Towards a Grounded Theory Methodology: Reflections for Management Scholars

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ABSTRACT

This paper seeks to provide management scholars with a series of reflections on the use of grounded theory methodology. This methodology develops theory that is grounded in data that are systematically gathered and analysed. The theory evolves during the research process and is a product of continuous interplay between data collection and analysis. For the past five decades management scholars have used this methodology in advancing theory development within the academy of management. Yet, despite the approach's acclaimed merits for theory generation, management scholarship has remained peripheral and fragmented. This paper, therefore, seeks to address some of the key myths confronting management scholars in using this approach and provides an example of applying the grounded theory methodology when exploring the Irish health services.

Key Words: Qualitative research; grounded theory; management scholarship; Irish health services

INTRODUCTION

This paper seeks to provide management scholars with a holistic understanding of grounded theory methodology. It begins with a brief overview of grounded theory methodology, introducing readers to the techniques and tools behind the approach. A review of management scholarship in applying grounded theory methodology is then provided. The paper highlights common myths that tend to pervade our understanding and use of this methodology, which make a valuable contribution to how we practice grounded theory research. The paper then provides an example in practice of how the author deployed a grounded theory methodology (Straussian approach) within the Irish health services, concluding with some final reflections and lessons for future grounded theorists.

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GROUNDED THEORY METHODOLOGY – AN OVERVIEW

Exploratory methodologies (regardless of approach to inquiry, for example action research, case based or grounded theory) begin as close as possible to the ideal of no theory. In proposing to develop or build theory, these methodological approaches must first start research with a 'considerable degree of openness to the field data' (Walsham, 1995: 76). Eisenhardt (1989: 536), in dealing with case studies, states that:

> [A]ttempting to approach this ideal is important because preordained theoretical perspectives or propositions may bias and limit the findings. Investigators should formulate a research problem and possibly specify some potentially important variables, however they should avoid thinking about specific relationships between variables and theories as much as possible, especially at the outset of the process.

Walsham (1995) reiterates the importance of avoiding formal theoretical predispositions, emanating from literature critiques, stating that while 'theory can provide a valuable initial guide, there is a danger of the researcher only seeing what the theory suggests, and thus using the theory in a rigid way which stifles potential new issues and avenues of exploration' (Walsham, 1995: 76). This article seeks to focus on grounded theory methodology.

Grounded theory methodology (GTM) first emerged in the 1960s with the publication of *The Discovery of Grounded Theory* by Glaser and Strauss (1967), which has since become a seminal reference for researchers adopting the methodology. GTM is associated with the principles of 'symbolic interactionism', which prescribe that researchers must enter the world of their subjects in order to understand the subjects' environment and the interactions and interpretations that occur (Goulding, 2002). Using these principles, Glaser and Strauss set out to develop a more systematic procedure for collecting and analysing qualitative data (Goulding, 2002). The basic premise of grounded theory grew largely out of the protest against the methodological climate in which the role of qualitative research was viewed as preliminary to the real methodologies of quantitative research (Charmaz, 1983). Grounded theory therefore was intended as a methodology for developing theory that is grounded in data that are systematically gathered and analysed. The theory evolves during the research process and is a product of continuous interplay between analysis and data collection (Strauss and Corbin, 1990). An emergent theory arises when the researcher reaches theoretical saturation, i.e. no new data are emerging from data collection. The method is most commonly used to generate theory where little is already known, or to provide a fresh slant on existing knowledge (Turner, 1983). Glaser and Strauss (1967) saw this imbalance between theory generation and verification and set about developing processes for theory generation as opposed to theory generated by logical deduction from *a priori* assumptions (Bryant, 2002: 28). Thus began the grounded theory journey. However, like most journeys of discovery, GTM experienced divergent views in practice from the original authors with the publication of *Basics of Qualitative Research: Grounded Theory Procedures and Techniques* (Strauss and Corbin, 1990). We will discuss this schism in approach later but, for now, it is important readers are aware that grounded theory can mean different things to different

scholars. In part, the central purpose of this paper is to shed light on such differences and provide management scholars with a more thorough understanding of the many myths that can pervade scholarship. Scholars can then focus on building grounded theory.

As distinct from other methodologies, the GTM approach has a number of unique characteristics and techniques, which include:

1. *Grounding the study*: GTM aspires to grounding the study in data and allowing the theory to emerge, i.e. emphasis is placed on building theory from the ground up; other qualitative methods often just describe events (Goulding, 2002). In other words, in order for GTM scholars to achieve theoretical saturation, inquiries must move beyond *describing events* and move towards explaining phenomena.
2. *Theoretical sampling*: This technique allows the investigation to move from one piece of data to the next. In other words, theoretical sampling involves deciding on *analytic grounds* where to sample next, i.e. current data will drive the selection and sampling of future data (Urquhart et al., 2010).
3. *Constant comparison*: This is the process of constantly comparing *instances of data* labelled as a particular 'category' with other instances of data – thus exposing data to rigorous scrutiny (Charmaz, 2006). This technique requires the researcher to induce what their interpretation is and deduce the data by constantly comparing and contrasting categories.
4. *Data collection and analysis*: GTM uses a multi-method approach to data collection, i.e. a range of data collection techniques are used such as interviewing, documentary evidence, diary-keeping, statistical data, observational reflections, memo-writing, and technical and non-technical literature. This enables data to be particularly reflective of 'real world' perspectives (Glaser and Strauss, 1967). GTM also has its own process for data analysis, i.e. open and selective coding (Glaser and Strauss, 1967), with Strauss and Corbin (1990) introducing a third coding technique, i.e. axial coding.
5. *Data ordering*:[1] Researchers can structure data into a number of groupings to help with coding, these include phenomena (central ideas in the data represented as concepts), concepts (building blocks of theory), categories (concepts that stand for phenomena), properties (characteristics of a category – gives it meaning) and dimensions (range along which properties of a category vary).
6. *Iterative conceptualisation*: A key tenet in moving the researcher from one phase of data coding to the next is the technique known as conceptualisation or abstraction of data. This process requires researchers to induce what they perceive to be occurring in the data. The process of constant comparison can then deduce such abstractions, ensuring the interpretations are grounded in data. Useful methods for aiding abstraction are memos and story-telling (Urquhart, 1997).
7. *Theoretical saturation*: Saturation of data occurs when no new data emerges. As Strauss and Corbin (1998: 136) noted, 'saturation is a matter of reaching the point in the research where collecting additional data seems counterproductive; the new that is uncovered does not add that much more to the explanation at this time.'

8. *Emergent theory*: Finally, GTM inquiry can build both substantive and formal theories (Glaser and Strauss, 1967). Substantive theories have been generated from within a specific area of inquiry, e.g. exploring the role of top management in support of enterprise systems. Therefore, these theories are substantial to the case at hand. Formal theories, on the other hand, build the highest level of abstraction in GTM. Formal theories tend to focus on conceptual entities such as organisational knowledge or organisational learning (Urquhart et al., 2010).

