 1 and 2). In the calculation the women's attitudes towards menopause, ageing and HT are crucial for whether a change, a symptom or a suggestion from others is assessed as producing uncertainty at a personal level. *Keeping My Ways of Being*, as a process resolving uncertainty, handles any degree of uncertainty and is also basically unaffected by whatever is the source of uncertainty on the part of the women.

The Grounded Theory Review (2005), vol.5, no.1

Keeping My Ways of Being involves three different stages or strategies, those of *Preserving*, *Limiting* and *Reappraising*. These can be used separately, sequentially or simultaneously (Figure 1 and 2). The *Preserving* and *Limiting* stages are closely interrelated and are often used by the women simultaneously but to differing degrees at different times. When *Preserving* and *Limiting* are not sufficient to handle a woman's uncertainty, she moves on to the *Reappraising* stage and both the creation and the keeping of a new way of being begin.

The Personal Calculation Process

Personal calculation is the basic and vital process in *Keeping My Ways of Being* (Figures 1 and 3). In their personal calculations the women compared any experienced change, symptom or suggestion given with their explanatory narratives and their evaluations of need fulfillment:

By and large I feel that insofar as possible one should go along with what nature has decided upon, ...which I feel is my view of other things as well...and I don't experience my complaints as being so disturbing. You can make use of remedies that are available, but you shouldn't use them necessarily...I thought that with use of natural remedies it might be possible to reduce certain problems a little bit.

The women seemed to balance both their experienced need and the probability of benefit with a certain measure against their own beliefs and values. The calculation thus encompassed both an evaluation and a more mathematical assessment of the situation, such as:

I'm not a risk-taking person. I suppose this thing with estrogen is my first risk-taking so far. But then you have to check your breasts and uterus somewhat more frequently than I did before.

The degree of accordance with a given narrative and the degree of need fulfillment achieved determine the outcome of the calculation and thus the intensity of

The Grounded Theory Review (2005), vol.5, no.1

Keeping My Ways of Being (Figure 3). If a change is assessed as being in accordance with the explanatory narrative and the needs are fulfilled, there is no sense of uncertainty in the present way of being. When disagreement with a narrative or non-fulfillment of needs increases, uncertainty increases and *Preserving* then becomes more intense and *Limiting* is used increasingly (Figures 1 and 3) *Reappraising* begins when fulfilling needs of importance is impossible with available strategies or when strategies in use are in contradiction to narratives involved.

The explanatory narratives and evaluations of need, representing the basis of the calculation, are personal and closely intertwined with what the women preserve, and constitute central aspects of *Keeping My Ways of Being*. An explanatory narrative is conceived in the study as an individual woman's theory of "how things are, should be or will be". The women's attitudes towards and reception of ageing, menopause and HT, were expressed by means of these narratives. Also, needs were individually defined and could be anything that the women sensed they wanted to maintain or achieve or felt they were at risk of losing such as having a strong skeleton or their level of well-being.

Throughout the personal Calculation Process, there is a continuous weighing of different needs, beliefs, core values and the like in terms of priority and a gauging of the gains and losses different strategies might involve. This could imply for example weighing life-style against health:

I'm not attending mammography-screening if it's on my day off. However I'm well aware of there being a lot of cancer in my family so perhaps I should.

Preserving

Preserving plays a central role in the process of *Keeping My Ways of Being* and can be regarded as the stage where securing parts of one's ways of being as a basis for the future is accomplished by use of the well-known, both as regards the measures taken and the expected results or side-effects. The statement "You know

The Grounded Theory Review (2005), vol.5, no.1

what you have but not what you'll get" could be seen as applicable here:

...so I think sometimes that one shouldn't go and swallow those tablets, but then every morning I take one of those little pills. What I think is that if I stop doing that there'll be something else I'll have to worry about instead".

Preserving involves a shielding of core beliefs and of personhood as well as a constant maintaining of what has been attained.

Shielding

The building of a shield around the individual set of core beliefs and values, personhood and body-image emerged as being crucial for *Keeping My Ways of Being*. The women built shields through focusing on themselves, using their own lives as frames of reference and feeling confident in their own abilities and knowledge. This meant talking in terms of "I am such a person", "This is my opinion" or "My body is strong" or as expressed in:

My menstruation stopped abruptly. Since then I haven't had any bleeding, only occasional hot flushes. My life style is not one of being fixated on problems and I don't have any either.

No shield was evident when the level of uncertainty was low. The shield surfaced when the women were confronted with intrusive suggestions and unwanted questions concerning, for example, their evaluation of symptoms:

I have my own conception of what I like and what my body likes and the signals I get are what I pay attention to.

By talking in such a definite way about themselves, their opinions or their bodies, the women were able to fend off suggestions and questions.

The Grounded Theory Review (2005), vol.5, no.1

Even if the women's expressed beliefs and opinions, and their descriptions of personhood and of the body seemed contradictory, these were nevertheless shielded and held together as a unit. It was thus possible, for instance, to maintain a view of oneself as being a healthy person and at the same time struggle with a chronic disease or to describe menopause as a positive experience despite having tried numerous hormone treatments with various side-effects.

Maintaining

Maintaining is a strategy of reducing uncertainty through continually working at *Preserving* that which has already been attained, the current ways of being such as degree of well-being or freedom. In so doing, the women made use of their usual behaviors and strategies, doing this either by employing certain strategies over and over again or by increasing the intensiveness with which they were used. If a woman was accustomed to solving her problems either by use of medication or by life-style adaptations, she could try to solve a new problem in the same way without much consideration:

What I do to avoid getting brittle bones is to get a lot of exercise...so I don't have to think about that so much...and coronary heart disease - yes I think I can prevent that too by choosing a lifestyle that's appropriate .

If a particular type of medication was used it was possible to increase the number of tablets being taken or add some other medication:

Any kind of medicine that's taken in the right way and in the right dosage and that improves your quality of life is okay.

The women were also able to maintain their ways of being by adhering to their goals and defending their rights and ability at self-determination:

No, I said to myself...when the doctor said to me that I should start taking estrogen...What I'm

The Grounded Theory Review (2005), vol.5, no.1

taking now is enough...Estrogen is nothing I want to take. It would not be my first choice at all.

Limiting

Limiting is a strategy of confining the impact of increasing uncertainty on the ways of being when *Preserving* fails. The women moved towards *Limiting* when they needed new and counteracting approaches for resolving a problem at hand and a recapturing of their ways of being was regarded as possible.

The selection of approaches and of when to use them was dependent upon the personal calculations and the preserved frameworks (Figures 2 and 3). The explanatory narrative currently being used could involve, for example, a positive attitude towards health care and when the needs were not fulfilled a greater willingness of the women to consult a doctor could be seen. *Limiting* is achieved through mastering, modifying or avoiding uncertainty and its impact upon the ways of being.

Mastering

Limiting by *mastering* involves trying to surmount uncertainty and requires some *augmenting of know-how* and making investments (Figure 2). The women improved their skills and knowledge and obtained access to new tools or solutions by *augmenting their know-how* and *investing* in a more or a less organized way and with varying degree of intensity.

The women searched for knowledge or advice both actively and purposefully as well as seizing upon possibilities that caught their attention:

I wrote to that newspaper and was able to buy copies of those articles...I read them with great interest... .

The women also augmented their know-how through use of models and by trial and error. The role model used was often a woman's own mother or some near relative

The Grounded Theory Review (2005), vol.5, no.1

and the models involved provided them with both positive and negative examples:

At one time I thought I could just as well have my uterus removed. What's the point of having it?...My sister had hers removed when she was 45. She had a myoma. Having it removed was the best thing she had done.

Mastering by investing, using either themselves as the means or some external means, often needed to be organized to some extent and required both time and stamina to be successful. The women made investments in their health and bodies such as losing weight or enhancing fitness in order to regain their well-being. Through such investments the women handled some of their present problems but also aimed at preventing possible future impairments that represented sources of uncertainty, osteoporosis being one:

I want to have strong bones so I can go on running through the forests even if I have to push a walker in front of me. No, of course that wouldn't work, but nevertheless....

Investing in external resources such as health care or drugs was an active choice on the part of the women, as exemplified by such expressions as "I measured my bone density" or "I added the hormones". Other persons too, such as medical professionals, massage therapists or trainers were used as means:

Then I made the decision to go to that doctor and get a prescription for those hormones .

Whatever outcome *mastering* had, the new and counteracting approaches obtained or used could either strengthen that which were currently preserved or imply that improvements or alterations were needed, leading towards reappraisal (Figure 1).

Modifying

The Grounded Theory Review (2005), vol.5, no.1

Modifying involves making minor adjustments of core values, personhood or body-image and of what to maintain as well as the priority given them. The women made modifications of varying sorts in efforts to reduce disagreements with their explanatory narratives and with what they wished to maintain or shield:

I don't say to myself - You can't do that because you're so old - but rather the things one did earlier...don't seem as fun anymore, so one doesn't do them...they don't interest one particularly .

Such modifications represented a way of sneaking around having to deal more actively with the uncertainty at hand.

Although *modifying* enables one to a certain extent to keep one's ways of being, *Reappraising* is needed if uncertainty becomes too pronounced. For example, when a woman was asked about her use of estrogens, when consulting a doctor about her breasts, she started to re-evaluate her present view of risk with the medication and later on her need of it.

Avoiding

When will, time, strength or adequate possibilities of solving uncertainty in a new way is lacking, *avoiding* an uncertainty is a way to slow down the process of *Keeping My Ways of Being*, and preventing a turn directly towards *Reappraising* (Figure 1).

The women avoided uncertainty differently at different points of time and with varying degrees of control using a variety of strategies. When the women sensed that the impact to their ways of being was not a problem of particular significance, but that it may indeed develop into one they strived to wait and see, a sort of active expectancy. Carrying on as usual was thus possible for the time being.

Through downsizing uncertainty or not becoming involved with it, the same result could be achieved but with less control:

The Grounded Theory Review (2005), vol.5, no.1

I'm very uncertain about hormones... are they good or bad?...I don't feel I can judge myself what's best, but I think I ought to do that...and I can get cancer anyway...then one begins to look at things in another way. Then I say to myself: No, I won't bother about it. Things probably are all right the way they are.

"This was not the doctor I wanted. I'll ask another doctor the next time" exemplifies the way the women postponed *Limiting* the uncertainty at hand to a more appropriate time when the tools and skills needed were assumed to be available. A problem could also be moved aside, but often with a loss in control over its solution. The women moved problems through detaching from themselves the uncertainty they sensed, blaming others or letting others make decisions:

...the doctor should have told me about that from the start. It's his responsibility to do so.

Through avoidance, the women could move back to *Preserving* and strengthen their explanatory narratives (Figure 1). Uncertainty was thus reduced for the time being and *Reappraising* was delayed. There is also the possibility that as time passes problems could "solve themselves".

Reappraising

Reappraising the current ways of being is needed when *Keeping My Ways of Being* through the foremost used strategies of *Preserving* and *Limiting* are not sufficient to handle the uncertainty experienced (Figure 1). The rapidity of shifting to *Reappraising* and the extent of the reappraisal involved differs. A reappraisal could thus be both instantaneous and far-reaching when the women's preserved maintaining strategies or shielded beliefs and values were being questioned and abandoned after an event.

