

# REVISITING THE ROLE OF THE GROUNDED THEORY RESEARCH METHODOLOGY IN THE ACCOUNTING INFORMATION SYSTEMS

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## Abstract

*The aim of this paper is to explore the role of grounded theory (GT) as a research method in the accounting information systems. The GT research method can enable the GT researcher to generate a rigorous theory. This research paper seeks to investigate how researchers can use GT in relation to its epistemological perspective, methodological stance and research methods. GT as a research philosophy provides clear understanding of how to generate and develop rigorous theory. GT offers an interpretative perspective based on its epistemological stance. This interpretative perspective can be a foundation for GT researchers in interpretative accounting information systems researches.*

*Keywords – Grounded theory, Research methods, Accounting Information Systems.*

## 1- Introduction

Researchers who use GT as their research methodology do not test or verify any preconceived hypothesis. On the contrary, they develop a new theory based on the systematically collected evidence. This approach is somewhat different from most of the other studies in the field that are often based on hypothetico - deductive approach, instead. There are two versions for the grounded theory: the Glaserian and the Straussian approaches. The Glaserian approach suggests that the GT researcher should not have any idea about the research problem before going to have the data which was not the case here in this research. Moreover, Glaserian approach suggests that the GT researcher should begin his research with an 'open minded' as to what is going on in the field of research and then getting involved with the field of study the GT researcher will discover the problem. The Glaserian approach provides less specific analytical procedures while conducting the research. On the other hand, the Straussian approach suggests the use of literature review to identify the research problem. The Straussian approach provides more detailed guidelines to the GT researcher to help them to conduct their research. Parker and Roffery (1997) mentioned that the Straussian approach is more structured approach as it helps the GT researcher to generate the theory in a more systematic way more than Glaserian approach. The Glaserian GT approach may be used as a GT methodological approach when conducting research in the field of 'practice', for example in the field of medicine or nursing, where the GT researcher discovers the research problem while practicing in their field of study. This paper seeks to revisit the GT research method to be used in the accounting information systems researches. The paper is divided into three sections: the first section introduces the GT research method, followed by a section where the two versions of GT are discussed and we show how the Straussian approach is more suitable for AIS researches. The Final section discusses in details how a GT researcher generates a rigorous grounded theory.

## 2- Grounded Theory

### 2.1 Introducing Grounded Theory

Grounded Theory (GT) is a methodology aimed at the discovery of theory from data (Glaser and Strauss, 1967). Glaser (1992) defines GT as follows:

“Grounded theory is based on the systematic generating of theory from data, that itself is systematically obtained from social research” (p.2).

Strauss and Corbin (1990) define GT as follows:

“A grounded theory is one that is inductively derived from the study of the phenomenon it represents. That is, it is discovered, developed and provisionally verified through systematic data collection and analysis of data pertaining to that phenomenon. Therefore, data collection, analysis, and theory stand in reciprocal relationship with each other. One does not begin with a theory then prove it. Rather, one begins with an area of study and what is relevant to that area is allowed to emerge”. (p.23)

Strauss and Corbin (1994) describe the above reciprocal relationship in the following terms:

“...a general methodology for developing theory that is grounded in data systematically gathered and analyzed. Theory evolves during actual research, and it does this through continuous interplay between analysis and data collection” (p.273).

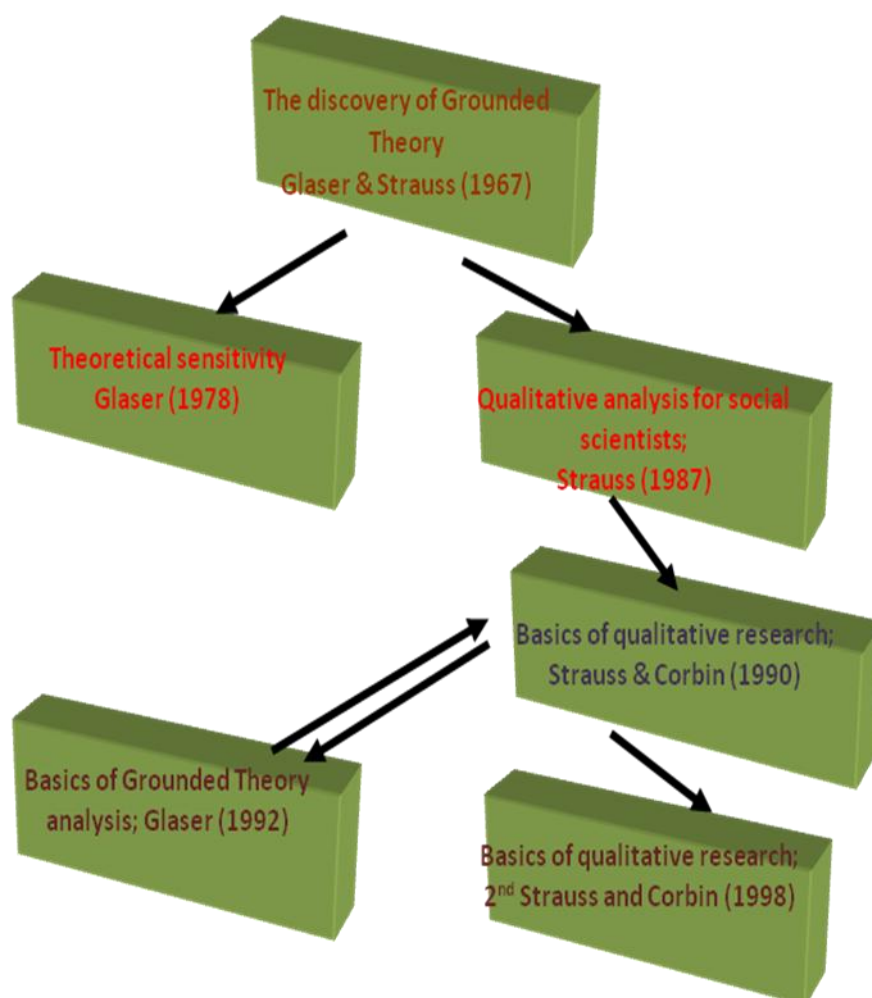
Thus, ones does not test or verify any preconceived hypothesis. Instead of having hypotheses to test, researchers in GT studies have research questions to address. In GT a researcher should be open - minded to any possible evidence that might exist in the dataset (Mansourian, 2006).

