Understanding the Comparison
Phase in SSM

The process of engaging a framework of ideas against perceived ‘reality’

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_________________________  _____________
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Acknowledgments

This thesis first of all would not be possible without God, thanks. I also would like to acknowledge Danielle, my wife of six years – who helped me to get through the Masters and whose continued support made it possible to complete. Claire – my daughter (18 months) who frequently scribbled on the pages of my work, thanks honey. To International Gospel Centre – Especially Big John Beard, Managing Director. This thesis would not have been completed without your support, thanks for allowing me to use your company in this thesis. Thanks to Julie Beard, Director of IGC – thanks for your help on the database case and thanks for time in helping shape the case. Thanks also for letting John and I discuss theology and the things of God for hours on end! I have to say thanks also to those who discussed the ideas contained here with me, Wayne Graham especially who helped to make this mess a little clearer, the members of the advanced studies group – in particular, David Watson, Robert Glen, Jeannie Ledington, Tanya Himing and the rest of the group who contributed to this thesis. Thanks to Stephen Houghton and Chantal Lewis for their input and help on the aged care case, without it the thesis would be missing a case! Finally, I would like to acknowledge Dr. Paul Ledington, who guided, shaped and supervised the production of this work, gave constant criticism, mentored the process as a whole, helped me to get some of the work published and then presented an award winning paper from this thesis which he didn’t have to do. He helped to improve my skills as a writer and generally separated the silver from the dross during the course of the thesis. Thanks Paul for your help and support.
Abstract

The social reality implied by SSM has not been formally discussed in academic circles since 1984. Yet what the methodology hopes to achieve in the real world is often demonstrated, through applications of it to various industries and more recently to the field of Information Systems.

The recent focus of SSM research has been in and around the modelling process (Ledington and Ledington, 1999) , Mode 1 and Mode 2 SSM (Checkland and Holwell, 1998) combining hard and soft Systems Methodologies in industry practice (Mingers, 2000). Very few researchers have attempted to tackle the notion of the social reality implied by SSM. Even fewer have attempted to describe what the notion of “Comparison” really means for real world users and the extent to which that process is the beginning of the social process inside SSM.

This thesis attempts to extract the process of comparison and present it apart from SSM. The purpose of this is to understand the social process of comparison and therefore the social process inside SSM. Six cases using the idea over different areas including: managing technology, database development and design, aged care work, training development and, information systems development are presented and analysed. By examining the idea in some detail, in practice, a form of social process can be extracted and therefore the social reality (or what the methodology hopes to achieve in the real world of human activity) can be understood.

Furthermore, the thesis presents SSM in a different management context. The context of everyday management as opposed to specialist project management situations as traditionally has been the case. For example, the cases presented all use the concept of engaging ideas and situation whilst not maintaining the structure of the original seven stage model. An everyday approach for SSM makes it more practicable in application and presents a new mode for SSM that has been dealt with sparingly in the past.
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1.0 Introduction

“Comparison can be seen as an activity that is central to the idea of structured systems thinking but also as an area which is as yet under-developed within the research literature and in need of urgent attention.” (Ledington and Ledington, 1999, p.1149)

Over the last thirty years SSM has become a well used and respected methodology for tackling ill-defined problem situations (Checkland 1981, Wilson 1984:1990:2001, Checkland and Scholes 1990, Davies and Ledington 1991, Checkland and Holwell, 1998, Checkland 1999). SSM has also been assimilated into a variety of secondary systems methodologies (for example see Lewis (1993)) and used in many industries. Through thirty years of active development, SSM has changed its face three times and is now presented as a formalised structure for learning (Checkland and Holwell, (1998). Traditionally though, SSM has been presented as a process of tackling ill-defined problem situations (Checkland (1981) and Checkland and Scholes (1990)), the idea being that SSM could provide a basis for generating improvement to problem situations (Checkland, 1981, pp180-1). Central to this notion is the idea of comparison.

It is the purpose of this thesis and subsequent field research to explore and further develop this concept of comparison and present it apart from the traditional way of presenting SSM. A concept of comparison and what is needed to do a comparison, in the real world of social activity, will be extracted and presented. Firstly, though an introduction to this expansive topic is required. The issue of the use of comparison within SSM is the main topic of this thesis therefore a closer look at the issue of comparison is what needs to be further analysed.