Vindicating and Facing of Facts

The *Reappraising* process often seemed to start with attempts to vindicate one's own behaviors or feelings and

The Grounded Theory Review (2005), vol.5, no.1

with a facing of facts. The following citation illustrates the intertwining of the two categories:

I stopped taking hormones a month and a half ago...someone I know got breast cancer...I thought, it's not so bad being faced with cold sweats again...I've asked myself how long I should continue taking things like that and it was the push I needed...to learn of something like that which could happen. But back then when I started (with estrogens) I felt free

When the women vindicated themselves, it involved convincing both themselves and others through statements such as that one had started to modify one's present maintaining behavior or explanatory narratives prior to the event or, in contrast to one's beliefs that it was all right to feel relieved when one's uterus was removed. The facing of facts involved the women finding in their personal calculations that there were no possibilities at all, or only limited ones, for fulfilling their needs or remaining true to their narratives. The women's facing of facts involved aspects of enduring, obeying or "learning one's lesson". The women, for example, endured heavy bleedings when they failed to accept hysterectomy or had to deal with a doctor they didn't like as ways of delaying having to give up some core beliefs or maintain something given a high priority.

Reconciling

Gradually, depending on the degree of acceptance of the *Reappraising* that has begun, there was found to be a movement towards reconciling. Through the use of compromising or through a forgiving of oneself, the women moved on:

One needs to work on things oneself, too...you have to either accept things as they are or go a step further".

The Grounded Theory Review (2005), vol.5, no.1

Looking forward or hoping for the best represents ways of leaving the uncertainty and the former ways of being behind:

Now it's me! Where am I then? You have to consider who you are and what you want when things have changed.

Through the *Reappraising* process, the ways of being are changed. The new ways of being may be only partially different or differ totally and can involve either cutting back or making manifest improvements as compared with one's earlier ways of being, even though this may be difficult to perceive when looking back:

Nowadays I fall asleep in the evening but I'm still awake several times during the night. It doesn't bother me much any more but I'm very happy when I don't wake up until the next morning.

Discussion

Since life inevitably moves forward, the menopause becomes a part of women's lives. In this GT of how middle-aged women deal with menopause and with the issue of the use or non-use of HT, we found that the uncertainties involved were of importance to the women. They dealt with these uncertainties through keeping their ways of being. It should be emphasized that this pattern of behavior, *Keeping My Ways of Being*, is one of many patterns of behavior the women were engaged in and it does not represent the women's entire being or doing. As such, our focus on concerns in relation to menopause and our talking to women who wished to be interviewed may be limitations of the study. As illustrated both in Ballard et al. (2001) and in an earlier study we conducted (Ekström et al., 2003), menopause is only a part of the multiplicity of changes and conditions that coexist and that can impact on women's lives and what they do during midlife.

Uncertainty and the Ways of Being

The Grounded Theory Review (2005), vol.5, no.1

Uncertainty, a well-known stressor, was identified in our study as one prime mover for the actions the women took during the menopause. Uncertainty has been found in several other studies to be a major concern of women during menopause (Bannister, 1999; George, 2002; Jones, 1997; Kittell & Mansfield, 2000; Liao, Hunter, & White, 1994; Lupton, 1996). The sources of uncertainty emerging in our study were also identified in those studies through such topics as not knowing whether one is menopausal, whether one's symptoms are related to menopause or to aging, the uneven nature of menopause, the feeling of being out of control, and ambivalence towards HT and the outcomes associated with it.

The properties of status passages, as presented by Glaser & Strauss (1971), can explain some of the degree of uncertainty the women expressed and its origin. The status passage of menopause is thus characterized by it being inevitable, whereas the status passage properties of temporality and clarity of signs of passage varied among the women studied. It has been found that even though all women (must) go through this passage, they are often unaware of each other's situation and have to discover the shaping of the passage by themselves (Kittell, Mansfield, & Voda, 1998). The desirability and the centrality, two other properties of status passages, depended for the women involved in our study on how they constructed their ways of being, both properties being reflected in the women's explanatory narratives and evaluations of need.

"The person I am" and "my ways of being" emerged as important both foundations and goals for the behaviors involved in *Keeping My Ways of Being*. The concept of my ways of being used in this study is closely related to self-identity as constituted by a reflexive ordering of life-narratives in Giddens' theory (1991) as well as to the personal paradigm involving the individual's structuring of beliefs, values, feelings and knowledge, as described by O'Connor & Wolfe (1991). In these theories, people are regarded as active, thinking beings who act according to the meaning things have for them.

The Grounded Theory Review (2005), vol.5, no.1

The personal ways of being is not thoroughly explored here, as it's not the focus of the study instead it's the women's keeping of it that is the study's main focus. Furthermore, the overall process of *Keeping My Ways of Being* is not necessarily conscious nor are the agendas behind it readily accessible. *Keeping My Ways of Being* represents the common pattern of behavior we discovered while interviewing and asking open-ended questions to individuals, belonging to cohorts of middle-aged women, when they comprehend the menopause from a personal perspective.

The Process

The pattern of behavior, *Keeping My Ways of Being*, represents a process of dealing with uncertainty by trying to control what measures to take and to pace these. This process has certain similarity to coping, when coping is considered as a process as described by Lazarus & Folkman (1984). The process of coping depends on and changes in accordance with the cognitive appraisals made by the persons involved. In *Keeping My Ways of Being* it is the *Personal Calculation Process* which is the means used for evaluating the situation.

The evaluations of need and the narratives, the basis of the calculation, provided a framework for the actions and decisions the women took. A number of studies support this type of framework as being important for women's decision-making during menopause (Bravata, Rastegar, & Horwitz, 2002; Griffiths, 1999; Jones, 1999; Kittell & Mansfield, 2000; Walter & Britten, 2002). In our study, the personal calculation is closer to "primary appraisal", aimed at evaluating a situation in terms of threat, impending loss and need for change, than to "secondary appraisal", which deals with personal possibilities for handling the current situation, as described by Lazarus & Folkman (1984).

The assessments made by the women in our study went beyond the realm of menopause to encompass broader aspects of life, as has also been found in other studies (Ballard et al., 2001; Bravata et al., 2002). A considerable diversity of preferences and views towards

The Grounded Theory Review (2005), vol.5, no.1

menopause, ageing and HT was identified in the women's accounts.

The emergent latent pattern of assessments among the women in our study, the *Personal Calculation Process*, works, fits and has relevance in resolving whether or not there is an uncertainty, whatever attitudes and preferences the women based their calculation on, since the explanatory narratives and evaluations involved are individual, as is also the outcome of the calculation. The calculation can be seen as representing the practical reasoning behind whether or not uncertainty is there, which is its outcome (Widdershoven-Heerding, 1987). The immediate action that follows is the women's individual way of getting, doing or securing what they want in order to reduce uncertainty.

The theory, *Keeping My Ways of Being*, represents a hypothesis of a general uncertainty-resolving pattern of behavior, yet it is totally individual. Accordingly, the theory does not involve judgments of whether it is a good, bad or appropriate way to handle uncertainty during menopause. This contrasts with studies in which these judgments were found in the evaluation of women's decision-making and behavioral strategies during the menopausal transition (Fox-Young, Sheehan, O'Connor, Cragg, & Del Mar, 1999; Lewin, Sinclair, & Bond, 2003), a matter which has been subjected to criticism (Guillemin, 1999; Lupton, 1996).

A comparison with how menopause is conceived of and dealt with in the field of medicine shows that there is little acknowledgement there of general problem-solving behaviors similar to that of *Keeping My Ways of Being*. In a study by Kittell et al. (1998), fear of possible embarrassment because of heavy bleeding or hot flushes was dealt with by keeping up appearances through concealing and controlling changes. Both strategies share many properties with our strategies of *Preserving* and *Limiting*, in particular *avoiding*, *maintaining* and *investing* activities.

Persistence in striving towards certain goals (Wrosch, Heckhausen, & Lachman, 2000), defending the right of

The Grounded Theory Review (2005), vol.5, no.1

self-determination (Griffiths, 1999; Jones, 1999) and the clarification and protection of personal values (Howell, 2001) are strategies described as important for the preservation of well-being in middle-aged women. These strategies also emerged as properties of the *Preserving* category in the present study. *Preserving*, as a maintenance strategy also resembles a change of the first order, "more of the same", that Watzlawick, Weakland, & Fisch (1974) refer to as involving the repeated use of old, well-known strategies for solving problems at hand.

In several other studies, activities have been described which are similar to the strategies of *modifying*, *investing*, *augmenting know-how*, *avoiding*, *maintaining* and *shielding* that we conceptualized (George, 2002; Griffiths, 1999; Howell, 2001; Jones, 1997, 1999). *Mastering*, *modifying* and *avoiding*, the properties of the *Limiting* category, have also been described as coping strategies by Lazarus & Folkman (1984). The *Preserving* and *Limiting* categories can be interpreted as representing either automatized behavior or coping depending on the degree of effort involved. *Limiting* involves use of strategies representing a more active form of dealing with uncertainty than *Preserving* does. *Limiting* can also be interpreted as the beginning of a change of the second order (Watzlawick et al. 1974) requiring new ways of thinking and of solving problems. In the process, it comes to its full expression during the reappraisal and when new ways of being are created.

In studies by George (2002), Jones (1997), Bannister (1999), Howell (2001) and Busch et al. (2003) the behaviors of adjusting behaviors and beliefs, shifting of focus, redefining self, facing the changes and looking forward, were identified among women passing through menopause and discussed in terms of development. In our study, *modifying* or *Reappraising* as ways of resolving increasing incongruence with explanatory beliefs or evaluations of need often resulted in reconceptualizations of the self, although this was not necessarily the case. A new way of being represented just a different way,

The Grounded Theory Review (2005), vol.5, no.1

independent of whether any personal development was involved.

However, a GT is never complete. It should always be open to new data when they emerge. By emergent fitting, the categories of our theory can be used, modified and adjusted through the process of constant comparison of our data with new data from studies on important life-transitions and changes inside and outside the medical field (Wuest, 2000).

Implications

The GT of *Keeping My Ways of Being* developed here can be useful in the daily practice of physicians when consulted by middle-aged women. The theory provides a framework for understanding the reasons and aims of women in seeking medical consultation.

The physician and the woman alike enter the consultation room with their individual ways of being and their own explanatory narratives concerning menopause. If these differ greatly, and the physician is not ready to take a close look at her/his own tendency to adhere to a particular set of ideas (Hvas, 2004; Murtagh & Hepworth, 2003) and to listen to and respect the consulting woman's sets of ideas, this may imply her leaving with feelings of being misunderstood or of being forced to choose a particular treatment. A fruitful approach would be to ask for whom, under which conditions and in what respects an uncertainty is present (Esseveld & Eldén, 2002; Lachman & James, 1997).

The behavior, seeking medical consultation, can from time to time be understood as representing either *Preserving* or *Limiting*. It can be, for example, a consultation about investment in HT, *augmenting* one's know-how or an attempt to detach oneself from responsibility for the present health situation, but it can also involve seeking reassurance or renewing a prescription as a more or less automatized behavior preserving the present ways of being.

The Grounded Theory Review (2005), vol.5, no.1

Interactions between women and medical personnel are important here as is also the contexts in which the women act and the kind of knowledge, information or tools available for dealing with their concerns. The outcomes of their keeping their ways of being can thus be quite different, depending on the agendas involved (Hemminki, 2004; Murtagh & Hepworth, 2003).

This approach, in which centrality is given to subjective and individual experiences of menopause, may also reveal the power-relations involved and the ownership of knowledge in the consultations. This would make women visible as subjects who can present themselves and have the power of managing their lives. Thus, using this perspective, the changed indications for HT use after the publications of some randomized controlled trials e.g. Women's Health Initiative (WHI) (EMEA, 2003) can have reduced some women's uncertainty and strengthened their skeptical attitudes towards HT, while other women's uncertainty might have increased implying a need for reappraisal of their use of HT, and still others may not have paid any interest to the matter as it is of no importance in their ways of being.