Glaser (1992) comments that GT is “inductively generating theory through qualitative analysis of qualitative and / or quantitative data” (p.8), which means that when the GT researcher conducts his / her theory, qualitative analysis can be carried out with quantitative data as well. Glaser and Strauss do not regard the procedures of GT as discipline specific and they encourage researchers to use the procedures for their own disciplinary purposes.

GT is a well - established research method. The originators published a series of books to discuss how to use this research method in social research studies. In 1967, Glaser and Strauss introduced the initial idea in their book title “*The Discovery of Grounded Theory*”, which integrated the epistemological and methodological predilections of both authors (Parkers and Roffey, 1997). The goals of this book are, first, to demonstrate the rationale for grounded theory, second, to address the logic and operation of GT, third, to legitimate careful qualitative research (Reetley, 2004).

Thereafter, as shown in the following figure, the originators began to vary in their thoughts as to how GT should be implemented (Dick, 2000; Smit and Bryant, 2000; Onions, 2007; Goldkuhl, 2007).

**FIGURE 1: THE SERIES OF GROUNDED THEORY BOOKS {GLASER VS. STRAUSS} (ADAPTED FROM GOLDKUHL, 2007)**



In 1987, Strauss wrote a ‘Qualitative analysis for social scientists’ followed by a joint publication with Corbin: ‘Basics of Qualitative Research’ (1990). Their aim was to demonstrate the bases for the data analysis phase and the steps for the coding procedures in generating grounded theory.

As Glaser (1992) felt that the original method of grounded theory had been lost in Strauss and Corbin’s (1990) book, he published his own book in 1992 to set out correctly the methods outlined in their book. Glaser criticized the Strauss & Corbin’s (1990) book and he repudiated their text book as different to the original version of the GT published in 1967. Thereafter, two versions of the GT methodology emerged: the Glaserian and the Straussian approach. The objective is the same (where a theory is developed through the systematic interplay between data collection and data analysis) but the procedures in processing GT are different.

## **2.2 Grounded Theory Methodology Approaches: Glaserian vs. Straussian**

The Glaserian and Straussian approaches (Reetley, 2004) diverge in the principles and procedures they follow to generate a grounded theory. The Glaserian approach refers to the principles and procedures to be followed so that a GT ‘*emerges*’ during the course of action

of research. Glaser believed that the GT researcher should begin with ‘wonderment’, that is, to keep an open mind to the true issues in the field of research. The Straussian approach, on the other hand, refers to the principles and procedures to be followed in order to ‘*build up*’ a theory. Strauss and Corbin believed that GT researcher should do more than just wait for the theory to emerge. They noted that the GT researcher should begin with a general idea and then he / she needs to develop a more structured approach to the observed coding and data analyses to ‘build up’ a generated theory.

Gurd (2004) argues that Glaserian approach appears to be a more objectivist - realist ontology. This is because Glaser advocates a relatively unstructured method, and resists the codification found in Strauss and Corbin. Strauss and Corbin, on the other hand, are, to repeat, much more willing to adopt a highly prescriptive and structured method. Gurd (2004) argues that it would not be surprising that the more structured approach of Strauss and Corbin (1990) would appeal to accounting researchers because of the attractiveness of its precise procedure and structure.

Table 1 shows the similarities and differences between Glaserian and Straussian approaches. The table was created from the following sources: Glaser and Strauss, 1967; Strauss, 1987; Strauss and Corbin, 1990; Glaser, 1992; Stern, 1994; Locke, 2001; Parker and Roffey, 1997; Strauss and Corbin, 1998; Smit and Bryant, 2000; Dick, 2000; Knock, 2002; Allan, 2003; Reetley, 2004; Borgatti, 2005; Onions, 2007; Godkuhl, 2007.

**TABLE 1: GLASERIAN VS. STRAUSSIAN APPROACHES (SOURCE: AUTHORS)**

BASIC CONSIDERATIONS	GLASERIAN APPROACH (A)	STRAUSSIAN APPROACH (B)	SELECTING AN APPROACH FOR MOST OF THE ACCOUNTING INFORMATION SYSTEMS RESEARCHES (A) or (B)
1-GENERAL WONDERMENT VS. GENERAL IDEA	<p>Glaser believed that the GT researcher moves into an area of interest with ‘abstract wonderment’, that is, completely open - minded as to what is going on in the field of research and how other individuals handle it. For Glaser, the research question is not a statement that identifies a phenomenon under study. The core research questions are: what is the chief concern / issue for the individuals in the area under study? and what category (features) does that issue concern?</p>	<p>“...the research question in the grounded theory study is a statement that identifies the phenomenon to be studied” (Strauss and Corbin, 1990, p.38). This means that the researcher should have a general idea of where to begin.</p>	<p>No ‘general wonderment’. Most of the information systems researches are based on a general idea. <b>Then, approach (B) is more appropriate to AIS researches.</b></p>
2- EMERGING VS. FORCING	<p>The Glaserian approach selects an area for study and allows issues to emerge during the course of the research process. Glaser argued that the GT researcher should not “force” the problem to emerge by the methodology taken.</p>	<p>The Straussian approach allows the GT researcher to predetermine the general subject of enquiry before entering the research site. One of the major advantage of Straussian approach lies in its more structured and practically oriented method in generating</p>	<p>Allowing the generated theory to emerge may be important, but giving it a structure and oriented focus is more important. Parker and Roffey (1997) argue that: “Strauss and Corbin are significantly more detailed, structure and prescriptive in specifying the steps to be taken by a researcher in open, axial and selective</p>