As GTM seeks to build theory, it is particularly suited to longitudinal and process-oriented investigations, which focus on exploring a topic over time and in depth. At the centre of good theory generation is data questioning, where the researcher is constantly asking questions of the data, thus building a more holistic understanding of the topic under investigation (Goulding, 2002). The characteristics and techniques above point to a methodology that supports a flexible approach to data collection but yet encapsulates a highly systematic and rigorous approach to data analysis and theory generation. However, despite the many plaudits for GTM inquiry, its adoption within management scholarship remains somewhat peripheral. The obvious question to ask is, *why*?

GROUNDED THEORY IN *MANAGEMENT* RESEARCH

'Until relatively recently, the method had something of a peripheral, if not pariah, status in many areas; but in recent years it has enjoyed a resurgence, and there is a growing body of literature that attests to its range of application' (Bryant, 2002: 28). According to Myers and Avison (2002), grounded theory approaches are becoming increasingly common in management research literature because the method is extremely useful in developing context-based descriptions and explanations of phenomena. It is also a general style of analysis that does not depend on particular disciplinary perspectives (Strauss, 1987) and therefore lends itself to management research, which can be described as a hybrid discipline (Urquhart, 2000).

One of the better examples of a grounded theory approach in management research is Orlikowski's (1993) paper[2] on computer-aided software engineering (CASE) tools as organisational change. She states that:

> [T]he grounded theory approach was useful because it allowed a focus on contextual elements as well as the action of key players associated with organisational change-elements that are often omitted in IS [information systems] studies that rely on variance models and cross-sectional, quantitative data (Orlikowski, 1993: 310).

Orlikowski's (1993) study aimed to develop a theoretical understanding of organisational change when introducing CASE tools. As there was limited empirical evidence, grounded theory, through 'an inductive process[,] allows the researcher to develop a theoretical account of the general features of a topic while simultaneously grounding the account in empirical observations or data' (Orlikowski, 1993: 310).

Since its initial inception in the 1960s, GTM has continued to ebb and flow in both discussion and adoption among management scholars. A scan of the top 63 journals within the general management and strategy literature[3] over the past decades reveals that only 20 studies have used the term 'grounded theory' in their article titles, 39 studies refer to 'grounded theory' in subject keywords, 90 studies mention the term 'grounded theory' in their abstracts, while 615 studies use the term 'grounded theory' in the main body of the article. This brief synopsis of GTM within the management literature points to a topic that continues to remain somewhat peripheral and fragmented among the management academy – peripheral in the number of scholars who have chosen to use this methodology to build theoretical explanations and fragmented in GTM's application where it appears researchers have chosen to use only 'parts' of the methodology in the body of their articles to align with their inquiries. This preliminary finding is supported by other authors, who have noted that 'grounded theory in management research is in danger of losing its integrity. The methodology has become so pliant that management researchers appear to have accepted it as a situation of *anything goes*' (Jones and Noble, 2007: 84), with Bryant (2002) further stating that 'GTM can be used as a catch-all – a qualitative loin-cloth to fool the gatekeepers and academies' (Bryant, 2002: 37), where it is 'viewed primarily as a way of coding data rather than a method for generating theory' (Urquhart et al., 2010: 358).

So why does GTM continue to struggle with its identity and methodological application within management scholarship? This author, having taught and built theory with GTM over the past decade, believes that a number of common misperceptions or myths continue to pervade our understanding of this methodology. These myths typically range from GTM's philosophical underpinnings to its application in practice. In an effort to reveal, and hopefully dispel, some of these myths, it is now worth considering the possible perceptions that continue to lurk in the subconscious of some scholars within management academia.

Myth 1: But Building Theory Remains Too Elusive

The purpose of grounded theory is to build a theoretical explanation of phenomena where little is already known about the topic. Building theory should not be viewed as a lofty or elusive endeavour, best done by 'other' scholars, but as an opportunity for researchers to build an interpretation of their respective empirical interests. Admittedly, building theory takes time, patience and continual cycles of regression and redress. However, GTM structures much of the mystery and elusiveness behind theory building, presenting scholars with very clear guidelines to follow. The only real prerequisites required by researchers are to attain a curiosity for data and a ceaseless capacity for questioning this data (Strauss and Corbin, 1998). Applying the techniques of GTM removes the perceived elusiveness of theory generation and firmly grounds the researcher in the world of data and on the path towards an emergent theory. As evidenced from the preliminary review of management scholarship, it appears that our academy places greater emphasis on theory verification than theory generation. Surely with an ever-expanding and diverse field such as management, scholars need to be willing to cast away from the safe harbours of verification and

firmly set their sights on the open seas of exploration. If our academy limits its exploration of phenomena then as scholars we limit the field of management inquiry.

Myth 2: But How Can Researchers Ignore the Literature?
Grounded theorists are often accused of ignoring *a priori* knowledge, which can be perceived as both arrogant and unwise. However, this myth has emerged from the philosophical origins of the grounded theory methodology, i.e. the theory emerges from data. Yet, an important part of this process is to recognise that *a priori* knowledge within the literature is actually another *set of data* for the emergent theory. The founders of grounded theory (Glaser and Strauss) sought to unshackle researchers from the constraints of positivist inquiry, which adopts a hypothesis deductive logic that firmly leans on *a priori* knowledge for verification. Originally, Glaser and Strauss sought to steer researchers away from such deductive purism and as a consequence reviewing *a priori* knowledge was thought to pollute the 'grounded' perspective. Strauss and Corbin (1998: 48), however, noted that every 'researcher brings to the inquiry a considerable background in professional and disciplinary literature' and that such literature 'can enhance sensitivity to subtle nuances in data' (Strauss and Corbin, 1998: 49), while also aiding researchers to 'formulate questions that act as a stepping off point during initial observations and interviews' (Strauss and Corbin, 1998: 51). In other words, a preliminary review of the literature will actually sensitise researchers to some of the concepts emerging from the data. Perhaps it might be helpful to view grounded theorists as both empirical reformers and traditionalists. Reformers from the perspective of ideology, where researchers seek to explore the world and build a new interpretation of phenomena. Yet, traditionalists from the perspective of research execution, where grounded theorists view everything, including the literature, as a source for rich data.

Myth 3: But Grounded Theory Is Mostly Researcher Bias and Opinion
This myth is something most qualitative researchers are confronted with during their empirical investigations. However, for the case of GTM, it remains a myth as there are clear techniques available for researchers to overcome such challenges. One of the key techniques is that of *constant comparison* of data, where the researcher is constantly comparing and contrasting emerging data. This process allows researchers to 'induce' their interpretations by 'deducing' the data. As Strauss and Corbin (1998: 136–7) noted:

> [A]n interpretation is a form of deduction. We are deducing what is going on based on data … there is an interplay between induction and deduction …. [I]t is, therefore, important that analyst validate [sic] his or her interpretations through constantly comparing one piece of data to another.