Conclusion

Grounded theory (as a method of conducting the study and analyzing the data) proved to be well suited to the aims of the study, allowing both what concerned the women here and their resolving behaviors to emerge through listening to the women's own narratives and interpretations. The middle-aged women who were studied dealt with uncertainties during the status passage of menopause by means of the process of *Keeping My Ways of Being*. The intensity of this process and the use of its different stages, *Preserving*, *Limiting* and *Reappraising*, depended on the central and important *Personal Calculation Process* in which the women used their individual explanatory beliefs and evaluations of need.

A GT is expected to fit, have relevance and work while also be readily modifiable. We thus conclude that, although *Keeping My Ways of Being* emerged from data on the

The Grounded Theory Review (2005), vol.5, no.1

menopausal transition that was collected from an exclusively female population, the theory might be expanded in its application beyond the realm of menopause and contribute to an understanding of how people, men and women alike, deal with more or less inevitable passages or changes in which they are concerned with the uncertainties that are present.

Acknowledgements

This study was funded by the Swedish Research Council, the Unit of Research and Development Kronoberg County Council and the Faculty of Medicine, Lund University. We would like to thank all participants for their time and their willingness to share their experiences with us. We also gratefully acknowledge the advice and support received from Dr. Barney Glaser at seminars held in London and Malmö in 2003 and 2004.

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The Grounded Theory Review (2005), vol.5, no.1

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Figure 1

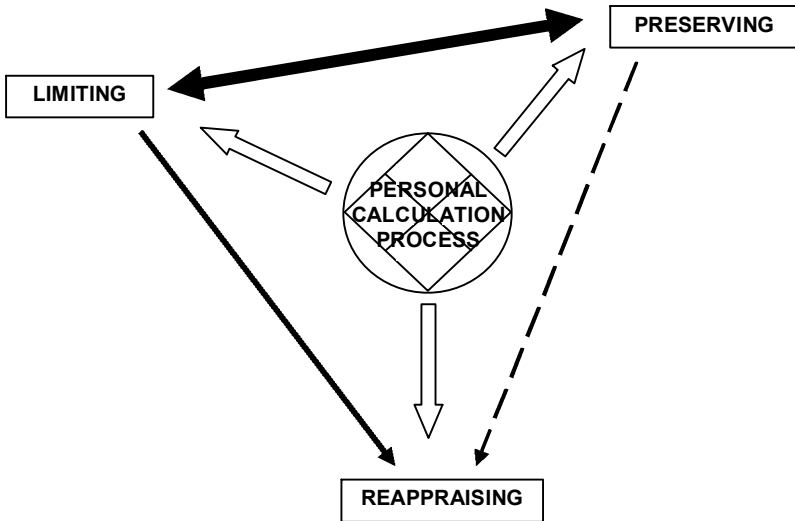
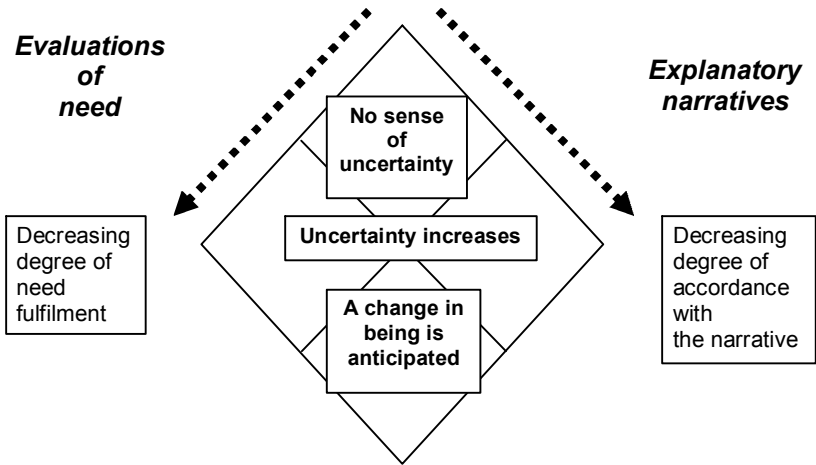


Figure 2

KEEPING MY WAYS OF BEING			
Personal calculation using explanatory narratives and evaluations of need		Preserving	<i>Shielding</i> of core beliefs and personhood
			<i>Maintaining</i> the attained with well-known solutions and strategies
Limiting		Personal calculation using explanatory narratives and evaluations of need	<i>Mastering</i> by augmenting know-how and investing
			<i>Modifying</i> by adjustments of core beliefs, personhood and ranking of priority focus
			<i>Avoiding</i> by "wait and see", downsizing, postponing and detaching
Personal calculation using explanatory narratives and evaluations of need		Reappraising	<i>Vindicating</i> behaviours or feelings
			<i>Facing of facts</i> by enduring, obeying or "learning the lesson"
			<i>Reconciling</i> by compromising, forgiving oneself, hoping for the best, and looking forward

Figure 3



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51-70.

Weathering Change: Coping in a context of pervasive organizational change

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Abstract

This study of organizational change was conducted using classic grounded theory methodology (Glaser & Strauss, 1967). Most of the relevant data came from open-ended intensive interviews with educators—classroom teachers, professional developers, learning specialists, administrators, and student teachers. Theoretical sampling was also done in organizational settings such as businesses, nonprofits, and religious institutions. The theory of weathering accounts for how organizational members continually resolve their main concern of survival in the face of pervasive change. *Weathering* is a basic social-psychological process that enables individuals to endure changes in a manner consistent with their personal and professional needs, goals, and values. In the *sizing-up* phase, an individual initially confronts an impending organizational change. In the *filtering* phase, one decides how to cope with the change by processing the information through personal and professional filters. The outcome of filtering determines the behaviors exhibited in the *coping* stage. *Coping* is a set of behaviors that are best characterized as *resisting* and *acquiescing*. The study suggests that leaders consider the complexities of *weathering* behaviors as they seek to implement organizational changes.

Introduction

Relentless calls for reform are etched in the consciousness of American public educators. As debate continues to rage among policy-makers and scholars over high-stakes testing, accountability, and educating an increasingly diverse society, administrators and classroom teachers face the grassroots pressures of improving test scores and student learning. Despite a wealth of

The Grounded Theory Review (2005), vol.5, no.1

theoretical and practical writings on school reform, implementing change remains as challenging as ever. As Evans (2000) observed, "Organizational change—not just in schools, but in institutions of all kinds—is riddled with a paradox. We study it in ever greater depth, but we practice it with continuing clumsiness" (p.4). By examining the "human side" of school reform, Evans sought to illuminate the psychosocial factors of organizational change that rational-scientific approaches do not fully consider.

Contemporary scholars of the change process recognize that complex organizational processes are best understood through systems thinking. As Wheatley and Kellner-Rogers (1998) noted, "Since human organizations are filled with living beings...this process can't be described in neat increments. It occurs in the tangled webs of relationships—the networks—that characterize all living systems". (p. 1) With its focus on discovering patterns of behavior, classic grounded theory (Glaser & Strauss, 1967; Glaser, 1978) is an ideal, and underutilized, methodology for understanding, explaining, and predicting the patterns of social behavior that occur in complex organizational contexts. A theory that is grounded in the psycho-social behaviors of actual participants in change contexts affords researchers and leaders a "controllable theoretical foothold" through which to implement sustainable change. A grounded theory truly addresses the complex, human side of change.

Methodology

Grounded theory is a systematic, empirical, and primarily inductive research methodology. The purpose of the methodology is to generate theories directly from data to explain social behavior. The theory that emerges from analysis of the data accounts for how participants in an action context continually resolve their relevant issues and problems (Glaser & Strauss, 1967). The grounded theorist enters a substantive area of study and begins to collect data, usually through open-ended intensive interviews or participant-observation. Rather than pre-establishing interview subjects or generating a list of questions at the

The Grounded Theory Review (2005), vol.5, no.1

outset, the researcher follows the data where it leads through theoretical sampling, the continuous collection and comparative analysis of data. (Glaser, 1978)

In constant comparative analysis the researcher open codes the data. That is, one compares incidents, freely and abundantly generating codes in the margins of the notes, transcripts, publications, and other data sources (Glaser, 1998). Open coding generates substantive codes, which summarize empirical data in the substantive area, as opposed to theoretical codes, which conceptualize how the codes interrelate. The core variable is the category that emerges from comparative analysis of data and serves as the foundation for the theory. It recurs frequently, links various data, and allows for maximum variation in accounting for behavior in the action scene. Through coding, memo writing, and theoretical sampling for more data as indicated by the analysis, a relevant grounded theory — linked together by a core variable — emerges.

This study fully embraced openness to all forms of data for analysis. As Glaser (1998, p.8) proclaimed, "A basic tenet of grounded theory, one that particularly grabs its devotees, is that 'all is data.' [The researcher] need only see what incidents come his way as more 'data' to constantly compare, to generate concepts, and to induce the patterns involved." The "grist" for this study included the following:

- Open-ended intensive interviews with over twenty individuals involved in educational reform (classroom teachers, administrators, student teachers, consultants)
- Group interviews with student teachers;
- Participant-observation in a public elementary school;
- Participant-observation in professional development activities;
- Online teacher diaries;
- Videos of teachers engaged in professional development;

The Grounded Theory Review (2005), vol.5, no.1

- Ethnographic studies of teachers engaged in change processes;
- Personal reflections/journals on change experiences;
- Scholarly literature on organizational change and school reform.

The Theory of Weathering Change

Through constant comparative analysis of data, the theory of *weathering change* emerged. Weathering is a basic social-psychological process that enables individuals to endure changes in a manner consistent with their personal and professional needs, goals, and values. This study discovered that, rather than focusing on implementation of reform measures, teachers in pervasive change environments are most concerned with various forms of survival.

Conditions

There are five factors that combine to create a problematic situation in which weathering behaviors result. First, the receiver of the communication of a change initiative understands it to be imposed. Second, the change communication is perceived as emanating from a person or position of authority. Third, the receiver of the change message believes the imposed change to be accompanied by expectations of accountability for implementation. Fourth, the change message is delivered in a context of pervasive change. Finally, the change produces apprehension. If each of these conditions is present weathering behaviors in an organization become highly likely.

Stage One: Sizing-Up

Sizing-up, the first stage of the *weathering* process, is the initial mental processing of a change initiative. Weathering has begun, meaning that the individual already feels apprehensive about the change. Thus, emotions play an immediate and vital role in *weathering* from the outset. The stage is marked by uncertainty, indecision, and perhaps fears. Such visceral reactions impact one's initial

The Grounded Theory Review (2005), vol.5, no.1

impressions of the initiative. Although some deliberation occurs, *sizing-up* is primarily reflexive in character.

Sizing-up is not only an internal mechanism; as a meaning-making stage, the social dimensions are of tremendous significance. That is, the meaning that one constructs of a change initiative is derived not only through mental processes, but through social intercourse. People gather information from observing others relate to the same issue. They also gain insight by interacting with other meaning-makers around them. Thus, principles of symbolic interactionism (Blumer, 1969) are integral to the *sizing-up* process. Through *weathering*, individuals negotiate the meaning of organizational changes through a process of interpretation and self-communication. In the *sizing-up* phase, people negotiate meanings and choose responses through the behaviors of recording and taking cues.

Recording

Recording behaviors enable people to gather information that is used to size-up and filter change initiatives. While engaged in receiving communications, people are recording data to “play back” during the filtering stage. People record not only content that is presented by the authority imposing the change, but also imprint their emotions and instinctual responses.