	Glaser (1992) views the Straussian approach as a full conceptual description, and this would constitute ‘forces’ on the data in order to produce theory.	grounded theory. This approach assists the researcher to analyse qualitatively and make sense of an often large volume of gathered field data.	coding, and following their paradigm model (identifying codes as causal conditions, phenomenon, context, intervening conditions, action / inaction strategies, consequences) for theoretical framework development...Strauss and Corbin’s approach offers great potential assistance to the field researcher, who must nevertheless take particular care to avoid “forcing” or imposing concepts that reflect the researcher’s own predispositions rather than those emerging from interaction with the study site and its participants.” (p.222, 224) <b>Then, approach (B) is more appropriate to AIS researches</b>
3- DISCIPLINED RESTRAINT VS. ACTIVE PROVOKING.	Glaser calls for disciplined restraint, in which researchers hold distance and independence from the phenomena they are studying.	Strauss and Corbin suggest that GT researchers play an active role in the research process. They should interrogate the data they collect, in order to arrive at conceptual categories.	In this study, the researcher plays an active role in the interviews and questionnaires, but without leading interviewees and the respondents. <b>Then, approach (B) is more appropriate to AIS researches.</b>
4- THEORETICAL SENSITIVITY refers to the personal ability, awareness, as well as the degree of the researcher’s perceptiveness to the research data, variables and relationships in the phenomenon being studied.	Glaser defines the theoretical sensitivity as the ability of the GT researcher to recognise what is important in data and to give it meaning. Theoretical sensitivity comes from the immersion in the data.	The theoretical sensitivity has two sources: first, when the GT researcher is well grounded in the technical literature, as well as from professional and personal experience. Second, when theoretical sensitivity is acquired during the research process through continual interactions with the data.	Theoretical sensitivity does not appear to be a deciding factor between both approaches. Glaserian approach prefers the complete interaction and immersion in the phenomenon being studied. The same happens with the Straussian approach but with the aid of the literature review. <b>Approach (B) is chosen as a matter of preference.</b>

5- CREATIVITY	<p>Glaser (1992) argues that whilst much of the creativity is not just new ideas, nevertheless, there may instead be new connections between conceptual thoughts. This puts a premium on the ‘discovery’ of the generated theory.</p>	<p>Many analytic techniques that the GT researcher uses to develop theoretical sensitivity are “creative and imaginative in character....good science is produced through this interplay of creativeness and skills acquired through training” (Strauss and Corbin, 1990, p. 47).</p>	<p>Accounting as a discipline is regarded as a sociological construct existing as a medium for interaction between social actors and society. The evolution of that construct as society changes over time is a balance between human imagination and existing skills that forms Straussian approach. <b>Approach (B) is more appropriate to this research.</b></p>
6- USE OF LITERATURE REVIEW	<p>Glaser (1992) recommends that grounded theory must be free from the idea of working on someone else's product. This stems from the concern that the GT researcher should avoid contaminating his / her ideas during the early stages in generating the theory.</p> <p>But after data has been collected, coded, compared and analysed (while the theory is generated), then the researcher may begin to review the literature in the substantive field and relate the literature to her / his own work.</p>	<p>Strauss and Corbin (1990) have different point of view in the use of literature. They divide the literature review into technical and non - technical. Technical literature is useful to stimulate the theoretical sensitivity of the GT researcher in the substantive area under study.</p> <p>Technical literature also helps to stimulate research questions. Lastly, technical literature is effective as supplementary validation, in the later phase of writing up the theory the GT researcher can make reference to appropriate literature to validate the accuracy of her / his findings. Non - technical literature is useful as primary data, especially in biographical or historical studies, or as supplementing data to the more usual interviews and observations.</p>	<p>In this research, it is important to examine the literature review in respect of any topic related to the accounting information systems and the critiques related to the existing theories. The literature review is also important at a later stage in conducting the theory specifically to compare with the existing AIS researches. Then, <b>approach (B) is more appropriate to AIS researches.</b></p>

<p>7- CODING IN THE GROUNDED THEORY is the process conducted by the GT researcher in an iterative manner, which aims at increasing the reliability of the analysis of a large body of unstructured research data.</p>	<p>Coding should be less rigorous through a constant comparison of incident to incident with neutral questions and categories and properties evolving. The GT researcher should be aware of not to 'over - conceptualize' the identified key points.</p>	<p>Coding is more rigorous and defined by technique. Coding represents the operation by which data are broken, conceptualized and put back together in new ways. Codes are derived from 'microanalysis', which means analyzing data line - by - line at the beginning of the study to generate codes.</p>	<p>For coding procedures, both approaches are essentially inductive. The data to be collected is the primary sourced comprising interviews that are well written, structured, explicit and even 'pre-coded' through keywords and headings. Whilst it may be useful to define codes as one goes along, suggesting a Straussian approach, it may be equally valuable to allow definitions to evolve and not affect the assigning of codes or the emergence of new ones (Onions, 2007). Then <b>approach (B) is more appropriate to AIS researches.</b></p>
<p>8- TYPES OF CODING</p>	<p>There are two coding phases or types: 'simple' (where the researcher fractures the data and then groups it) and 'substantive' (open or selective) to produce categories and properties.</p>	<p>Three types of coding, open (identifying, naming, categorising and describing phenomena), axial (the process of relating codes to each other) and selective (choosing a core category and relating other categories to that).</p>	<p>Similar 'coding' approach, different labels. <b>Approach (B) is selected as a matter of preference.</b></p>
<p>9- Verification of the theory.</p>	<p>"GT looks for what is, not what might be, and therefore, needs no test." (Glaser, 1990, p.67). One of the primary conflicts between Glaserian and Straussian approaches, is that the former approach does not verify the generated theory after development.</p>	<p>"Regardless of level of theory, there is built into this style of extensive interrelated data collection and theoretical analysis an explicit mandate to strive towards verification of its resulting hypothesis (statements of relationships between concepts). This is done throughout the course of a research project, rather than assuming</p>	<p>After a grounded theory is generated. Theory generated would need to be verified. This would be done through the comparison with the existing researches. Then, <b>approach (B) is more appropriate to AIS researches.</b></p>



		that verification is possible only through follow - up quantitative research” (Strauss and Corbin, 1994, p.274).	
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### 2.3 Conducting Grounded Theory and the Role of Pre - existing Theories

In principle, grounded theory should not be based on existing theories. The generation of the grounded theory is to build on observation and / or data collected, without submitting to any prior theory. That said, in accounting research it is difficult to avoid impact of existing studies and conceptual frameworks:

“Theories developed by grounded theory research methods are not necessarily intended to stand alone but may be intended to be related to existing theories within the accounting domain, amplifying and extending our current understandings of the phenomena in question. The collation and codification of data from observations and inquiries allow the drawing out of broader implications that may stretch beyond the particular case being studied and advance a deeper understanding of accounting in practice” (Parker and Roffey, 1997, p.241).