In other words, researcher interpretations are constantly compared and deduced through data, thus removing bias. A simple vehicle to support researchers in applying this technique is that of self-critique and memo-taking. Self-critique, which occurs at the beginning

of the study, simply requires researchers to 'interview' themselves by writing their interpretation of the story so far, therefore bringing their opinions and interpretations of the phenomena to the fore. On the other hand, memo-taking, where researchers simply keep notes of their feelings and intuitions about the phenomena under inquiry, is particularly helpful during the investigation, where emergent biases or researcher 'interpretations' can be documented and compared to other data sets throughout the study. The myth of researcher bias is often further compounded when scholars hear of GTM techniques such as iterative conceptualisation or data abstraction, which involve researchers deploying 'creative theoretical imagination' (Strauss and Corbin, 1998) to move data to higher order categories and towards an emergent theory. However, in abstracting data and conceptualising possibilities, researchers are simply moving along the path towards a 'grounded' understanding, which can then be verified or contradicted through constant comparison of these emerging higher order categories.

Myth 4: But My Work Afterwards Will Be Too Difficult to Publish

This myth has pervaded the qualitative research community for the past number of decades, primarily due to the historical dominance of positivism within the social sciences, which has meant that many qualitative researchers still feel compelled to use positivist language to tell interpretivist stories (Gasson, 2002). This constant ritual of justification has left scars on the psyche of many qualitative scholars. Yet, when we look at the facts as evidenced by the preliminary review of GTM within management scholarship, the findings reveal a very different tale. Of the 61[4] top international general management and strategy journals identified by Harzing's (2010) survey, 'grounded theory' is cited in twenty article titles across fifteen journals. Almost one-quarter of the management journals reviewed have published grounded theory studies. When we look across the 90 abstracts that cite 'grounded theory' we find that they span 28 journals. Almost half of management journals have published studies with a grounded theory focus. The myth that GTM scholars will be unable to publish their work in the highest management journals should be dispelled. However, what is required are increased numbers of GTM scholarships within the management academy. As noted earlier, most references to 'grounded theory' occur within the body of the articles surveyed. While it is beyond the scope of this paper to determine the nature of these studies, one possible suggestion is that parts of grounded theory are being used to support other methodologies. It seems management scholars like the idea of 'grounded theory' but don't necessarily want to take the whole journey.

Myth 5: But I Did Use a Grounded Theory Methodology

In deploying 'grounded theory', researchers need to draw a clear distinction between the approach's *methodology* and its *methods* (Strauss and Corbin, 1998). Grounded theory methodology encapsulates the entire approach, from its philosophical orientation to its application in practice. Grounded theory methods, on the other hand, focus specifically on data collection and analysis techniques, usually deployed in unison with other methodological choices. The current ambiguity between grounded theory's methodology and

methods leads some researchers to believe that they are embracing a grounded theory methodology. This ambiguity is clearly evident in our preliminary review of management scholarship, where the ratio is 1:30 between articles titled 'grounded theory' and articles with 'grounded theory' in the body text (20 articles to 615 articles). This figure hints at a scholarship that prefers to deploy grounded theory 'methods' rather than the 'methodology' itself. While there is nothing wrong with such approaches once scholars justify their methodological choices, continually diluting GTM principles can erode our long-term understanding and use of the approach.

Myth 6: There Are Different Schools of Thought?

Another issue that scholars need to address before beginning any grounded theory investigation is to clearly identify the school of thought their research will contribute to. This schism began after the publication of *Basics of Qualitative Research: Grounded Theory Procedures and Techniques* (Strauss and Corbin, 1990). This book was rebuked by Glaser in 1992 with the publication of *Basics of Grounded Theory Analysis*. Glaser (1992) was stressing the interpretive, contextual and emergent nature of theory development, while Strauss and Corbin appeared to have emphasised highly complex and systematic coding techniques (Goulding, 2002: 47). Glaser felt that Strauss and Corbin, with their focus on multiple coding procedures such as open, axial and selective coding, were overemphasising the mechanics of the methodology, which could result in researchers missing the relevance of the data by forcing it into preconceived frameworks. Goulding (2002) sums up the difference best by stating that Strauss, as he examines the data, stops at each word to ask 'what if?' Glaser keeps his attention focused on the data and asks 'what do we have here?' Glaser viewed Strauss and Corbin's 1990 text as a 'book without conscience, bordering on immorality … producing simply what qualitative researchers have been doing for sixty years or more; forced, full conceptual description' (Glaser, 1992: 3). Such differences have therefore created two schools of thought on the approach to GTM, namely the Straussian and Glaserian schools (Smit and Bryant, 2000). Consequently, researchers engaging in a GTM inquiry should acknowledge both schools and decide from the outset which approach best suits their investigation. Yet, all too often our community does not openly recognise this schism between the original authors. Smit and Bryant (2000), for example, on examining sixteen grounded theory studies from the previous decade, i.e. the 1990s, found that fifteen out of the sixteen studies made no mention of the divergence between Strauss and Corbin's 1990 publication and Glaser's response in 1992. Delineating between the grounded theory 'methodology' and 'method' and recognising the methodological differences between Glaser's (1992) and Strauss and Corbin's (1990) approaches are key factors in rediscovering grounded theory.

These myths have tended to surround our understanding of grounded theory methodology over the past decades. Some of the myths are general in nature, often arising from philosophical debates that have existed long before the emergence of grounded theory, while others are more methodological, by specifically questioning our approach to GTM

operationalization. It is important for management scholars to be aware of such myths and by shedding light upon them to dispel their influence on emerging theory.

PREPARING ONESELF

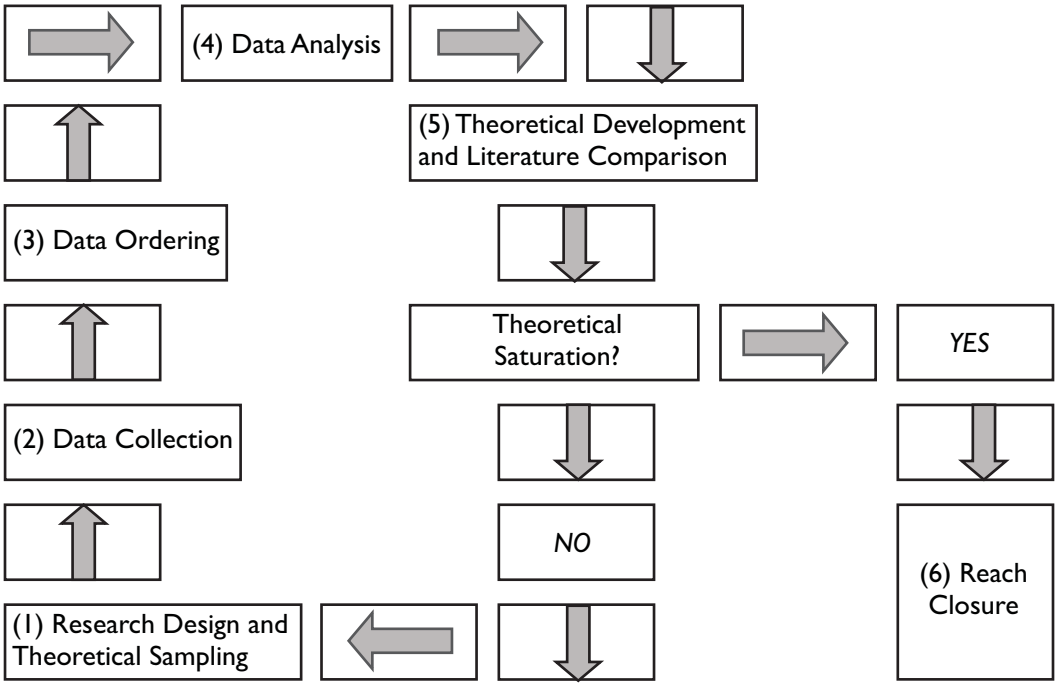
The researcher remains the primary conduit between the data and emergent theory; consequently, scholars need to ensure their skill set is refined and updated to deal with this role. Typically, researchers should consider cultivating several general skill traits. These include:

1. *A passion for language*: As GTM typically involves exploratory data, language forms a significant part of respective data sets. Scholars should recognise the importance of 'words', 'sentences', 'syntax', 'meanings' and 'intonations'. Out of language emerges our 'interpretations' of what is happening within a particular context. It is this interpretation that yields the eventual story of a *grounded* theory.
2. *Emotional intelligence*: The ability of scholars to recognise their role in the research initiative requires a degree of self-awareness, self-regulation, motivation and reflection (Goleman, 2004). To this end, scholars need to understand their *emotions* in dealing with data. An effective appraisal of oneself will assist researchers in dealing with the fear of using grounded theory, an ability to overcome individual preconceptions and the recognition of self in the research process (Simmons, 2010).
3. *Cognitive ambiguity*: 'Students who attempt grounded theory but cannot tolerate confusion and regression, and who need to continually feel in cognitive control, fall by the wayside' (Glaser, 2010: 4). Scholars, therefore, need to embrace ambiguity, through patience and persistence. Useful tools to assist in creating these skills are for researchers to write their way out of an impasse. In other words, during periods of great ambiguity, or indeed absolute confusion, researchers should write a diary of events to date with memo-taking pointing to future possibilities. The haze of ambiguity will lift through persistence and in fact can act as a powerful signpost for future data and understanding.
4. *Development and learning*: The GTM approach is a journey of discovery, both professionally and personally. From a professional perspective, researchers are seeking to renew our understanding of phenomena through an emergent theory. From a personal perspective, the iterative process of questioning and comparing data creates an environment of continual *learning*. Researchers who embrace this cyclical learning process open themselves to change and development.
5. *Theoretical sensitivity*: To encapsulate all of the above traits, it is critical that researchers embrace a 'creative theoretical imagination' (Strauss and Corbin, 1998: 98). Such *creativity* is the bedrock of good concept abstraction and conceptualisation, where researchers relying on their hunches, intuitions, and gut feelings can advance and probe their data. Becoming 'sensitive' to the data will take time but the more one immerses oneself in this world then the more grounded one's interpretation will be.

GTM IN PRACTICE: AN EXAMPLE

In order to discuss the principles and techniques of GTM in further detail, this paper now presents a practical example of the methodology in application. The study focused on the implementation of a large-scale information system (known as SAP[5]) within the Irish health services. This initiative commenced in 1998, was one of the largest information system implementations in Western Europe and had cost an estimated €130 million by 2005. In order to explain the application of GTM in practice, Pandit's (1996) five-stage model (see Figure 1) is adapted to this study. This study adopted the Straussian school of thought (Strauss and Corbin, 1990) in applying GTM. This approach provides a more structured approach to data collection and analysis. While these stages are ranked from one to five, it is important to note that they are iterative and often the investigator must move systemically from one to the other throughout the investigation. The stages begin with theoretical sampling and the research design phase, followed by data collection, data gathering and data analysis. Finally, the investigator moves to compare and contrast the extant literature to the new emergent grounded theory. Each of these phases will now be discussed in greater detail.

Figure 1: Grounded Theory Methodology Process Map



Source: Adapted from Pandit (1996) with permission

Theoretical Sampling

The study begins with an initial interest in a particular phenomenon, which is normally abstract and exploratory. According to Strauss and Corbin (1998), there are a number of methods for assisting researchers in developing a more refined research focus. These include:

- Identifying challenges the investigator's own organisations are confronted with
- Speaking with resident experts, such as organisational consultants and academic faculty
- Identifying gaps from a preliminary review of the technical literature
- By entering the field of practice directly and developing a research question

Through the process of theoretical sampling researchers are able to design their research initiatives. Theoretical sampling is defined as:

> … 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. This process of data collection is 'controlled' by the emerging theory (Glaser and Strauss, 1967: 45).

For this study, the researcher had worked for a number of years as a project manager on implementing information systems (the specific project was an e-learning initiative) within a public sector organisation. Initial preconceptions led the researcher to note that the implementation of information systems proved challenging to organisations across all sectors. A preliminary review of the management literature also revealed that the implementation of information systems remained challenging to organisations. In fact, some studies pointed to a 90 per cent rate of failure with the implementation of large-scale information systems such as enterprise systems, primarily because organisational issues were ignored or bypassed (Loonam and McDonagh, 2005). A review of preliminary studies on the key critical factors for information systems implementation identified top management support as one of the most important issues for ensuring the successful implementation of enterprise systems. Anecdotal evidence emanating from experiential knowledge had informed the investigator as to the importance of top management support; now the technical academic literature was further supporting such beliefs. As a result, this study would seek to explore how top management supports enterprise systems implementation.

Data Collection

In a GTM inquiry the data collection phase begins when the study commences (see Appendix I for review of data collection methods deployed). All data is applicable and relevant to GTM, where it is collected and analysed simultaneously upon research initiation. As theoretical sampling drives the collection of future data, it is the technique of

'constant comparison' that compares like with like in order to look for emerging patterns and themes across the data (Goulding, 2002). In applying data collection techniques, Strauss and Corbin (1998) refer to two types of 'literature', i.e. the technical literature and the non-technical literature. Technical literature refers to the current body of knowledge about the research topic, e.g. the extant literature. The authors encourage a preliminary review of literature to help sensitise researchers to the topic under investigation. Consequently, this study conducted an initial review of the management literature, specifically focusing on the information systems management literature. The non-technical literature refers to the organisational evidence, i.e. meeting minutes, interviews, consulting reports, observations, memo-writing, etc. This is often referred to as 'secondary' data within other qualitative methodologies, e.g. case studies. The non-technical literature played a pivotal role in this investigation. As this study was engaged in a ten-year long information systems implementation, there was a huge reservoir of non-technical literature for the investigator to collect. This included consultancy reports, steering meeting minutes, project presentations, government reports, progress reports, vendor reports and general project specifications.

On top of the huge reservoir of non-technical literature already gathered, the investigator also conducted a series of interviews. The interview style remained unstructured, i.e. questioning tended to emerge during the interview rather than leading the interview in a structured format. Initially, prior to interview commencement, key informants were informed, via email, as to the nature of the research inquiry and the forthcoming interview. After interviewing key informants, theoretical sampling of the data selected future informants. All interviews were written up directly after each session. This allowed the investigator to follow up on any outstanding or unclear points with the interviewee. With unstructured interviews it was difficult to know their specific length until afterwards. However, each informant was scheduled for a one-hour interview. If more time was required it could be arranged to follow up with another interview, or over the phone at a later date. The investigator also kept memos of each meeting, which in turn assisted with the process of probing and questioning the data. Such an approach greatly facilitated with sharpening and focusing future interview sessions.