Initial impressions “frame” perceptions of the environment in which the change was communicated. According to Goffman’s (1974) theory of frame analysis, frames arrange what part of reality one sees based on the context. Whether one experiences an event as a command versus a collegial invitation depends not only upon words, but upon the entire context—location, formality, and other symbols. Frames guide perceptions and therefore help determine how and if a change is to be weathered.

Taking Cues

People encountering change take cues from the social context. In other words, as individuals form their initial impressions of the change being imposed on them, they consider the behaviors of other organizational members.

The Grounded Theory Review (2005), vol.5, no.1

Taking cues frames perceptions and helps create meaning. The two main types of behavior that color the atmosphere are *nay-saying* and *buying-in*. *Nay-saying* is an effort to influence the change process by those desiring to voice discontent and “rally the troops.” The behavior, when observed, recorded, and sized up by others, has the potential to galvanize opposition or create support for the change, depending upon how people respond to the person nay-saying.

Buying-in communicates an active acceptance of the change initiative as it is presented. *Buying-in* is similar to *nay-saying* in that it is a public behavior. But the individual communicates, through words and actions, enthusiasm rather than discontent. They are part of the *weathering* process because of their social influence. In fact, leaders utilize *buying-in* behaviors of core organizational members in order to sway peers. As one teacher recalled,

My principal took me aside before a staff meeting where we were to decide about shifting funds to his pet program. He asked me to argue for his cause because he felt that other teachers respected me and would go along.

Reputations and loyalties are relevant factors that weatherers take into account as they record both nay-saying and buying-in.

Stage Two: Filtering

The second stage of the weathering process is *filtering*, which is a means for deliberating how to cope with an imposed organizational change. The individual evaluates the change and possible alternatives for action through both professional and personal filters. *Filtering* takes information recorded during the *sizing-up* phase and compares it with preexisting internal filters or schemas. People weigh options and manipulate as close a fit as possible with both personal and professional considerations. People filter change initiatives based on a benefit analysis, an appraisal of what would be the advantages and disadvantages of various actions with

The Grounded Theory Review (2005), vol.5, no.1

respect to the change. *Filtering* is done with the head and the heart, and encompasses instincts, emotions, rationalities, and desires. Filtering produces results that are consistent with personal logics.

While initial responses in the *sizing-up* phase are reflexive, *filtering* is a deliberate process that shares significant commonalities with other conceptual models found in organizational theory literature. For example, the concept of mental models sheds light on the construction of filters. Mental models are “deeply engrained assumptions, generalizations, or even pictures or images that influence how we understand the world and how we take action” (Senge, 1990, p.8). Filters emerged in this study as types of mental models used for a specialized purpose—to endure or weather change.

Filtering is the activity of using filters in a decision-making process. The application of filters is comparable to symbolic interactionist theories of inner dialogue (Blumer 1969). The process of *filtering* is both internal and social; one self-communicates and imaginatively rehearses alternative behaviors before choosing a course of action. *Filtering* is interpretive and comparative. The actor interprets the meaning of the relevant change data (symbolic objects) with reference to his or her own personal and professional filters.

People filter organizational change initiatives according to their professional paradigms. A professional paradigm, as the term is used in this study, refers to prevailing conceptions of what it means to be a member of a profession such as teaching. Although paradigms are established in the social sphere, individuals have their own emphases and modes of interpretation within a paradigm. Thus, one’s operational paradigm is a conception of work-related interconnections and his or her place within that framework. For teachers, the professional paradigm is synonymous with a philosophy of teaching—core beliefs about curriculum, instruction, assessment, discipline, and management. In the current atmosphere of high stakes testing, teachers find themselves making such thoughtful analyses and judgments; they must budget their time

The Grounded Theory Review (2005), vol.5, no.1

based on what they want to accomplish. As one middle school teacher related with respect to curricular changes that require teachers to prioritize test preparation,

I don't teach to the test. That's what other teachers are doing. They teach students formulas for writing that will help the score well on the WASL. I don't follow that line of reasoning. I focus on making them good writers; research shows they have to write at least 900 words a week to improve. My core belief is that I'm preparing each student for college. They all know that it's my expectation they will go to college. I'm too young to compromise my ideals. I'm too young to give up on my beliefs about teaching.

Educators use *filtering* to determine how they will protect their deeply held beliefs about the profession of teaching.

Organizational members filter change initiatives according to their own career orientations. This concept differs from professional paradigms by focusing instead on issues such as length of service and attitudes toward one's position in the organization. For example, *long-hauling* refers to a career orientation which contemplates remaining with the organization for what the individual considers to be a substantial period of time. *Long-hauling* is a future-looking orientation: "I will be here for the foreseeable future." The consequence of *long-hauling* on the *filtering* process is that it produces a propensity to seriously address changes and how they will impact the work environment. There is a sense of organizational ownership.

Conversely, *short-timing* refers to behaviors and attitudes reflecting the intent to leave the organization soon. The orientation may also reflect an indifference to one's length of stay. *Short-timing* is most often a filter of people nearing retirement or departure due to other reasons. An educator illustrated this point as follows: "[T]he older teachers roll their eyes and start complaining...the older teachers, they're not going to do it [teach the new curriculum]" (Broner 2003, 93). The

The Grounded Theory Review (2005), vol.5, no.1

significance of *short-timing* in the *filtering* process is its accompanying lack of ownership in organizational affairs. There is also fearlessness toward decisions about imposed change. *Short-timing* brings a sense of personal autonomy to *filtering*.

Careering is a set of behaviors that incorporate a concern for the progression of one's career. *Careering* leads to changes being filtered according to their likely impact on one's career. Factors include career advancement, sense of professional worth, and feelings of belonging to a profession. *Careering* overlaps with aspects of professional paradigm related to respect and how one perceives the role of one's position in an organization. *Jobbing* is the antithesis of *careering*. The person engaged in *jobbing* filters change initiatives based on how it will impact day-to-day job activities. Of course, *careering* incorporates such considerations as well, but does not emphasize them.

Filtering of organizational changes involves both professional and personal factors. These considerations overlap, as one's professional identity is interwoven with one's personal life. Yet the distinction between professional and personal filters is relevant to the theory of *weathering*, as people discuss their change-related decisions as if the two filters were separate. Personal filters are comprised of two principal categories—personal agendas and emotions. One component of personal filters is the personal agenda. The value one places on financial concerns, social issues, and personal fulfillment impacts workplace decision-making.

Organizational change produces emotional reactions; indeed, apprehension is one of the conditions that give rise to *weathering*. Despite idealistic notions of professionalism, workplace decisions have emotional properties of various intensities. One's core beliefs about what it means to be an effective teacher are tied to issues of self-identity and fulfillment. When a change is proposed that might interfere with these deeply held notions, or other personal agendas such as financial and familial concerns, emotional responses are inevitable.

The Grounded Theory Review (2005), vol.5, no.1

Fear is the most prominent emotion comprising personal filters. People fear organizational change for a variety of reasons. Teachers fear changes that highlight inadequacies in skills or training, not wanting to appear incompetent to leaders, peers, parents, or students. Ironically, teachers fear looking too competent, as the norm is egalitarianism. To buck the culture means to incur the wrath of others and to be ostracized.

Organizational members often feel frustrated by change. One of the primary reasons for this emotional response is perceived time constraints. Teachers almost unanimously filter information based on frustrations over time (and corresponding compensation issues). As one educator complained, "We don't have the time structures to be able to do everything that is on the plate...[we]still have only 7.5 hours (in the school day), and you can't jam it all in" (Downie 2003, 138).

People filter change initiatives through feelings of being overwhelmed. Teachers express a general feeling of being overwhelmed by the many changes that are being put forth and feel that they cannot do what is expected. Even one who usually embraces change can become so overwhelmed by changes that he or she will resist. As one educator noted, "This is becoming too much for me. And I used to like change. Go figure."

Stage Three: Coping

The third stage of the *weathering* process is *coping*. In this phase, organizational members respond to changes based on the outcome of *sizing-up* and *filtering*. *Coping* behaviors range from resistance to acquiescence. People may engage in more than one coping behavior with respect to the same change initiative. And, as *weathering* is a recursive process one may repeatedly size-up and filter an initiative. Reinterpreting the situation may lead to a shift in *coping* strategies based on altered circumstances or perceptions. Recycling through the weathering process is common as the organization revisits the initiative, especially with regard to lengthy rollouts and multifaceted

The Grounded Theory Review (2005), vol.5, no.1

programs. *Coping* is a set of behaviors that fall under two categories: *resisting* and *acquiescing*.

Resisting

Organizational scholars frequently cite resistance as a major issue in their studies. In this study, interviewees almost universally mentioned resistance to change as a relevant factor. In discussing resistance one interview subject noted,

When I was a new teacher, I constantly rode the crest of the wave...Yahoo! Here we go. I came in with the business mentality of, if you don't change, you die. In teaching there is more of a let's wait attitude. There is a huge elephant saying, "everyday that we go forward, we lose. We have to be careful." I think that everyday we hold back, we lose. These two diametrically opposed forces can balance each other out so that nothing happens.

The statement captures important elements of *resisting*. The behavior is in stark contrast with an eager embrace of change; rather than propelling an initiative forward, resistance slows the rate of change. *Resisting* is not anti-change per se. Although *resisting* includes *sabotaging* behaviors, the concept also incorporates behaviors that include incremental, partial, and careful movements toward change.

Finally, the quote depicts resistance as a force. In fact, the notion of "resistance to change" was introduced into the organizational theory literature by Kurt Lewin (1951), who used the term as a systems concept. As Dent and Goldberg (1999) argued, Lewin's original conception—that resistance is a force impacting all organizational members equally—has grown to be considered a psychological concept. That is, organizational studies tend to portray resistance as a personal, leadership versus staff phenomenon. According to Dent and Goldberg, this popular conception is inconsistent with the dynamics of change. The grounded theory methodology enabled the author to consider the intricacies of behaviors that

The Grounded Theory Review (2005), vol.5, no.1

participants commonly referred to as resistance.ⁱ The following paragraphs explain the various types of resisting behavior that emerged in this study.

Sabotaging

Sabotaging is a type of resisting that seeks to hinder the change process so that it will be easier to endure. *Sabotaging* differs from other resisting behaviors in its aggressive stance toward the change initiative and is similar to *nay-saying* during the *sizing-up* stage. The behavior is usually motivated by a sense that the imposed change will negatively impact the individual's personal working environment. Additionally, *sabotaging* may be directed at organizational leadership and structures rather than the change itself. In *sabotaging*, there is an extreme disconnect between the organizational member's perceptions of acceptable change and the leadership's vision. Rather than mere avoidance of the change or waiting it out, *sabotaging* takes the offensive. When *sabotaging*, one attempts to exert influence over an imposed change through behavior calculated to derail or stall implementation of the change.

Sabotaging, in the context of the *weathering* process, is a covert behavior. It is hidden from view of the leadership; working openly against an imposed change risks severe repercussions such as dismissal. Such behavior would run counter to the purpose of *weathering*, which is endurance and survival. On the other hand, *sabotaging* is well-known to colleagues, who often respond with aversion to individuals who engage in the behavior. They are labeled "saboteurs," with a focus on the perceived personality type rather than the behavior.

Hiding Out

Hiding out is primarily an avoidance strategy. While overlapping with some forms of *sabotaging*, the specific intent is different. People *hiding out* do not attempt to influence the change initiative, but only seek to protect themselves. *Hiding out* allows organizational members to fly under the radar and go about their business. That

The Grounded Theory Review (2005), vol.5, no.1

business might very well include implementing the imposed change. However, *hiding out* enables one to implement changes without being seen, so that frailties and imperfections remain unexposed.