This is an important aspect especially for any research. An accounting information system research which is based on developing and constructing a theory whilst there is no pre-existing theory should be within the scope of the GT research route. Thus, to repeat Parker and Roffey, it may be argued that I am “amplifying and extending our current understandings of the phenomena in question”.

### 3. Grounded Theory Research Structure

Strauss and Corbin (1990) show that the purpose of the grounded theory methodology is to build up a theory that is

“...faithful to and illuminates the area under study. Researchers working in this tradition also hope that their theories will ultimately be related to others within their respective disciplines in a cumulative fashion and that the theory’s implications will have useful application”. (Strauss and Corbin, 1990, p.24)

The GT researcher develops his / her theory alternating between inductive and deductive approaches (Collins and Hussey, 2003). First, the GT researcher inductively gains information which is apparent in the data collected. Next, the GT researcher isolates themselves from this data and thinks deductively about the missing information and forms conclusions based on logic. When conclusions are drawn, the researcher returns back to an inductive approach and tests these tentative hypotheses with the new and / or existing data. By returning to the data, the deducted suggestions can be supported, rejected or modified. Finally, the supported or modified data can be used to form hypotheses and investigated completely. This inductive / deductive approach and the constant reference to the data are the dynamics of the grounded theory development.

#### 3.1 Elements of Grounded Theory

The GT researcher should decide the elements of the GT from the phenomena studied. The phenomenon is defined as the central ideas in the data represented as concepts. There are three elements the GT researcher should decide them before carrying on his/ her grounded theory; *concepts, categories and propositions* (Corbin and Strauss, 1990). **Concepts** are the building blocks of the theory. Strauss and Corbin (1998) describe a concept as follows:

“A concept is a labeled phenomenon. It is an abstract representation of an event, object, or action / interaction that a researcher identifies as being significant in the data. The purpose of naming the phenomena is to enable researchers to group similar events, happenings, and objects under a common heading or classification. Although events or happenings might be discrete elements, the fact that they share common characteristics [properties] or related meanings enables them to be grouped”. (p.103; brackets are added; cited in Pandit, 1996).

The second element of grounded theory is the **categories**. Corbin and Strauss (1990) define categories as:

“Categories are higher in level and more abstract than the concepts they represent. They are generated through the same analytic process of making comparisons to highlight similarities and differences that is used to produce lower level concepts. Categories are the "cornerstones" of developing theory. They provide the means by which the theory can be integrated”. (p.7; cited in Pandit, 1996).

The third element of the grounded theory is **propositions** (termed ‘hypotheses’ by Glaser and Strauss, 1967) which indicate generalised relationships between a category and its concepts and between subcategories and categories. Strauss and Corbin (1998) describe the propositions as those which suggest how phenomena (main concepts) might possibly be related to each other.

The application of the GT terms in the context of a research where it aims to generate a theory for an asset based recognition criteria will be as follow:

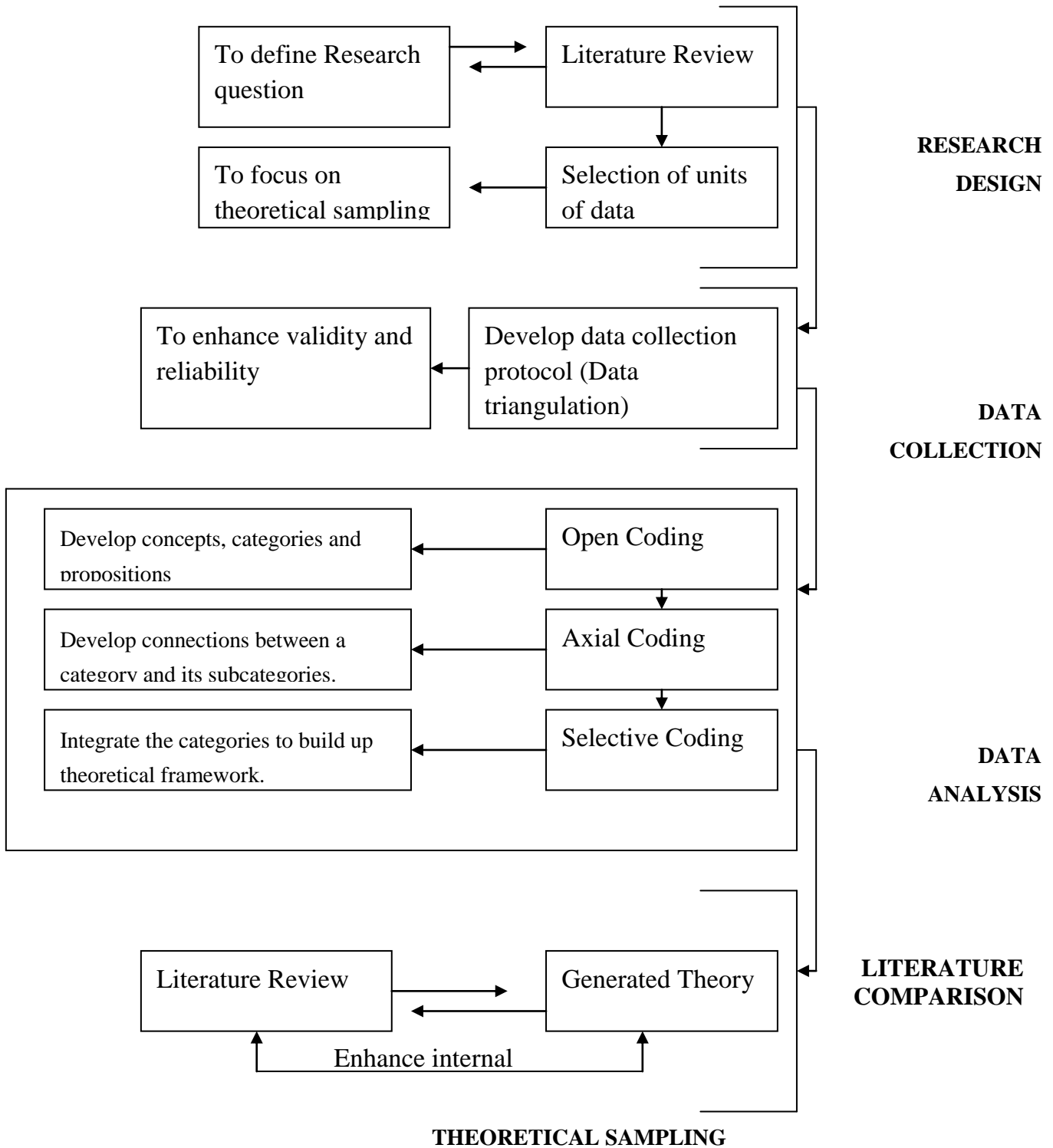
**Table 2: The GT TERMINOLOGIES**

<b>Terminology</b>	<b>What does it mean in asset based recognition criteria research study</b>
Phenomenon	A pre - measurement asset - based recognition process
Concepts	How to recognise assets
Categories	Asset - based Recognition Criteria or Features
Propositions	Causal and interrelationships between the induced recognition criteria
Properties	Characteristics of each criterion and sub criterion
Dimensions	The range that forms each Criterion
Subcategories	Sub criteria