Data Ordering

Data ordering acts as a bridge between data collection and analysis. As this study was focusing on a complex organisation which was implementing a system that affected the entire organisation, data management was critical. GTM inquiry also involves many approaches to data collection, which increases the need to order data. Folders were created to give a hierarchical structure to the data. In all, the data ordering was divided into four core folders:

1. Technical literature
2. Diary of research
3. Non-technical literature
4. Field interviews

Data ordering is also concerned with how the emergent data concepts and categories are structured. As the researcher goes through each stage of data coding, data are broken down into specific units of meaning. Each unit represents a step on the road to developing an emerging theory. In effect, data are arranged in a hierarchical manner, with the eventual emergence of a grounded theory. Strauss and Corbin (1998) give us examples of the hierarchical language used for data analysis:

- *Phenomena:* Central ideas in the data represented as concepts, e.g. top management support
- *Concepts:* Involves moving from just describing what is happening in the data to explaining the relationship between and across incidents, e.g. vision, plan, goals
- *Categories:* These are higher order concepts. Grouping concepts into categories enables the analyst to reduce the number of units with which they are working, e.g. strategy (main concept of vision, plan, goals).
- *Properties:* These are the characteristics or attributes of a category, the delineation of which gives the category greater meaning, e.g. vision-share, build, long-term or process. Scholars are seeking to ask questions of each concept in order to understand the word within its context, i.e. its central properties.

Following Strauss and Corbin's (1998) technique for ordering data, the researcher is able to structure the enormity of data collected. Data structuring facilitates the process by bringing order to the topic and allowing an emergent theory to unfold.

Data Analysis

Data analysis starts with data collection; without it theoretical sampling cannot take place (see Appendix II for review of data analysis using GTM coding techniques). GTM has devised a number of methods for analysing data. With GTM the idea is to look for patterns and reoccurring events in the data through constant comparison of data. This process is called 'coding', where interview, observational and other data forms are broken down into distinct units of meaning which are then labelled to generate concepts. These concepts are then clustered into descriptive categories, which are later re-evaluated for their interrelationships and through a series of analytical steps are gradually subsumed into higher order categories, or a single core category, which suggests an emergent theory (Goulding, 2002). Strauss and Corbin recognised three coding procedures: open, axial and selective coding (1998). Figure 2 provides an illustrated example of these coding techniques in action. The fundamental objective of using these coding techniques is to arrive at a situation where the data is 'saturated', thus giving rise to a *grounded* theory. Each of these coding techniques is now briefly discussed, providing examples of its application in practice.

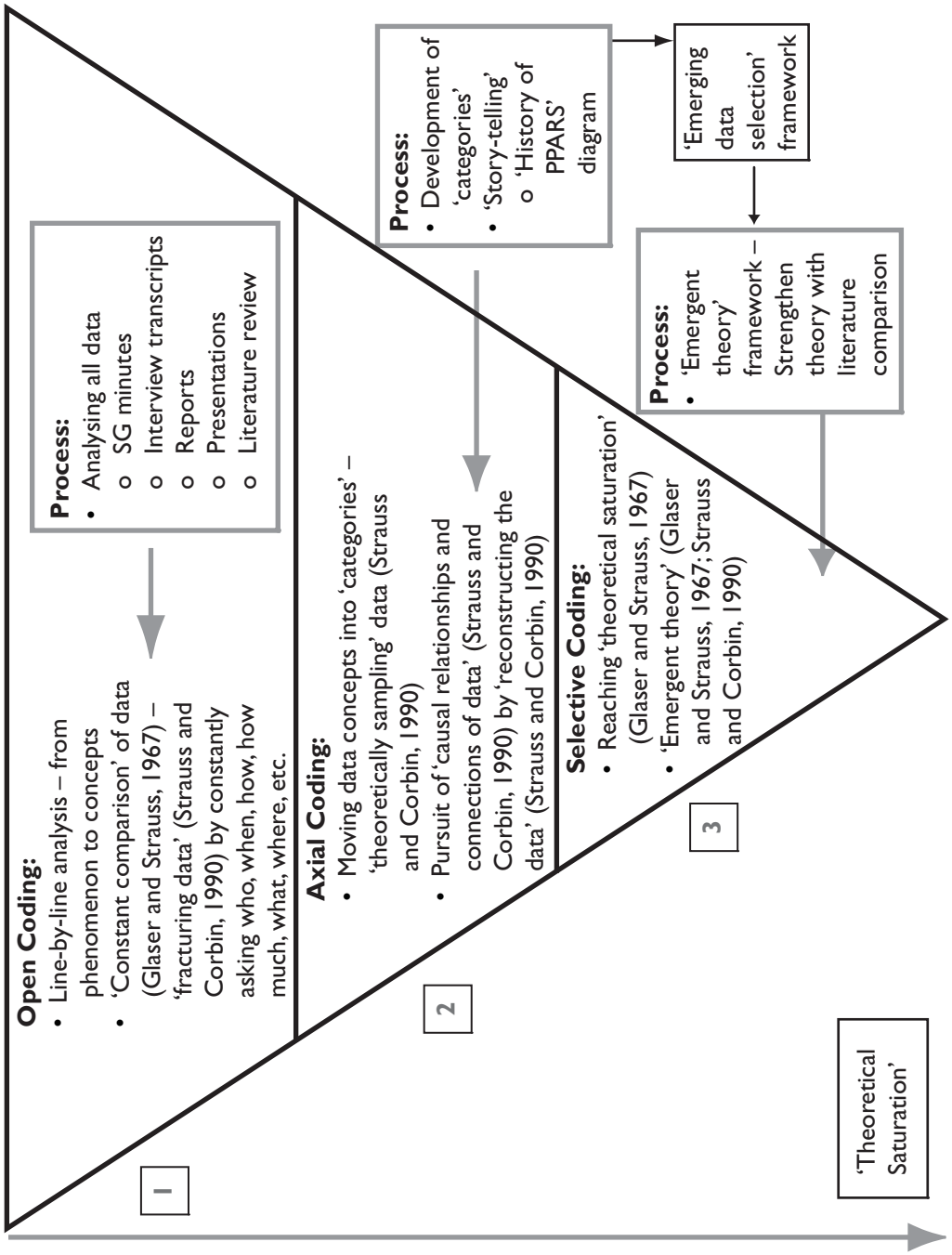


Figure 2: Example of Data Coding Stages

Open Coding

Open coding involves breaking down the data into distinct units of meaning. Such a process allows the researcher to place specific phenomena into groups, therefore giving rise to early concept development for the emerging theory. This classification of concepts into specific groups is referred to as 'conceptualising' the data (Strauss and Corbin, 1998: 103). Following on from this the process of 'abstraction' takes place, where descriptive codes and concepts are moved to a higher abstract level. Abstraction involves collapsing concepts into higher order concepts, known as categories. According to Strauss (1987), abstraction involves constantly asking theoretically relevant questions. To assist the process of abstraction, the researcher moves beyond open coding and towards axial coding techniques.