The isolationist culture prevalent in schools (Fullan, 2001) is a breeding ground for *hiding out* behaviors. The two primary reasons teachers cite for *hiding out* are a lack of respect and a lack of time. They grow accustomed to not being trusted to exercise professional judgment. Thus, they do not want to open the door to work with others who seem to display superior knowledge such as specialists or coaches. This is also because of time constraints involved with change. *Hiding out* behaviors create an invisible shield that teachers hope will protect them from unwanted forces of change. Teachers persist in using the same methods and materials for decades. This has become a part of many school cultures so that even those who are not opposed to change will engage in *hiding out* if it suits their interests. One respondent admitted, "If I disagree with a change, I shut the door and do what I need to do." The behavior is reinforced and recurring; teachers can take refuge in this isolationist culture.

Biding Time

Biding time is closely related to *hiding out*. However, while people *hiding out* may be engaged in implementation, *biding time* avoids the change, waiting until it goes away. Consistent with *hiding out*, people choose this behavior when their personal and/or professional needs, goals, and visions do not align with those of the leadership. They wait for a change in the leadership or in organizational priorities. It takes less energy to wait it out than it does to negotiate. Teachers are reinforced in their reliance on the fleeting nature of organizational change, which is a constant in education. Teachers know that more change will always come and feel that it is "lightweight"; they can ignore some of the changes "without the threat of repercussions" (Pelagian, 2004, p. 96).

Biding time is a skillful strategy. One develops a knack for knowing when and how to bide time. An experienced

The Grounded Theory Review (2005), vol.5, no.1

teacher noted that "you become savvy about what is going to be an enduring change and what will just slide by. Some stuff you just 'forget' to do because no one brings it up again." A constant cycle of change creates an atmosphere where *biding time* becomes an important alternative. When one program is replaced, said a veteran teacher,

We know it will come back again but with a different name... [We] become cynical, and that's not a good role model for younger teachers, who are seeing everything for the first time. But we say, 'Here it is again.'

Changes in leadership elicit *biding time* behaviors. There may be a long line of leaders who are not change oriented, then there is a "shock to the system" when someone joins the organization who expects rapid change. Organizational members know that *biding time* and *hiding out* are both viable options because after leaders depart, changes often fall by the wayside.

Illusioning

Illusioning is a coping strategy that contains elements of both *hiding out* and *biding time*. One illusions in order to keep the truth hidden. But, unlike *hiding out*, *illusioning* includes an overt act of pretense to create the illusion of compliance. One is able to achieve similar results to *biding time* through *illusioning*, but, through partially complying to create an illusion, one is positioned for success if the initiative takes root.

In the teaching context, such illusions include bulletin board displays of student work to create the appearance that a new curriculum is being used regularly when, in fact, the teacher relies primarily on the replaced curriculum. Another form of *illusioning* is slick "dog and pony shows" during principal observations. Peligian (2004) cited an excellent illustration:

Nancy resisted by accommodating and partially complying with some of the teaching practices. She displayed the point system from the curriculum on a wall but used it occasionally. When the director

The Grounded Theory Review (2005), vol.5, no.1

came into the room, Nancy acted like she was following the curriculum but as soon as the director left the room, Nancy continued teaching her way. (p. 85)

Illusioning also takes place at meetings, where one skillfully chooses words and actions to convey an illusion of compliance. The communications can be characterized as “vaguening out” (Glaser 1998), as people dodge detailed questions with generalities.

Deflecting

*Deflecting*ⁱⁱ is another *coping* behavior that, like *illusioning*, is an active means of protecting oneself from a change initiative. Through *deflecting*, organizational members attempt to redirect actions and communications that would bring attention to their noncompliance with a change initiative. This is accomplished in a variety of ways. Some, when confronted with change talk, bring up trivial details or try to shift the focus to a rehash of past decisions. *Deflecting* has the effect of derailing the communication and also soaks up time so that the real business of change cannot be addressed. This “agenda-controlling”ⁱⁱⁱ ploy is common in teacher staff meetings, where the principal has a limited time to address many issues and collective bargaining agreements do not permit meetings to spill over the allotted time. One of the typical *deflecting* behaviors is to bring up scheduling conflicts when trying to arrange a meeting or event that would push an initiative forward.

One teacher, who embraced a particular change, decried the *deflecting* behavior of co-workers: “Everyone bitched about the curriculum. They nitpicked the guide we developed [for a new program]. They scapegoated so they wouldn’t have to do it.” Such behavior is similar to *illusioning*, in that people pretend to have a particular concern, when the underlying reason is one that they do not want to divulge. They deflect the conversation to areas that stay away from exposing their true beliefs and intentions. Teachers often do not discuss the real reasons

The Grounded Theory Review (2005), vol.5, no.1

for decisions about a change initiative. They vocalize concerns about an initiative's impact on students, when the subtext is actually, "this is going to make my life difficult."

Bargaining

Bargaining is a *coping* strategy that requires tacit agreements between an organizational member and a leader. For example, there are unspoken agreements between principals and teachers as to changes that can and cannot be ignored. Through *bargaining*, teachers are able to exercise the freedom to do what they want as long as the students are learning. The principal must agree that the ends count more than the means of getting there. *Bargaining* is intricate play-acting through which the leader pretends to be treating all organizational members equally, but in reality has struck bargains with individual members. *Bargaining* is co-illusioning in which both parties protect themselves from the consequences of open disregard for a change directive. In schools, principals turn a blind eye as long as a teacher is willing to put up a show. A veteran teacher noted,

People close the door and do what they want. They put on a performance when it's time to be evaluated. They have time to prepare and know when it's coming. As a principal told me, 'you play the game when the game is needed, then you do what you need to do the day after.'

Some teachers strike bargains by taking on leadership roles. They resist changes by making themselves indispensable in various ways, currying favor with the upper hierarchy. As one teacher noted, "They establish a name for themselves outside of the classroom, like as a coach or sponsoring a club. They volunteer to fill this need and the principal won't chastise them for not following the new programs." In this way, when a change comes around that the person decides to resist, the person has minimized his or her risk of being reprimanded.

Acquiescing

The Grounded Theory Review (2005), vol.5, no.1

Organizational members also choose to endure a change initiative by *acquiescing*. This may seem counterintuitive, for the outward behavior of acquiescence resembles one who has embraced change. But, rather than signaling that one is *thriving*, *acquiescing* is merely a sign of resilience in the face of change.^{iv} The individual chose to acquiesce, despite feeling the weight of pervasive change and despite defense mechanisms that might have urged resistance. People acquiesce to endure the change (which they might believe to be merely a flavor of the month) or to at least get through the initial negative emotions. Those who acquiesce have determined that their professional and personal filters are best served by following directives. *Acquiescing* is a defensive mechanism, a sort of white flag that leads to implementation without full buy-in.

By the Booking

By the booking is an extreme form of *acquiescing*. One decides to follow the change directive to the letter. In "crossing all the t's and dotting all the i's" one is able to construct an air-tight fortress. Going by the book is playing it safe; one feels under the pressure of pervasive change and copes by doing what is required. *By the booking* is usually accompanied by overt questions such as, "Exactly what do I have to do and when is the deadline?" There are two conflicting motivations for going by the book. The principal reason for *by the booking* is a fear of accountability. However, one may choose this strategy in order to undermine the initiative by following the letter but not the spirit of an initiative.

Some people choose *by the booking* in order to be absolved of the responsibility to exercise professional judgment. Especially when there are gray areas (which some will use to exercise freedom), those going by the book choose the course that is most black and white. Thus, a teacher, rather than attending to hints that it is okay to pace the curriculum as he or she sees fit, will go by the book and follow a pre-determined pacing schedule, even if the teacher disagrees with its utility.

Good Little Soldiering

The Grounded Theory Review (2005), vol.5, no.1

"I can't do it all. It's impossible. But I try." Such are the sentiments of a respondent who regularly engages in *good little soldiering*. It is a strategy that differs from *by the booking* in two significant ways. First, while *by the booking* has an undercurrent of "resisting-by-doing," *good little soldiering* is a good faith effort to meet leadership expectations. Second, *good little soldiering* embraces professional judgment. That is, although rules-following is highly regarded, there are times when one must exercise judgment in order to meet the spirit of the change initiative. This is what leaders expect. Thus, unlike one engaged in *by the booking*, *good little soldiering* anticipates that one will disregard the minutiae of a directive if it would interfere with the overall vision of the leadership.

Good little soldiering is the only option that some people have for *coping* with the implications of pervasive change. Although one may disagree with the initiative on professional grounds, and although the changes may create personal hardship, one chooses *good little soldiering* out of a sense of organizational duty: "I accept the changes. My job depends on my ability to follow the rules that are set by the state, the district, and the school."

Good little soldiering is closely aligned with *bargaining*. That is, one engaged in *good little soldiering* uses that acquiescence as leverage to later strike a bargain. In that way, one may alternate back and forth between *bargaining* and *good little soldiering*. The account balance of good will is a factor to be filtered along with other factors.

Despite appearances, *good little soldiering* is a *weathering* behavior. As teachers who have tried the behavior indicate, *acquiescing* in spite of apprehension or disagreement with the leadership may eventually build to the point of resistance. Those who are continually in the thick of change efforts can experience burnout as they endure the stresses of pervasive change.

Discussion

The theory of *weathering change* contributes to the ongoing discussion of implementing school change. The

The Grounded Theory Review (2005), vol.5, no.1

study indicates that even educators who agree with reforms and who value improved student learning find themselves engaged in *weathering* if the environment is laden with change. Thus, even when *coping* strategies includes partial compliance (e.g., *illusioning*), substantial good faith compliance (e.g., *good little soldiering*), or full compliance (e.g., *by the booking*), implementation is not necessarily the central consideration. Rather, "getting through" is often the focus, which displaces both psychic and physical energy away from the business of instituting and sustaining change. Unless leaders and change agents learn to recognize and address *weathering*, this phenomenon will continue to derail reform efforts.

On the other hand, this study does not address *weathering* pejoratively; grounded theory does not label and thereby judge people, but instead names behaviors and links patterns of behavior together to form a coherent explanatory theory. The theory then provides a measure of understanding, predictability, and control. *Weathering* behaviors are neither positive nor negative in themselves. But recognition of the underlying patterns can help change agents to formulate interventions that take into account the reality of *weathering*.

This author encourages researchers to utilize the grounded action (Simmons & Gregory, 2003) approach to develop effective interventions to address the underlying problems that give rise to *weathering*. Grounded action, an extension of grounded theory, offers a systematic approach for generating an operational theory directly from the explanatory grounded theory. An operational theory is a set of predictions about outcomes that would arise from implementation of specific action steps. The theory is presented as an action plan which can take a variety of forms, including program designs, policies, and procedures. The explanatory theory must be compared to relevant components of a social or organizational problem in a specific action context so that the intervention emerges as relevant to that particular context.

Future research (whether using grounded action or other approaches) should consider the leverage points that

The Grounded Theory Review (2005), vol.5, no.1

weathering change provides at various stages of the process. For example, one might analyze measures to diminish *weathering* at the outset of an initiative (and increase *thriving*) in an organization by taking steps to reduce apprehension. To address *sizing-up*, researchers might investigate alternate rituals and structures for communicating change that would promote positive note taking and cue taking by organizational members. With regard to *filtering*, principles of adult learning suggest that interventions might focus on mental models (Senge, 1990) and critical reflection (Brookfield, 1995); in this way, people would be encouraged to revisit their personal and professional filters.