### **3.2 The Process of Generating Grounded Theory**

The process of generating the grounded theory is iterative, requiring a steady movement between concepts and data, as well as requiring a constant comparison across types of data collection, and analysis to provide an evidence to control the process of developing the theory. There are four stages to be followed to generate the theory that are illustrated in Figure 2

**FIGURE 2: FLOWCHART TO SHOW THE PROCESS OF GENERATING GROUNDED THEORY (ADOPTED FROM: PANDIT, 1996)**



### 3.2.1 Research Design

The grounded theory researcher should not stand isolated from the research subject as the positivist researcher attempts to do. Instead, the grounded theory researcher refuses to accept prior commitment to any particular pre - existing theory. When getting started, the grounded theory researcher has to “profess neutrality or lack of subjectivity” (Parker and Roffey, 1997, p.224). Although in this stage, where the grounded theory researcher’s decision to select a particular research project reflects the individual’s perspective on research GT does not assume neutrality or lack of bias on the part of the researcher.

**The first step in this stage is to review literature so as to define the research question.** This step is important in building up or generating the theory as it focuses the efforts of the researcher (Pandit, 1996). Strauss and Corbin (1990) delineate the use of (1) the technical literature review and (2) the non - technical literature review:

“...reports of research studies and theoretical and philosophical papers characteristic of professional and disciplinary writing, while the non - technical literature review can be biographies, diaries, documents, manuscripts, records, reports, catalogues and other materials that can be used as a primary data or supplement interviews and field observations in grounded theory studies” (p.48).

As regard the accounting literature Parker and Roffey (1997) apply this dual focus as follows:

“In accounting research, ‘technical research literature’ include existing research reports and major theoretical debates. ‘Non - technical research literature’ would include accounting reports, financial and management information, organizational annual reports, minutes of meetings, policy documents, memos and so on” (p.227-228).

Strauss and Corbin (1998) suggest that the technical and non - technical literature review is a source for choosing a problem and stating the research question, where this can be a “stimulus” (p.37) and “if it is used as an analytic tool, then it can foster conceptualization” (p.53). Therefore, the literature review is the first important step in this research, from which the research questions are constructed based on the existing literature review.

Once research questions have been constructed and the research is focused, **the second step of research design is to select the unit of data** (Pandit, 1996). The unit of data (or the raw data on which the research is built upon) should be selected according to the principle of theoretical sampling:

“The process of data collection for generating theory whereby the analyst jointly collects, codes, and analyses his data and decides what data to collect next and where to find them, in order to develop his theory as it emerges” (Glaser and Strauss, 1967, p.45, cited in Pandit, 1996, p.4).

Accordingly,

“Unlike the sampling done in quantitative investigations, theoretical sampling cannot be planned before embarking on a grounded theory study. The specific sampling decisions evolve during the research process itself” (Strauss and Corbin, 1990, p192, cited in Pandit, 1996).

The unit of data in asset based recognition criteria was the technical literature on asset - recognition process. Strauss and Corbin (1990, p52) support this approach and state that:

“The literature can be used as secondary sources of data. Research publications often include quoted materials from interviews and field notes and these quotations can be used as secondary sources of data for your own purposes. The publications may also include descriptive materials concerning events, actions, settings, and actors' perspectives that can be used as data using the methods described”.

Accordingly, the ‘initial unit of data’ is the literature review on asset - based recognition process. Thereafter, additional units of data (empirical unit of data) are selected one at a time to test and extend the theory of asset - recognition process until the theoretical sampling is saturated. The point at which theoretical sampling ceases is **‘theoretical saturation’**. Glaser and Strauss (1967) describe this point

as where:

“...no additional data are being found whereby the (researcher) can develop properties of the category. As he sees similar instances over and over again, the researcher becomes empirically confident that a category is saturated ... when one category is saturated, nothing remains but to go on to new groups for data on other categories, and attempt to saturate these categories also”. (p. 65; cited in Pandit, 1996, p. 4).

In this research, to repeat, the first unit of data is the literature review and this is recommended by the Straussian approach as discussed in Table 1. The second unit of data is chosen to be ‘interviews’ or questionnaire with the experts in the field area. In an asset based recognition criteria the second unit of data were with the Canadian Accounting Standards Board or CaASB members, International Accounting Standards Board - IASB members and some field experts (academics and practitioners) to fill in the theoretical categories of the generated theory, then a third case is chosen to be ‘questionnaires’ sent to experts mainly standard regulators from different countries. These three units of data were chosen to build up theory and in order to validate and enhance the internal coherence of it. We grounded every additional case on the outcome of the previous one.

After the analysis of these four units of data, the marginal improvement to the pre - measurement asset - recognition process was minimal. Theoretical saturation with the selected units of data had been approached and the decision to conclude the research was taken. Martin and Turner (1986) support this idea and state the following “By the time three or four sets of data have been analysed, the majority of useful concepts will have been discovered” (p.149).

### **Data Collection**

To enhance validity and reliability, the GT approach advocates the use of multiple data sources converging on the same phenomena. Glaser and Strauss (1967) point out to this as follows:

“In theoretical sampling, no one kind of data on a category nor technique for data collection is necessarily appropriate. Different kinds of data give the analyst different views or vantage points from which to understand a category and to develop its properties; these different views we have called slices of data. While the [researcher] may use one technique of data collection primarily, theoretical sampling for saturation of a category allows a multifaceted investigation, in which there are no limits to the techniques of data collection, the way they are used, or the types of data acquired” (p.65; brackets are added).