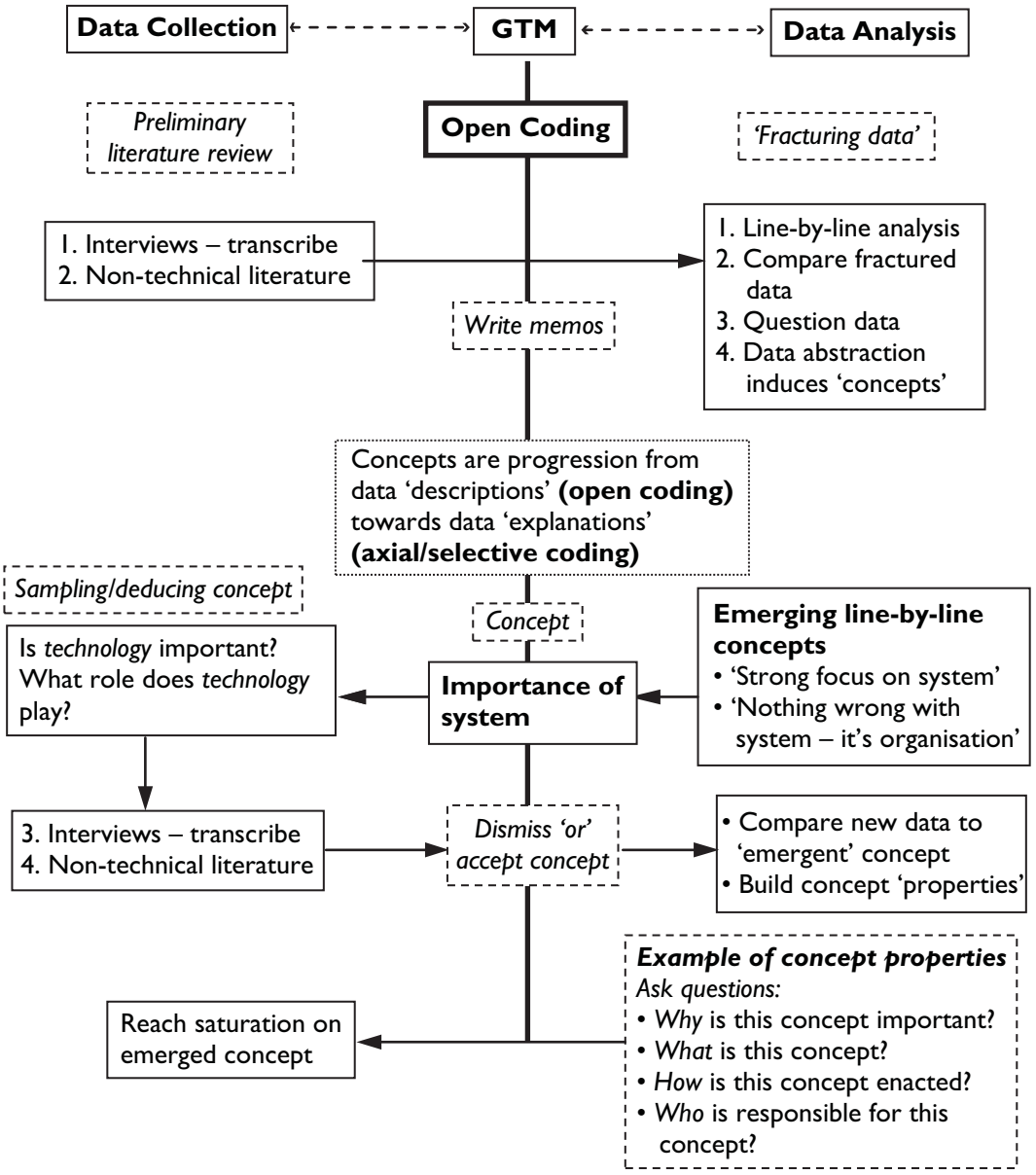
With the application of open coding for this investigation, two steps were deployed. First, the researcher moved through the data line by line, italicising, bolding, highlighting and underling both hardcopy and electronic documents alike (see Figure 3 for an example of open coding). This approach proved arduous and time-consuming, but revealed a vast array of data imagery, events, words, incidents, acts and ideas, which greatly assisted with the development of an understanding of the research phenomenon under inquiry.

Strauss and Corbin (1998) refer to these factors as the block work to building sound data concepts. The second step involved building a 'concept library' in Microsoft Excel. This process allowed the researcher to order data systematically (Pandit, 1996), moving data to a state of higher order concepts. A comments column was also created in the database to allow the investigator to write notes and make comments on emerging data. Glaser and Strauss (1967) encourage researcher commentary and question raising throughout coding, believing that it aids with the process of constant comparison and theoretical sampling.

Axial Coding

The purpose of axial coding is to begin the process of reassembling data that were fractured during open coding. Axial coding involves moving to a higher level of abstraction and is achieved by specifying relationships and delineating a core category or construct around which the other concepts revolve (Orlikowski, 1993). Higher level concepts, known as categories, are related to their sub-categories to form more precise and complete explanations about phenomena (Strauss and Corbin, 1998). A sub-category asks questions about the phenomenon, such as when, where, who, how and with what consequences. Such an approach gives the category greater explanatory power, therefore fitting with the idea of developing theoretical abstraction from the data (Strauss and Corbin, 1998). In applying axial coding, Strauss and Corbin (1998) support the use of story-maps or network diagrams. Similarly, this investigation designed a story-map to report the story of the SAP implementation within the Irish health services. Specifically, the story-map adopted Strauss and Corbin's (1998) axial coding techniques of illustrating the strategies taken, the conditions that shaped these strategies, the actions taken because of these conditions, and the consequences and outcomes of such actions. (See Figure 4 for an example of story-mapping using Strauss and Corbin's (1998) techniques.) In story-mapping, axial coding reconstructs concepts 'fractured' during open coding, and unites them through