The theory of *weathering change* applies not only to teachers and schools, but to other organizational contexts as well. Although most of the data in the study are from the educational context, this study compared data from other organizational contexts to add variation to the theory, thereby enhancing its applicability, with modification, to other substantive areas. This ability to be generalized outside the initial unit of inquiry is a hallmark of grounded theory, setting the methodology apart from other naturalistic forms of inquiry that are descriptive rather than explanatory. Armed with a theory that explains underlying patterns of behavior, change agents are more likely to develop interventions and programs that are relevant and workable for participants in the action context.

Endnotes

¹ The author considered not using the term “resisting” in the study because of its pre-existing connotations in the literature. However, inasmuch as the term was uttered by many of the participants (in vivo), it was important to reflect this language in the study. The behaviors explained in this section center around what participants considered to be resistance.

² Patnode’s (2005) grounded theory of shoring-up also identified deflecting as a protective behavior engaged in by politicians to redirect attention and buy time.

The Grounded Theory Review (2005), vol.5, no.1

³ Regalado-Rodriguez' (2001) grounded theory study of organizational change identified "agenda-controlling" (96) as a behavior through which individuals attempt to shift the focus of an undertaking.

⁴ Although the study found incidents of "thriving" with respect to change, that concept fell outside the scope of the theory of weathering. But inasmuch as people both thrive and weather with respect to organizational change, discovering connections between the two concepts could prove fruitful for understanding the full panoply of change responses.

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The Grounded Theory Review (2005), vol.5, no.1

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The Grounded Theory Review (2005), vol.5, no.1

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Achieving Rigour and Relevance in Information Systems Studies: Using grounded theory to investigate organizational cases

By Walter D Fernández, Ph.D. and Hans Lehmann, Ph.D.

Abstract

This paper builds on the belief that rigorous Information Systems (IS) research can help practitioners to better understand and to adapt to emerging situations. Contrary to the view seeing rigour and relevance as a dichotomy, it is maintained that IS researchers have a third choice; namely, to be both relevant and rigorous. The paper proposes ways in which IS research can contribute to easing the practitioners' burden of adapting to changes by providing timely, relevant, and rigorous research. It is argued that synergy between relevance and rigour is possible and that classic grounded theory methodology in combination with case-based data provides a good framework for rigorous and relevant research of emerging phenomena in information systems.

Introduction

Information technology (IT) practitioners work in a frantic business world, facing new and complex socio-technical arrangements. New technologies enable companies and people to interact in ways which were simply nonexistent just a few years ago. Practitioners' knowledge, mainly gained through previous experiences, is often an imperfect tool as the changing environment challenges previous assumptions or common wisdom. These practitioners need relevant IS research that can guide their sense making and their actions. In this context, Information Systems (IS) research has been accused, rightly or wrongly, of being irrelevant to practitioners.

Therefore, it is not surprising to find that the topic of rigour and relevance is an ongoing concern in the IS research community (Benbasat & Zmud, 1999; Fernández,

The Grounded Theory Review (2005), vol.5, no.1

Lehmann, & Underwood, 2002; Gray, 2001; Lee, 1999; Nissen, Klein, & Hirschheim, 1991; Robey & Markus, 1998; Senn, 1998). Recent evidence of this concern include the March 2001 edition of the Communications of the Association for Information Systems, dealing with IS research relevance in response to a very "hot" discussion between members of the ISWorld community (Kock et al., 2001), and the full-house attendance at a panel debate on this topic during the premier conference in the information systems field, ICIS 2001 (2001).

While many researchers perceive rigour and relevance as opposite paradigms, Stokes (1997) argued that the quest for fundamental understanding and the considerations for practical use can be attained simultaneously. To achieve this dual and simultaneous goal, Robey and Markus (1998) proposed the adoption of three research models: (a) *applied theory*, where existing theoretical models are used to study real and relevant problems from the practitioners' world; (b) *evaluation research*, where researchers evaluate a particular intervention against a set criteria based on objectives and consequences; and (c), *policy research*, where alternative solutions are evaluated against a set of criteria usually including cost, efficacy, or practicability; where the main objective of policy research is to understand the policy-making process. While these three research models are suitable for rigorous and relevant studies, an important research model has been neglected, as we argue next.

Adding to Robey and Markus' work, we propose a fourth methodological alternative: *grounded theory building research*, where the emerging theory helps explain, in conceptual terms, what is going on in the substantive field of research. As mentioned earlier, this alternative is of particular importance when the focus is on *emerging* socio-technical IS phenomena because it avoids the risk of transferring incorrect theoretical assumptions to emerging phenomena. When dealing with emergent socio-technical organisations, it could be argued that by adopting Robey and Markus' model of *applied theory* we could be forcing preconception into the emerging phenomena, this

The Grounded Theory Review (2005), vol.5, no.1

preconception could potentially render the study irrelevant to the practitioner as it may fail to address the concerns of the people involved. In other words, the use of such preconceived theoretical models to study real and relevant problems from the practitioners' world does not necessarily result in relevant research. Furthermore, two risks must be mentioned:

- forcing the optic of existing theoretical models into the research of new problems will only produce relevant research if the model selected a priori both fits with what is going on in the substantive field and addresses the emerging concerns. This is the risk of producing irrelevant research products (from the practitioner's viewpoint).
- given that forcing is possible, since we can use many optics to analyse a particular problem, preconception can stop researchers from finding the most important concepts at play from the perspective of the people involved. This is the risk of minimising the "relevance" outcome for the research project (from the practitioner's viewpoint).

Thus, this paper aims at researchers simultaneously pursuing rigour and relevance in studies of *emerging* IS phenomena, usually in response to dual academic and industry objectives (Fernández & Underwood, 2001). By aligning these objectives, researchers can engage in 'mode 2' research (Gibbons, Limoges, Schwartzman, Scott, & Trow, 1994); that is, achieving synergy between academy and practice by producing relevant theories that can advance the academic knowledge and, at the same time, can be applied in practice.

The concept of achieving synergy is both important and practical; it facilitates the research and offers the potential to produce a more significant and valuable research product. Our experience shows that IS researchers preoccupied with rigorous, relevant, timely, and realistic studies of emerging phenomena will benefit from greater interaction between industry and academia. This interaction is important because it provides "appropriate

The Grounded Theory Review (2005), vol.5, no.1

research topics, funding, and more importantly access to data for research" (Kohli, 2001:2). Access to rich sources of empirical data allows the observation of complex organizational environments where many important variables are at play. These variables are often difficult or impossible to replicate in experimental research—e.g., commercial arrangements, disparity of stakeholders' objectives, politics, culture, inter and intra-organisational issues, etc.

Obtaining access to rich data sources can be difficult, time consuming and frustrating. However, the relevance of the research to the industry can help achieve access to rich data and higher cooperation from the participants. Evidence from our own research suggests that the participants' perceptions of relevance (or benefit) can contribute to the scientific value by:

- Allowing access to research sites, events, historical data and actors that are critical to our understanding of the phenomena.
- Providing more open accounts and wider access to what is really going on in the field (i.e., e-mails, documents, access to meetings, workshops, negotiations, etc.).

Methodological rigour can then be applied to richer data resulting in academically sound research that is useful to professional practice. One extra problem often influences the researcher's probability to achieving access: organisations and people are often afraid of being described in a "bad light" or "loosing face". This certainly is a particular problem with description-rich qualitative studies; however, this problem is solved by conceptualisation. Conceptualisation of what is going on in our substantive area of research results in an abstraction (theory) that is useful and grounded on empirical evidence yet divorced from actors, organisations and time. Thus individuals and organisations do not need to fear identification and potential negative effects on their reputations.

To discuss how grounded theory building studies can contribute to the IS field, this paper:

The Grounded Theory Review (2005), vol.5, no.1

- addresses the issue of studying emerging phenomena to produce relevant and rigorous conceptualisations,
- describes a rigorous research approach for these studies,
- shows how this approach can produce relevant research and indicates the particular demands and risks of taking this path, and
- concludes by suggesting a particular research agenda and approach.

Studying Emerging Phenomena

One of the challenges in studying 'relevant' topics is that what is perceived as relevant from the practitioner's perspective is often related to emerging phenomena. Such topics are usually new; with little or no prior theoretical studies and/or frameworks on which to base research questions and approaches.

While existing theories may be applicable to new phenomena, almost by definition, emerging phenomena lack theories grounded on empirical data obtained from real participants in the substantive field of the phenomena. For example, reviews of international information systems (IIS) applications in the literature tend to agree that past research into IIS is sparse, sporadic and diffuse (Lehmann, 2001). These characteristics can also be observed in the study of emerging socio-technical IS project structures like metateams or virtual teams (Fernández, 2003; Fernández & Underwood, 2003).

Obtaining a good appreciation of temporal processes is a critical requirement when researching new organizational phenomena (Van de Ven & Poole, 1989). To achieve this, researchers must (a) place the research in its social and historical context including people as active builders of their own physical and social reality (Orlikowski & Baroudi, 1991) and (b) seek to generate empirically valid theory by systematically exploring the new phenomena and its players in non-simulated environments aiming "to discover what is going on, rather than assuming what should go on"

The Grounded Theory Review (2005), vol.5, no.1

(Glaser, 1978:159). The discovery aspect of this type of research is a critical success factor for its relevance.

Thus, researchers concerned with discovery must be able to conceptualise what is going on in their field of interest, and to do that they must allow themselves to become immersed in data and to follow a rigorous approach in the constant search for patterns, similitude and contradictions. In these cases, (a) selecting an appropriate research method to deal with the issue of lack of extant theories is a critical success factor in this type of research and (b) offers a proven way to constantly compare the data to discover useful and important patterns and concepts. The next section of this paper presents a rigorous research approach that effectively deals with studies of emerging phenomena.

Rigour: Assembling the Research Approach

IS researchers facing a lack of applied research in their field need to employ research methods that do not rely on prior theoretical foundations. It seems prudent to derive the methodology by using the focus and nature of the research as a guide. There are three fundamental characteristics of research undertakings concerned with emergent IS issues:

- Information Systems are hybrids of human, social and technical research objects (Kroenke, 1992).
- The research objects are usually the interaction of technology, organisations, groups, and individuals; they do not always lend themselves to quantitative measurement and often require a qualitative mode of inquiry.
- Because the research themes are new, researching them will involve building new theory rather than deductively extending existing ones.

Qualitative research methods have become accepted in IS research (Walsham, 1995) and have been in use in the social sciences for some sixty years. Grounded theory, with its close relationship between data coding and

The Grounded Theory Review (2005), vol.5, no.1

analysing, was new and revolutionary in 1967. However, by the mid-1990s a number of its principles had been assimilated into mainstream qualitative research methodology, such as in the data analysis steps suggested by Lofland et al. (1995), Miles et al. (1994) and Carney, (1990). Grounded theory, in the meantime, had developed into two main variants, namely

1. the original process and sequence of phases as exemplified by Glaser et al. (1967) and further augmented by Glaser (1978); this is labelled 'Glaser' in the following discussion;
2. the methodology as outlined by Strauss (1987) and then prescribed in procedural detail by Strauss & Corbin, (1990); this is labelled 'Strauss'.

In the table below, the two mainstream methodologies are set out in comparison with the steps in both schools of Grounded theory methodology.