The use of multiple data collection can be achieved through the use of ‘data triangulation’. Thurmond (2001) illustrates this metaphor as follows:

“The triangulation metaphor used in research was derived from construction, surveying, and navigation at sea. The premise was based on the idea of using two known points to locate the position of an unknown third point, by forming a triangle (Britannica, 2000). The intent in research is to use two or more aspects of research to strengthen the design to increase the ability to interpret the findings. Triangulation is the combination of two or more data sources, investigators, methodological approaches, theoretical perspectives or analytical methods within the same study. These combinations result in data triangulation, investigator triangulation, methodological triangulation, theoretical triangulation or analytical triangulation....The benefits of triangulation can include increasing confidence in research data, creating innovative ways of understanding a phenomenon, revealing unique findings, challenging or integrating theories, and providing a clearer understanding of the problem” (p.253).

The main benefits of using data triangulation and multiple data sources in theoretical sampling are to enhance validity and reliability (Pandit, 1996). The ‘reliability’ would, to repeat, be enhanced through the preparation of interviews and questionnaires.

Turning now to data collection protocol, in the asset based recognition criteria research, a two set of interviews were carried out. The first set was conducted with the Canadian Accounting Standards Board members in May 2008 during CAAA in Winnipeg, Canada and the IASB members in June, 2008 during their monthly meeting, London, UK. This first round of interviews was useful for

determining the preliminary concepts and categories which have been used to construct the second round of interviews with academics and experts in the accounting recognition field. Combining then the concepts and categories obtained from the first two rounds of interviews and a questionnaire was constructed combined with an interview with the UK ASB director as the final unit of data. The questionnaires were sent to standard regulators from different standard accounting boards in different countries. These questionnaires were sent using an online survey called 'monkey survey'.

So in this research, there are two types of data collection protocol: 1- Interviews and 2- Questionnaires.

The interviews were the central technique used under the framework of grounded theory. There are different types of interview techniques in order to collect data depending on the way one asks the interview questions. Johnson (2001, p104) states that the in - depth interviews can be :

"...as a way to check out theories, they [researchers] have formulated to verify independently knowledge (or triangulate)...or to explore multiple meanings of or perspectives on some actions or events or settings"

and Taylor and Bogdan (1998, p88) define in - depth interviews as:

"...face - to - face encounters between the researcher and informants directed toward understanding the informants' perspectives on their lives, experiences, or situations as expressed in their own words".

These interviews, however, were semi - structured in the sense that:

...'most of the informant's responses can't be predicted in advance...and you as interviewer therefore have to improvise probably half and maybe 80 % or more of your responses to what they say in response to your initial prepared question or questions' (Wengraf 2001, p. 5).

Semi - structured, in - depth interviews were dynamic in this research. The style of questioning and discussion offer greater flexibility than a survey - style interview and provide "a more valid explication of the informant's perception of reality" (Minichiello et al. 1995, p. 65). Semi - structured, in - depth interviews had the appearance of a regular conversation, but in every interview there was a controlled conversation oriented towards the interviewer's research interests.

In the asset based recognition criteria research, the interviewees explored new ideas and enriched the research by their personal experiences without any type of constraint or any other forces. All the interviews were audio - taped and then transcribed. Notes were taken during the interviews. In addition, general reflection notes (regarding interview contexts, apparent relationships between different interviews and contexts, particular researcher impressions on the way how each interviewee can express his/ her view and their reactions to the interview questions etc.) were also prepared immediately after the interviews. The primary criterion for determining the number of interviews was data saturation or redundancy (Lincoln and Guba, 1985), that is, when an additional interview did not yield any significant new insights.

After the interviews the final round questionnaires were, to repeat, sent to selected respondents online using 'survey monkey'. Evans & Mathur (2005, p197) comment that

"The Internet will then be an even more valued tool to obtain information from respondents living in different parts of a country or around the world, simply and at a low cost" (p.197).

To improve the validity and reliability of the generated theory we were very careful in choosing knowledgeable respondents. As shown in table 3, the questionnaire was designed using steps from Oppenheim (2001); this structure provides steps and decision to decide how to develop a survey. The following table shows these steps and how they are adopted in this research.

**TABLE 3: STEPS TO DEVELOP A SURVEY (ADOPTED FROM OPPENHEIM, 2001)**

Steps to develop a survey	How these steps are adopted in this research
1- The main type of data collection instruments: such as interviews, postal questionnaires, online surveys.	To achieve the aim of data collection at this stage, which is to strengthen the integrated parts of the generated theory, I prefer to use an online survey (survey monkey) which is very convenient to distribute the link to the questionnaire and it saves time.
2- The method of approaching the respondents.	Emails are sent to introduce the research, confidentiality of their responses and the link to the questionnaire.
3- The build up of the questions.	The questions are grounded from the axial codes generated during the axial analysis.
4- The type of questions used.	The questions were closed type of questions ranging from strongly oppose to strongly support.

The questionnaires were structured in a format that used a five point likert scale and analysed using the SPSS package. Given the small number of respondents (because of the knowledgeability requirement) and the selectivity of the sampling process the statistical analysis was necessarily simplistic. Combined with this questionnaire, a structured open responses interview with UK ASB director was conducted. This structured open ended interview is characterized by being an intermediate form between a structured questionnaire and unstructured questionnaire (King, 1994), structured open-responses interview was specifically chosen to reflect the exploratory power of the research and to reach to a theory saturation.