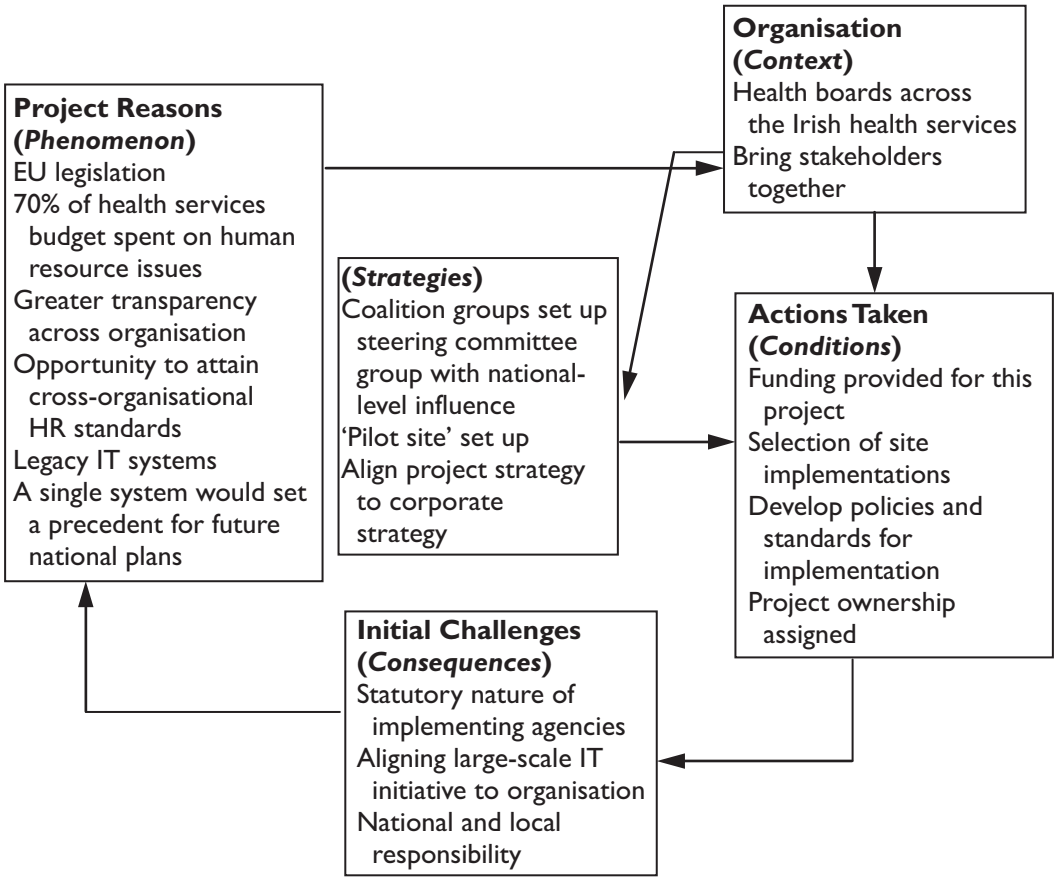
Figure 3: Open Coding Example



data abstraction. Abstraction involves grouping concepts to form higher order concepts or 'sub-categories'. After mapping the story, the investigator is able to abstract 'concept groups' or 'sub-categories'. In effect, a number of key trends are beginning to emerge, e.g.

the importance of effective resourcing, the role of holding a strategic vision, or the central part top managers play in building coalitions and relationships across project teams (see Appendix II for an illustration of coding themes). These key trends will form the basis for an emergent theory. From the story-map in Figure 4, the investigator was able to piece together fractured data from open coding in order to assist with conceptualisation and sense-making. For example, the 'phenomenon' raised issues regarding the importance of organisations attaining 'best practice' from large enterprise resource planning (ERP) software. This proved to be a core reason behind the implementation of these projects. When we look at the 'strategies' we focus on how managers take action in implementing such projects. The story-map allows the investigator to gain a more holistic understanding of what is really happening with the research inquiry.

Figure 4: Story-Mapping Example



Selective Coding

Selective coding is the final data analysis technique. The fundamental premise of selective coding is to 'refine and integrate categories' having reached a point of theoretical saturation (Strauss and Corbin, 1998: 143). Emerging data no longer present any new ideas or concepts and are a repeat of data already collected and categorised. Understanding the causal relationship between data, as identified from axial coding, the researcher is able to place data concepts and sub-categories into higher order emerging categories. Selective coding now refines and integrates these 'emerging categories'. Data are 'selected' or pulled up out of concepts and categorised. The fundamental objective of selective coding is to develop a single 'core category' that explains the emergent theory. For this investigation, it was revealed that a number of key *patterns* emerged to explain the various activities top managers perform in supporting enterprise systems' implementation within the Irish health services.

Literature Comparison

The final stage of any GTM investigation is the literature comparison phase. The objective at this stage is to compare the 'emergent theory' to the extant literature, i.e. the technical literature in the area's domain. There are three key reasons for comparing the extant literature to the emergent theory:

- It provides the study with an opportunity to identify and contrast other theories in the literature.
- It improves construct definitions, where the researcher is able to ensure the language and concepts of their emergent theory are consistent with the main body of literature.
- It assists in establishing a domain or field for the emergent theory, i.e. the field of knowledge the investigation is seeking to contribute to.

The GTM approach provides scholars with a number of unique opportunities to build an emergent theory. Perhaps the most notable and unique factor is the methodology's approach to coding. The preliminary review of GTM literature, as mentioned above, notes that while there are few studies that mention GTM in article titles and abstracts, hundreds of articles refer to the methodology in the article body. Clearly, many scholars embrace the methodology's rigorous coding techniques, even when using alternative approaches to inquiry. The approach to data collection also provides a unique perspective for management scholars. Scholars are encouraged to deploy theoretical sampling, where future data collected is driven by previous collected data. Central to this technique is the need to embed the scholar in the emerging 'story' rather than preparing a pre-planned attack on data collection. Scholars therefore adopt a holistic view of data, which allows a grounded theory to emerge. Finally, GTM is particularly suited to environments that are complex, stories that are longitudinal, and where systems, processes and people are inherently at play within and across one another's boundaries. The emergent theory, which is holistic

and systemic in nature, moves beyond providing 'descriptions' and builds a substantive theory to explain the phenomenon under study.

LESSONS LEARNED

Reflecting on the use of GTM, four key lessons can be contributed to both our management academy and future research practitioners of the methodology.

Lessons for Our Academy

Towards Grounded *Theory*

GTM inquiries within management scholarship remain peripheral and fragmented. As a consequence, our understanding of management as a discipline is possibly weakened. Future scholars seeking a more exploratory perspective on management should consider embracing the grounded theory methodology. Its key strengths of facilitating longitudinal inquiries, not forcing *a priori* knowledge upon the investigation, allowing theory to emerge through data, providing a more holistic interpretation of phenomena and providing scholars with a clear rigorous approach to data analysis and coding all contribute towards building sound exploratory theory. The interaction between data and the researcher provides a unique interpretation of phenomena under investigation. Such interpretation yields a theory that is both grounded and applicable.

Towards Exploratory *Theory*

An important consideration for scholars taking the GTM journey is to ensure their stories are told in the language of exploration. In other words, exploratory-oriented scholars need to deploy the language of interpretivism rather than positivism. Interpretivist researchers, in an effort to bring greater legitimacy and general acceptance from their peers to their studies, can sometimes use the more popular positivist terminology to find approval. However, Gasson (2002) warns against this approach, noting that interpretivist inquiries need to be:

- Confirmable rather than 'objective' when representing the findings
- Dependable rather than 'reliable' when reproducing the findings
- Internally consistent rather than 'internally valid' when reporting the method's rigors
- Transferable rather than 'externally valid' when seeking to generalise the findings

Therefore, scholars seeking to explore phenomena need to adopt the language that best reveals the truth behind their stories.

Lessons for GTM Practitioners

A Scholar's *Tale*

Lessons for future GTM scholars revolve around the role of 'self' and the role of the scholar in reporting the emergent 'story'. As mentioned earlier, it is critical that prospective

grounded theorists self-reflect on their role in the research initiative in order to ensure their preconceptions and biases do not overwhelm the data. Such reflection also allows the researcher to become more immersed in the data, to truly experience the data. This 'vocation' or dedication towards the data is important to exploratory inquiries seeking to build an understanding of particular phenomena. The entire interpretation is a *union* between the data on the one hand and the researcher on the other. The second imperative for prospective researchers is to ensure all engagement is in a highly ethical manner when reporting the emergent 'story' and liaising with the respective client organisations. Examples of ethical considerations from this investigation included ensuring client–investigator confidentiality, ensuring participants have given consent, only recording interviews when permitted, not considering documents unless they have been initially cleared by informants, limiting 'surprise' questions within interviews by forwarding interview structure to all informants beforehand, and, finally, regularly communicating the research project's integrity and confidentiality when dealing with informants at all times.