Table 1. Comparison of data analysis steps and phases. *Italics* denote a method's proprietary nomenclature

<i>Lofland & Lofland (1995)</i>	<i>Miles & Huberman (1994)</i>	<i>Strauss (1987) Strauss & Corbin (1990)</i>	<i>Glaser(1978, 1992,1998,2001) Glaser & Strauss (1967)</i>
"Framing" (in Social Science Frameworks)		Formulation of the Research Question	
Coding: <i>Initial Coding</i>	Creating a <i>text</i> to work on	<i>Open Coding</i>	Open Coding
Coding: <i>Focused Coding</i>	Trying out coding categories to find what fits	<i>Axial Coding</i>	<i>Selective Coding</i>
	Identifying themes and trends in the data overall	<i>Axial Coding</i> and Applying the ' <i>Paradigm</i> '	Memo Writing (ongoing throughout all phases)
Memo Writing; and Diagramming	Testing hypotheses and reducing the bulk of data for analysis of trends in it.	<i>Selective Coding</i>	<i>Theoretical Coding</i>

The Grounded Theory Review (2005), vol.5, no.1

		Theoretical Sampling	<i>Theoretical Sampling</i> (iterating back to Open, Selective or <i>Theoretical Coding</i>)
		Identifying the <i>Process & Contingencies</i>	
		<i>Setting out the Conditional Matrix</i>	
<i>Thinking flexibly: the final analysis</i>	Delineating the <i>deep structure</i>	Theory Writing	Theory Formulation: <i>substantive</i> or <i>formal</i>

Lofland & Lofland’s is the least prescriptive method outlined. It follows a traditional, positivist paradigm by starting with a pre-defined hypothetical position, anchored in a social science framework germane to the research area and object.

Miles & Huberman’s ‘ladder of analytical abstraction’ is somewhat similar in structure to the logic of the Glaser version of grounded theory. The significant difference is, however, that there is no element of theoretical sampling continually to steer the investigation along a route of increasing conceptual and theoretical density. Furthermore, although some leeway for adapting categories to the data is provided for, theirs is fundamentally a non-iterative research design, more suitable for well-defined studies in the incremental tradition of Kuhn’s *normal science*.

Strauss’s procedural method compendium is the most elaborate and also the most prescriptive process of the designs under comparison. It seems to have developed into a set of “exceedingly complex processes” (Lofland et al. 1995, p192), trying to do two things at once. For one, it tries to preserve the richness of application and the elegant simplicity of procedure inherent in the ‘Glaser’ version of grounded theory methodology; at the same time, it attempts to avoid its reliance on the researcher’s conceptualising skills and theoretical sensitivity – by

The Grounded Theory Review (2005), vol.5, no.1

replacing it with a deeply structured process, trying to have a clear rule for every eventuality.

The original 'Glaser' framework seems to be the most suitable methodology for the study of Information Systems because it does not require a preceding theory (as Lofland & Lofland's), it is extensible (which is difficult in Miles & Huberman's methodology) and because it provides more freedom of interpretation than Strauss's multi-step analysis procedure.

The shortcomings of the 'Strauss' process for the study of IS in organisations are manifold:

- (a) It has been specifically designed for predominantly 'homocentric' research settings, i.e. with specific emphasis on human-to-human interaction¹. This is, however, only one of the research objects in IS research, which also spans technology, social, and organisational objects.
- (b) Strauss' strict rules for open, axial and selective coding were designed for research where the individual is the main unit of analysis and the individual interview or observation the predominant 'slice-of-data'. It is questionable whether they could be adapted for an investigation where the unit of analysis are cases about information systems in enterprises, i.e. multi-person, multi-layered (and eventually multi-organisational) settings with a strong content of inanimate technology;
- (c) Strauss et al.'s (1990, p99) '*paradigm*' for constructing and linking categories is too restrictive for the open-ended research that information systems require. It forces the categories and their properties into a uniform, pre-defined causal structure. The relationship between facts is, however, a central element of the research questions about the use of information technology in organisations and its nature needs to be left to emerge from the investigation. The narrowness of the '*paradigm*' could thus preclude the correlative, 'covariant' relationships between facts expected in (multiple) cases of organisational IS;

The Grounded Theory Review (2005), vol.5, no.1

- (d) Moreover, Strauss's 'paradigm' is fully contained in the first of 18 'coding families' set out by Glaser (1978, p74-82) to illustrate some possible frameworks² for 'theoretical' coding (which furthermore encompasses the 'axial' coding in the Strauss terminology);
- (e) Similarly, Strauss *a priori* forces a 'process' nature onto the underlying concepts (Strauss & Corbin, 1990, p143ff). This may or may not be justified, but in any case should be left to emerge from the data³.

A further deciding shortcoming of the 'Strauss' procedure was the blanket refutation it received from Glaser (1992). His main argument is that it is "an over-codification of the basic grounded theory method", resulting in "conceptual fracturing... forcing preconceived notions on data", which, in the end merely produce "full conceptual descriptions", but not theories which are grounded in data.

The Grounded Theory Method

While case study methods have become far more widely accepted in IS research over the last decade, grounded theory research is still a distinct minority method for IS research. The method was born in the early sixties (Glaser, 1964; Glaser & Strauss, 1965). Since first introduced, as a general methodology for theory building, the constant comparative analysis method has been a key concept in the development and understanding of grounded theory. Constant comparison "makes probable the achievement of a complex theory that correspond closely to the data since the constant comparison forces the analyst to consider diversity in the data". (Glaser & Strauss, 1967, pp.113-114) Diversity is achieved by rigorous comparison between incidents and properties of a category, trying to observe as many underlying uniformities and diversities as possible. Furthermore, constant comparison "especially facilitates the generation of theories of process, sequence, and change pertaining to organizations, positions, and social interaction". (p.114) These theories are relevant to both IS researchers and organisations dealing with the processes under investigation.

The Grounded Theory Review (2005), vol.5, no.1

It is critical to note that the constant comparative analysis method is used to rigorously produce conceptualisation *not* full description. Conceptualisation allows practitioners to easily re-apply and adapt the discovered concepts to their particular circumstances, thus making the research product *simpler and more consumable*, an aim also suggested by Robey and Markus (1998).

The classic grounded theory method was first described by Glaser and Strauss (1967) and subsequently extended by Glaser (1978; 1998; 2001). The procedures, intended to be used as a methodological 'package', are extensively articulated in Glaser's works and summarized in Glaser & Holton (2004). When applied as intended, the result is a **substantive theory**, which is applicable to the particular area of empirical enquiry from where it emerged. Classified as 'middle-range' theories; between 'minor working hypotheses' and 'grand-theories', they carry inherent relevance only within the environment concerned, but can be readily enhanced, extended and/or modified.

Building Grounded Theories of Information Systems in Organizations

According to Eisenhardt (1989:546-547), theory building studies using case-based data have three major strengths:

1. Theory building from case data is likely to produce novel theory because "creative insight often arises from juxtaposition of contradictory or paradoxical evidence". The process of reconciling these accounts forces the analyst to a new *gestalt*, unfreezing thinking and producing "theory with less researcher bias than theory built from incremental studies or armchair, axiomatic deduction".
2. The emergent theory "is likely to be testable with constructs that can be readily measured and hypotheses that can be proven false." Due to the close connection between theory and data it is likely that the theory can be further tested and expanded by subsequent studies.

The Grounded Theory Review (2005), vol.5, no.1

3. The "resultant theory is likely to be empirically valid."
This is so because a level of validation is performed implicitly by constant comparison from the start of the process. "This closeness can lead to an intimate sense of things" that "often produces theory which closely mirrors reality".

Whilst theory developed from case study is particularly appropriate in research of IS innovation phenomena, the researcher must exercise care to ensure that some of the canons of case study research do not distort true emergence for theory generation. (Glaser, 1998:40-42) For example, Yin (1994:28) states that "theory development prior to the collection of any case study data is an essential step in doing case studies." This statement contravenes a key tenet of grounded theory - but reflects perfectly the traditional stance of case study research - which has sometimes been interpreted as a controlled, field experiment. (Lee, 1989b) It has traditionally followed the positivist, natural science model of hypotheses formulation from overarching theory and their subsequent verification or falsification in controlled studies. (Yin, 1989) The grounded theory perspective, on the other hand, also "reflects a naturalistic approach to ethnography and interpretation, stressing ... observations, open-ended interviewing, the sensitizing use of concepts and a grounded (i.e. inductive) approach to theorising which can be both substantive and formal". (Denzin, 1994)

Despite differences in *Weltanschauung*, however, the grounded theory method as described above, can be designed to match closely the requirements of case study practice, as set out by Yin (1994) or Walsham (1993). This suggests that grounded theory can be used as an overarching methodology that accepts data from case studies as key building blocks but is not limited, or governed in any way, by traditional case study methodology.

A good example of the use of grounded theory with cases is a study of an Information Technology project in a multinational enterprise (Lehmann, 2002) where open coding showed that the categories influencing the systems'

The Grounded Theory Review (2005), vol.5, no.1

development and implementation were the attitudes, beliefs and requirements of the relevant business people involved, characterized by the history and nature of the firm. Juxtaposed were the skills and attitudes of the IS people and their background, in a configuration of relations akin to a Force-Field in Lewin's (1952) terms. Theoretical coding of the case story built from both sides' individual texts led to the discovery of 'derivative' categories, which further explained the relations. Two groups of concepts (named Utility and Control) and constructs (Power Play and Capability) emerged. One had to do with the fact that the business people could not see that the proposed system would have any practical utility in operational terms. They therefore suspected that the IS people used the system as a deception to impose greater control from the corporate centre. Lacking in business understanding and international know-how (facets of Capability), the IS people reacted to this resistance with political Power Play – which further deepened the business side's suspicions.

The nascent theory of the previous example had thus two focal points. Firstly, the resistance to the imposed introduction of a new international Information System seems to depend on its '*net-utility*' over any control component, i.e. the less utility/the more control, the stronger the antagonistic tendencies and tensions in the force-field between business and the Information System. Secondly, the IS people's substituting inability with politics led to a cyclically degenerative cause-and-effect-loop (Weick,1979). At this point, the theory may be written up in the form of a hierarchical set of *theorems* or *propositions* for each relevant and significant focal point/area of the theory. This will point to areas of weak empirical support and therefore direct the researcher to further theoretical sampling. In the case of the multinational IS example, more cases were then needed to add data about factors in successful projects and, to extend the substantive area, firms of different size and nature were preferable.

Relevance: A By-product of the Grounded Theory Method

The Grounded Theory Review (2005), vol.5, no.1

Qualitative research methods have become accepted in IS research (Walsham,1995), have been in use in the social sciences for some sixty years. Grounded theory, in particular, allows researchers to deal effectively with the important issues of bias and preconceptions, providing a systematic approach that takes into consideration extant theory but it is not driven by it. Triangulation is embedded in the methodology (Glaser, 1978, 1998); it values professional experience (Glaser, 1998; Urquhart, 2001); it can efficiently study emerging phenomena (Lehmann, 2001; Urquhart, 2001; Van de Ven & Poole, 1989); and, it helps IT practitioners to better understand their own environment (Glaser, 1998; Martin & Turner, 1986). In other words, the researcher can produce theory-building studies "which are useful, relevant and up-to-date" (Partington, 2000).

The 'hybrid' nature of IS as the research object, however, makes it essential that any selected theory building methodology can be adapted to the specific demands of IS research. Denzin et al. (1994) point out that different qualitative methodologies are based on - and constructed from - different research paradigms and perspectives. These need to 'fit' the research object and, in IS research, its technical and social/organisational environment for the chosen method to be effective.

The aspects of the study of organisational information systems, however, do not align themselves conveniently behind one dominant research paradigm. Guba et al. (1994) analyse the constituent elements of the main paradigm positions in qualitative research⁴ with a specific focus on practical research method issues. Using this as a framework, the table below shows the positions of grounded theory research with respect to selected issues and paradigm elements with relevance for the study of IS in organizations.