**Data Analysis (Grounded theory coding structure)**

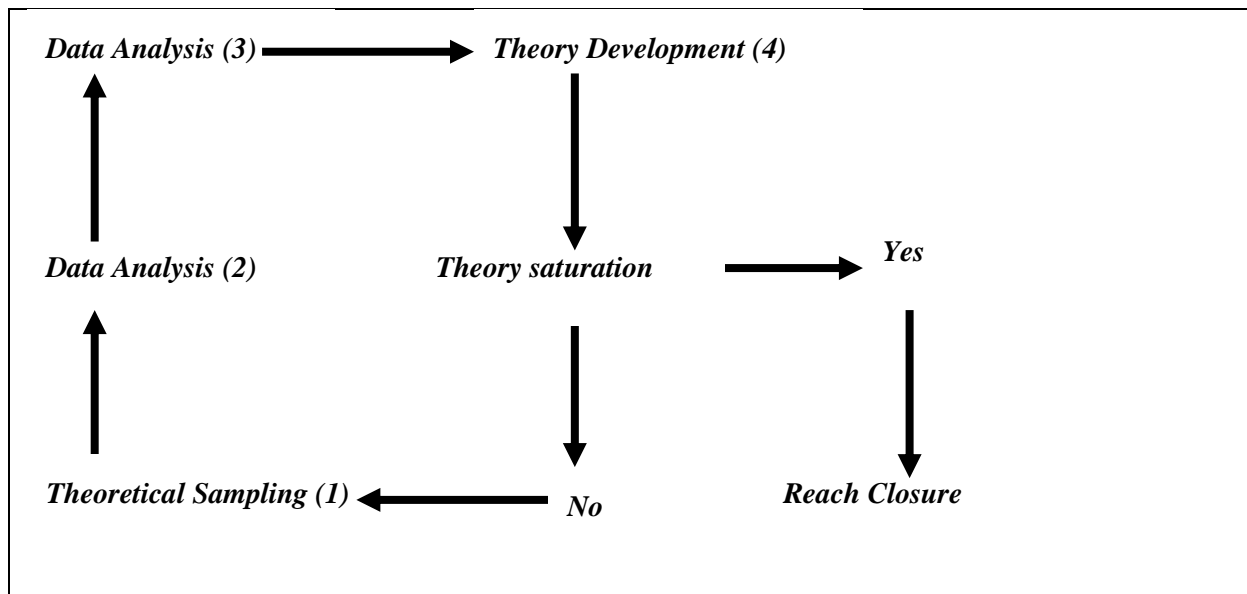
After collecting data, the next stage is the data analysis or ‘coding structure’ stage. Glaser and Strauss (1967, p43) illustrate the grounded theory dynamics as follows:

“Joint collection, coding and analysis of data are the underlying operation. The generation of theory, coupled with the notion of theory as process, requires that all three operations be done together as much as possible.”

It can be seen from Figure 3 that the data analysis or ‘coding structure’ is a central stage in the interrelated process between data collection, data analysis and theory development.



**FIGURE 3: THE INTERRELATED PROCESSES OF DATA COLLECTION AND DATA ANALYSIS TO BUILD GROUNDED THEORY (SOURCE: PANDIT, 1996)**



Strauss and Corbin (1990) state that:

“Coding represents the operations by which data are broken down, conceptualized, and put back together in new ways. It is the central process by which theories are built from data”. (p.57)

Analysis in grounded theory is composed of three major types of coding (according to the Straussian approach). These are (a) open coding (b) axial coding and (c) selective coding, addressed next.

**Open coding** is the first basic analytical step in the coding procedures. Strauss and Corbin (1990) define ‘open coding’ as:

“...the process of breaking down, examining, comparing, conceptualizing and categorizing data” (p61).

There are two analytic procedures to the coding process: *Generating categories* and *asking questions about the data* in order to give the concepts in the grounded theory their precision and specificity. According to the Straussian approach, *generating categories* arises from making comparisons of incident - to - incident (action - to - action), then, when concepts emerge, incident to concept, which is how properties of categories are generated (Reetley, 2004). Additionally, one may *ask simple questions* such as what, where, how, when, how much...etc. Subsequently, the data is compared and similar incidents (actions) are grouped together. This is when labeling of the phenomena (core categories) takes place. The process of grouping concepts at a higher, more abstract, level is termed categorising (Pandit, 1996). In asset based recognition criteria research, the open coding was done by asking questions to the interviewees and, thereafter, the open categories were generated.

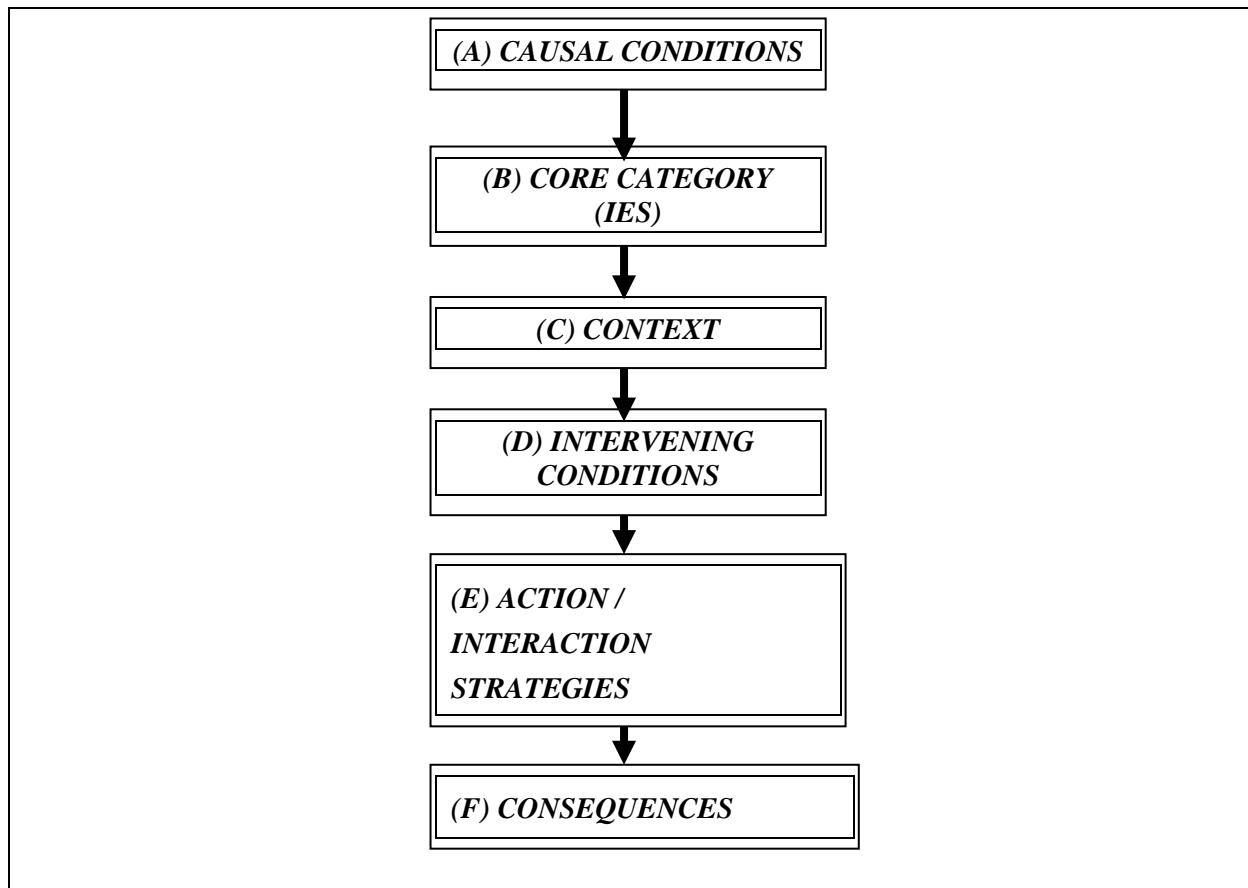
**Axial coding** is:

“...a set of procedures whereby data are put back together in new ways after open coding, by making connections between categories. This is done by utilizing a coding paradigm involving conditions, context, action / interactional strategies and consequences” (Strauss and Corbin, 1990, p.96).

The main function of axial coding is to put data back together in new ways by making connections between a category and its subcategories. The axial coding does not refer to relating several main categories to form an overall theoretical formulations (as this is related to selective coding), but to the development of what will eventually become one of the several main categories. At this point, the GT researcher is still concerned with the development of a category, yet this development extends beyond properties and dimensions (Strauss and Corbin, 1990).

Strauss and Corbin (1990) explain that the focus of axial coding is on specifying the core category in terms of the conditions that give rise to it, the context (its specific set of properties) in which it is embedded, the action / interactional strategies by which it is handled, managed, carried out and the consequences of those strategies - referred to as subcategories (Reetley, 2004). Strauss and Corbin (1990) maintain that in GT subcategories are linked to a category in a set of relationships denoting causal conditions, phenomenon, context, intervening conditions, action / interactional strategies, and consequences – see Figure 4.

**FIGURE 4: THE AXIAL CODING PARADIGM MODEL (SOURCE: STRAUSS AND CORBIN, 1990)**



Strauss and Corbin (1990) explain Figure 4 sequentially as follows: ‘Causal conditions’ are the events that lead to the development of the core categories. ‘Context’ refers to the particular set of conditions, the intervening conditions and the broader set of conditions in which the each core category is couched. ‘Action / interaction strategies’ refer to the actions and responses that occur as the result of the core category and finally, the outcomes, both intended and unintended, of these actions and responses are referred to as ‘consequences’ (see Pandit, 1996). I used this approach to action the axial coding stage. Specifically, to find out what are the conditions leading to the core categories which constitute the pre - measurement asset - based recognition (phenomenon), then what are the set of subcategories for those core categories. For each core category, there are actions and responses that occur as a result of this core category. Finally, the intended consequence will be recognition in the financial statements.

Between open coding and axial coding, there is constant interplay between proposing and checking, thus while coding, the researcher moves constantly between inductive and deductive thinking. This back and forth movement is what constructs the grounded theory. The final theory is limited to the categories, their properties and dimensions, and the statements of relationships that exist in the actual data collected (Strauss and Corbin, 1990).

**Selective coding** is defined:

“as the process of selecting the core category, systematically relating it to other categories, validating those relationships, and enriching categories that need further alteration and development” (Strauss and Corbin, 1990, p.116).

The *'focal core category'* is defined as the vital phenomenon around which all the other categories are integrated (Strauss and Corbin, 1990, 1998). The focal core code definitions and dimensions will be tested, modified and refined during the research process. All other core codes derived from that axial coding process must be related in some way to this focal core code, either directly or indirectly (Strauss and Corbin, 1990, 1998; Goddard, 2004). Therefore, the axial coding forms the basis for the selective coding as the researcher has "categories worked out in terms of their salient properties, dimensions, and associated paradigmatic relationships, giving the categories richness and density" (Strauss & Corbin, 1990, p. 117). Accordingly, the researcher should, at the point of selective coding, have noted all possible relationships between major categories along the lines of properties and dimensions, as well as begun to formulate some conception about what his research encompasses. Hereafter, the researcher should be ready to convert the raw data to a systematically developed picture of reality that is conceptual, comprehensible, and above all grounded (Reetley, 2004).

Strauss and Corbin (1990) suggest several steps to accomplish this coding: the first involves explicating the story line, about the core categories and their subcategories. The *second* consists of relating subsidiary categories around the core category by means of the paradigm, as shown in Figure 4. The *third* involves relating categories at the dimensional level. The *fourth* entails validating those relationships among these categories, subcategories, properties and dimensions. The fifth and last step consists of filling in categories that may need further refinement and / or development. The researcher does not necessarily take these steps in linear sequence, but moves back and forth between them. At the end of this stage of coding, the data are now related not only at the board conceptual level, but also at the property and dimensional levels for each major category. Once the researcher reaches this point, the *"rudiments of a theory"* (Strauss and Corbin, 1990, p.133) arise.

In this research, we construct a coding structure from the interviews in the first two rounds we conducted with the Canadian Accounting Standard Board members, International Accounting Standard Board members and with experts in the field, this coding structure constitutes the basis for the axial coding stage, where some concepts emerge with their related categories, properties and dimensions. These concepts were the basis for the next data collection round, comprising an interview with UK ASB director and a subsequent questionnaire. During the selective coding stage, the results from the questionnaire revealed that there were some concepts which were of less significance than the others (so these concepts represent the background of the theory), while others emerged in the context of the research.

### **Literature Comparison**

The final step was to compare the generated theory with the existing literature and the pre researches found in the field of study. For as Eisenhardt (1989) states:

“Overall, tying the emergent theory to existing literature enhances the internal validity, generalisability, and theoretical level of the theory building from case study research ... because the findings often rest on a very limited number of cases.”(p.545)

### **Conclusion**

The paper discusses the GT as a research method to guide the researchers to follow to generate a rigour theory. For the AIS researches which do not have a pre-existing theories and would be appropriate the GT for them, this paper would be a valuable reference to guide these researches to generate a rigour theory. In this paper, it has been discussed how the Straussian approach would be more appropriate to follow more than the Glaserian approach in generating the GT.

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