A Journey *of Discovery*

Another reflection for prospective grounded theorists is to understand that the grounded theory methodology is best learned through 'action' and 'discovery'. The GTM techniques and tools act as signposts for the research traveller, but a grounded theory can only be built from the bottom up, i.e. it is a discovery about the field of practice. A final thought for future grounded theorists relates to the nature of theory that is developed. As mentioned already, grounded theories can be either 'substantive' or 'formal' in their contribution to knowledge. Future researchers need to acknowledge such contributions by placing 'boundaries' around their emergent theories. In other words, researchers need to clearly identify the field and body of knowledge they are seeking to contribute to; this allows them to compare and contrast extant literature and find a home for their grounded theory.

CONCLUSION

Grounded theory methodology offers management scholars the opportunity to build and generate theory. The methodology is most suited to exploratory inquires which seek to build an understanding of particular phenomena. Data are systematically gathered and analysed until saturation is reached, resulting in the emergence of a theory grounded in data. Yet, despite grounded theory's perceived benefits in advancing management scholarship, its uptake has remained somewhat peripheral. It appears that the methodology's techniques associated with data collection and analysis are popular among management scholars; however studies embracing a holistic approach to the methodology itself remain limited. As a result, this paper has sought to dispel some of the common myths that tend to pervade the management community, providing an example of grounded theory methodology in practice. The paper is seeking to redress the imbalance within the management academy, recognising that any scholarship community that sidelines exploratory empirical development may relegate their respective fields of inquiry. Such relegation, over time, may lead to an opaque lens through which scholarship is viewed. The author would,

therefore, encourage future management scholars to cast away from safe harbours, let the wind catch their sails and journey out onto the open seas of exploration.

NOTES

1 This characteristic will be demonstrated further when the paper focuses on the application of GTM in practice.

2 Best Paper of 1993 in *MIS Quarterly*.

3 The journals selected for review are based on Harzing's 2010 (www.harzing.com/jql.htm) list of top international general management and strategy journals.

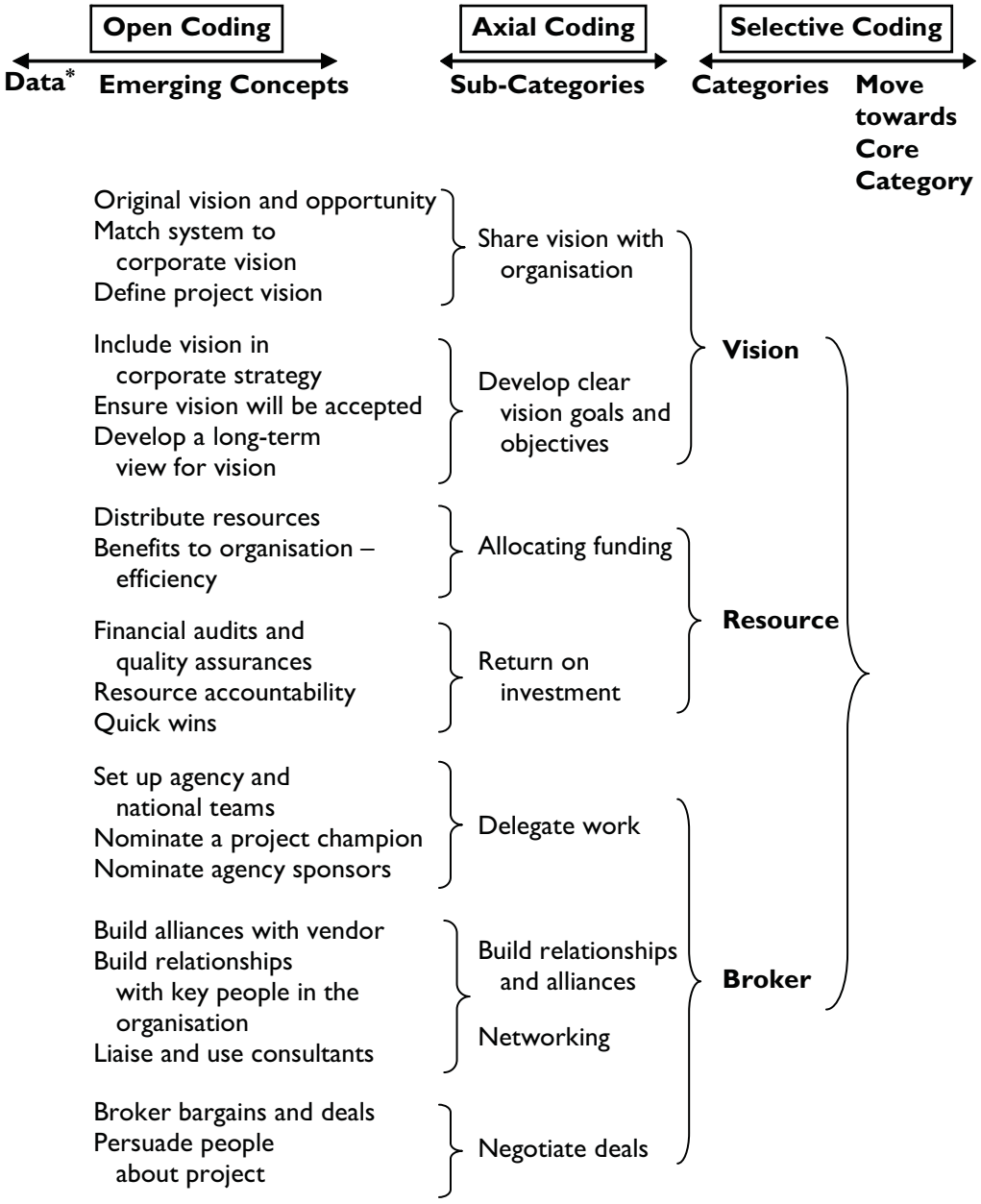
4 Originally 63 journals but the author was unable to access two journal sources.

5 SAP is recognised as an enterprise system. This type of information system seeks to integrate all functional silos and functions (e.g. human resources, information technology, manufacturing, sales and marketing, finance and materials management) across the entire organisation into a single central database.

Appendix I: Example of Data Collection Methods

Data Collection Method	Irish Health Services
Organisational reports	*Strategic and project level reports*
Consultant reports	*Series of benefits realisation/validation of costs and change management reports*
Steering committee minutes	*Local and national agencies*
On-site organisational visits	*Over 18 months*
Conferences attended	*2 National-level conferences*
Interviews conducted	*20*
Literature review	• *Leadership literature* • *Enterprise systems management literature* • *Information systems and public sector/healthcare literature* • *Research methodologies literature*

Appendix II: Example of Data Analysis



* The 'Data' column is comprised of all data collected and analysed.

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