The Grounded Theory Review (2005), vol.5, no.1

Table 2. Profile of paradigmatic positions (after Guba et al. 1994)⁵

Paradigm Elements	Spectrum of Paradigm Positions			
	Traditional Positivism	Post-Positivism	Constructivism	Critical Theory
'Voice'(*) Epistemology	Dispassionate observer			
Inquiry aim Epistemology	Explanation of the 'interaction' between the 'factors' that shape the 'nature' of the IS under research.		Understanding of the 'nature', 'structure' and 'attributes' of IS	
Nature of Knowledge Ontology		Hypotheses from 'facts', which are...	... 'mimetic' constructions, that may include...	... structural and historical insights
Accumulation of Knowledge Methodology		Possible cause-effect postulations	Generalisation by similarity of incidents	

(*) the position of the inquirer *vis-à-vis* the research subjects, especially with respect to the impact any research findings may have on the inquirer

The summary shows that the paradigmatic make-up of the grounded theory methodology with a strong orientation towards both a *post-positivist* and *constructivist* stance in Guba et al. (1994) terms. However, it is well anchored in *traditional positivism* because of the – at least initial - clear separation of observer and research object. On the other hand, the equally clear and continuing quest for 'insights' from which the theory will be crafted introduces a strong element of '*critical theory*'. In the broader scoped nomenclature of Orlikowski et al. (1991), the research paradigm profile most appropriate for the grounded theory study of IS cases would be *interpretivist* in its ontological

The Grounded Theory Review (2005), vol.5, no.1

and methodological position, but with a strongly *positivist* epistemology.

Whereas Glaser (2001) elegantly bypasses the argument by stating that by covering all paradigms grounded theory should be viewed as “paradigmatically neutral”, there is substantial discussion in the literature as to whether different paradigms can be accommodated within one study, or if they are ‘opposed by necessity’ (Myers, 1997). Guba et al. (1994) support the dichotomy view and mention specifically that “proponents of [critical theory and constructivism] join in affirming the basic incommensurability of [positivist and non-positivist] paradigms ... [which] are believed to be essentially contradictory”.

On the other hand, there is material support in the literature for multi-paradigmatic approaches to qualitative research. First of all, there is a clear precedent in IS research: Lee (1991) had shown that an integration of positivist and interpretivist paradigms in one study is a practical possibility. Denzin et al. (1994), too, maintain that qualitative research *eo ipso* is characterised by “separate and multiple uses and meanings of [its] methods”. They assert that there is “common acceptance of a multiplism of qualitative research methods. In a statement on qualitative methodology Nelson et al. (1992) observe that “qualitative research is interdisciplinary, trans-disciplinary and sometimes counter-disciplinary ... it is many things at the same time. It is multi-paradigmatic in focus. Its practitioners are sensitive to the value of the multi-method approach”. Finally, Guba et al. (1994) point to a possible avenue for reconciliation among conflicting paradigms by applying different research approaches to individual sets of research objects: “...one might wish to resolve the problem [of finding the right paradigm] differently in considering the physical versus the human realms”. Using epistemology as an example, they suggest it may be preferable to select one paradigm befitting the set of inanimate objects and another one for the study of conscious research. The dual nature of information systems as technology/human hybrids would then justify

The Grounded Theory Review (2005), vol.5, no.1

the use grounded theory as a methodology that unites two seemingly juxtaposed ontological paradigms in one method.

The more significant aspect of grounded theory's broad paradigm coverage, however, is the fact that this makes it optimally suitable for the investigation of all the divergent elements that constitute organisational IS, i.e. technical, social and individual units of analysis. This, in turn, inherently assures the highest possible degree of relevance of the resultant findings and theories for IS researchers – which then directly translates into usefulness for practitioners.

Relevance to the practitioner's concern, however, requires also that the research method generates conceptual accounts that are meaningful for them. With grounded theory methodology, the researcher "can contribute a great deal by providing the [person] in the know with substantive theory" (Glaser, 1978:12). By doing this, the researcher avoids stating the obvious to the expert; providing categories based on many indicators and showing ideas based on patterns. These conceptual ideas allow practitioners to transcend the limits of their own experience, adapting and applying the substantive theory to other situations. According to Glaser (1978:13-14), this provides the expert with six breakthroughs:

1. The ability to anticipate additional consequences, conditions and strategies of an act besides what is empirically known to him or her.
2. The ability to expand the description and meaning of incidents, placing them in greater scope and transcending his or her experience.
3. As fewer concepts based in a multitude of incidents can be integrated in a theory, this makes the concepts easier to remember than incidents, increasing the expert's capacity to know.
4. The new theoretical knowledge allows the expert to expand his capacity to deal with new, more complex situations. This is done by progressive transference of

The Grounded Theory Review (2005), vol.5, no.1

conceptual knowledge to new situations, broadening the expert power by allowing faster organization of the unknown by using the ideational tools provided by the substantive theory.

5. The theory can emancipate experts from the restriction of their specific expertise, freeing them from the status quo. Theory allows experts to become more open to change as they begin to see the change process and how their ideas can be modified to handle new knowledge and new situations.
6. Seeing the empirical knowledge in a theoretical light allows experts to capitalize on the theory. The theory becomes part of the experts' common sense, sharpening his or her judgement by making visible the many variations in strategies, conditions and consequences.

Relevance for the grounded theorist means bringing tangible benefits to the experts. As Glaser said, when the field experts can understand and use a sociological theory by themselves "then our theories have earned their way. Much of the popularity of grounded theory to sociologists and layman alike is that it deals with what is actually going on, not what ought to go on". (Glaser, 1978:14) The authors experienced a high level of participant cooperation while conducting grounded theory studies. We attribute this partly to:

1. the open nature of the interviews — while having a substantive focus in mind, the interviewers followed the accounts of the participant rather than a predetermined set of questions.
2. our focus on experiences *as perceived by the actors* — doing our best to avoid (a) judgemental attitudes and (b) trying to influence the conversation to follow our knowledge of the topic.
3. the methodology forcing us to act as very active listeners — constantly asking ourselves "what is going on here" and "what is the important concept behind the participant's account."

The Grounded Theory Review (2005), vol.5, no.1

More importantly, we provided practitioners with opportunities to articulate their thoughts about the issues *they* considered important. This articulation allowed them to reflect on particular events, gaining further understanding of past actions and acquiring new insights. Because they perceived our interviews as positive events, their attitude towards the research was more generous, resulting in better data acquisition. For example, at times participants invited us to “have a chat” and all we have to do then was to listen to their articulations of the relevant problems they were dealing with at the time, and to take good notes afterwards. As a result, we were intellectually stimulated by our interaction with rich data, by the positive attitude of the participants towards to the research, and by a sense of contributing with our work to a wider audience.

Demands of Grounded Theory

Every methodology poses particular demands and grounded theory is not an exception. The authors concur with the advice provided by Glaser (1978; 1998) that the grounded theorist must:

1. tolerate confusion—there is no need to know *a priori* and no need to force the data;
2. tolerate regression—the researcher might get briefly ‘lost’ before finding his or her way;
3. trust emerging data without worrying about justification—the data will provide the justification if the researcher adheres to the rigour of the method;
4. have someone to talk to—grounded theory demands moments of isolation to get deep in data analysis and moments of consultation and discussion;
5. be open to emerging evidence that may change the way the researcher thought about the subject matter, and to act on the new evidence;
6. be able conceptualise to derive theory from the data; and,

The Grounded Theory Review (2005), vol.5, no.1

7. be creative—devising new ways of obtaining and handling data, combining the approach of others, or using a tested approach in a different way.

We also believe that, in adopting grounded theory methodology, the IS researcher has to confront two further risks.

First, due to the minority status of grounded theory in IS research, it is likely for IS researchers, specially Ph.D. candidates, to experience what Melia (1996) described as *minus-mentoring*—that is, learning from books, employing grounded theory for the first time without the guidance of a supervisor with practical knowledge of the methodology. Minus-mentoring could result in methodologically unsound studies (Glaser, 1998; Stern, 1994). For example, studies claiming to be grounded theory when key tenets of the methodology have been breached (one of the risks of using grounded theory within a second, overarching, methodology). However, '*Minus mentees*' can reduce this risk by (a) networking with researchers conversant with the methodology, i.e., members of the Grounded Theory Institute; (b) reading the wide grounded theory bibliography, not just one book; (c) participating in relevant discussion groups (i.e. IFIP WG8.2, the Grounded Theory Institute, or the Grounded Theory mailing list; and (d), attending seminars and trouble-shooting workshops on classic grounded theory.

Second, grounded theory seems to be easier to use when the researcher is sensitive to the field under study. However, the precise meaning of "being sensitive" is not simple to explain, it may involve maturity, knowledge, ability to decentre (seeing things from others' perspectives), etc. The authors, for example, have substantial experience as practitioners in the field of IS project management. This was perceived as a distinct advantage in eliciting information from participants in the same field and in understanding some of the more subtle issues in their respective studies. While we cannot provide an easy answer to what sensitivity really involves, we believe that without this sensitivity or '*verstehen*' (Weber, 1968), the fitness of the method to the researcher will

The Grounded Theory Review (2005), vol.5, no.1

need to be evaluated carefully and honestly in the light of the seven requirements above.

Conclusion

Grounded theory provides the benefit of conceptual reflection based on real life accounts without being obscured by distracting descriptions. Practitioners with frantic schedules often consider reflection a needed and yet unaffordable luxury. Therefore, it is not surprising to see that concepts presented in the form of theory appeal to IS practitioners. The expert can relate immediately to the theory and add examples from his or her own experience, reflecting on its use and devising new ways to take advantage of the substantive theory. When substantive theories are operationalized by the experts, their regard for the role of IS research in industry is likely to be enhanced; and thus contributing to future research collaboration between industry and academia.

In response to the renewed calls for relevance and the continuous need for rigour in IS research, grounded theory offers a valid alternative. We suggest that the application of grounded theory to cases with a hybrid social/technological focus can be constructed with a solid philosophical foundation. Furthermore, designing methodological processes can be done without violating the underlying grounded theory principles.

We believe that the potential of the grounded theory method for IS research is under-explored. More importantly, we suggest that, when the demands of the method are taken into account, grounded theory methodology can help researchers investigating emerging phenomena to simultaneously achieve rigour and relevance and, by doing so, benefit both academic and industry interests.

Endnotes

- ¹ Strauss & Corbin's (1990) delineate the objects of the qualitative research they apply their version of Grounded Theory to as "persons' lives, stories, behaviour, organisational functioning, social movements, or interactional relationships" (p.17).
- ² Another set of frameworks are the relationships between 'basic social processes' and 'social structural units', Glaser (1978, p109-113)
- ³ This restriction would fatally limit the Strauss method's use for the 'fact' finding part of the study. In contrast, the Glaser method explicitly covers both 'variance' and 'process' constructs: "[it] can...be used to generate static theories [and also]...facilitates the generation of theories of process, sequence and change" (Glaser & Strauss, 1967, p114).
- ⁴ The nomenclature and definitions of these paradigms in the literature are often overlapping and sometimes similar terms denote different definitions – for this reason the terms and definitions used are specifically referenced to their source
- ⁵ Guba & Lincoln (1994) also compare the paradigm position with respect to Goodness criteria, Values, Ethics Training, Accommodation and Hegemony (of one paradigm over the others). These have been left out in the table because they are not relevant to its purpose, i.e. to select the research approach to be taken for the study of organisational IS.

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