1.1 The Fundamentals

To understand the process of comparison, it is important to examine SSM in it’s most primitive and classical form. As mentioned, the original model or guide as Checkland called it (see Chapters 5 and 6 of Checkland (1981) for a greater
exposition in this regard) sought to deal with problems of ill-defined nature through the rigours of a seven stage model. Firstly it sought at stages 1 and 2 to express the problem situation. The outcomes of these two stages are usually expressed as a rich picture, which is in essence a diagram providing a general outline of the perceived problem situation. Whilst there exists other ways to express the problem situation, the rich picture provides a simple yet effective way of presenting it. Furthermore the expression of the problem situation helps the user of SSM to articulate the problem situation in a form that all can understand. It is at this stage that the subjective processes of SSM really kick into high gear.

The user of SSM has to select ‘systems’ that are potentially relevant to help to understand the problem situation. Moreover, this process involves taking the expression of the problem situation and selecting these ‘systems’ for a modelling process; mentioned later. It is at this point that the user of SSM must realise that these systems are simply abstract wholes that may be relevant to the problem in this context, meaning that, a user of SSM is not an engineer of systems but rather takes these abstract notions of ‘systems’ as being relevant or not relevant. Once the analyst has chosen the ‘systems’ that are potentially relevant to the problem situation they must put them into a concise root definition. A root definition involves articulating a potentially relevant ‘system’ in a textual form that hopefully shows the minimum number of activities required for the ‘system’ to perform what it performs. Furthermore a root definition can be constructed according to a framework known as the CATWOE (Customers, Actors, Transformation, Weltanschauung (or worldview that makes the ‘system’ meaningful in context), Outputs, Environmental Constraints) framework. The CATWOE framework, according to Davies and Ledington (1991), provides a framework for creating effective root definitions.

Each attribute of the CATWOE framework is analysed against the expressed problem situation. For example, in any potentially relevant system the analyst will have to select the worldview that makes the system relevant in its environment. Furthermore, an analyst will have to understand the outputs of the system, the beneficiaries of the system, the constraints that are imposed on the system, who ‘owns’ the system and what particular transformation makes the system meaningful
in context. All of these issues help to create a compilation of verbs that in turn help to articulate potentially relevant systems. From these verbs in the root definition a ‘systems’ model can be created.

These systems models are called conceptual models as they attempt to present a defensible model of the ‘system’. The conceptual models present the root definition in a model form, giving a picture form to the root definition. How conceptual models are created is not the focus of this thesis. For a better exposition of this topic see Davies and Ledington (1991) chapter four and five. Checkland (1982) suggests that the conceptual models present the relevant system as the ‘ideal’ type or the best idealised version of the system. Once the analyst has created the systems models rigorously it then becomes important to understand that models are then ‘compared’ with the real world.

The comparison takes the real world models of human activity and compares them to the expressed situation. An ideal type, according to Checkland (1982), is compared with the actual activity in the real world, as it is perceived, to help to the actors in the problem situation structure a debate about change. Stage 6 is this debate which apparently can lead to actions that leads to change. However, it is obvious that the idea of comparison is the central focus of SSM and is indeed is the most important part of SSM. The idea of comparison in SSM has been largely neglected in research, especially the social process behind the idea of comparison (Ledington and Ledington 1999, Ledington and Ledington 2001).

Comparison is a social process because there are people traditionally involved in using SSM, given that Checkland (1981) stipulates that SSM is a methodology for handling problems in social networks. Comparison is also a term that has been abandoned by Checkland in favour for the more subtle ‘structured exploration of the problem situation using the models’ (Checkland and Holwell, 1998, p.161) in the contemporary model. This is inadequate because it fails to admit that the comparison activity has a human element. When comparing 4 with 2 in stage 5 of SSM who are the people that will debate about the current situation in stage 6? At some point the ideas presented in the conceptual models will have to be presented to humans. To understand how SSM engages ideas into a situation in social networks

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of human activity it becomes important to reiterate and analyse how SSM attempts to achieve this ideal.

The ideas are firstly created in the mind of the analyst as he/she selects the relevant systems from the expressed problem situation, and then they create the root definitions and then the conceptual models. This process is essentially the process of creating ideas or theory creation as presented later on in this chapter, simply because the analyst is actually creating ideas, not collecting rudimentary facts about the real world. Davies and Ledington (1991) suggest in their chapter on creating root definitions that SSM users can only subjectively select relevant systems which they think might be relevant. Surely this is the analyst creating a form of conceptual reality from ideas that they think might be relevant. These ideas in the form of a conceptual model are presented to people to help facilitate what Checkland (1982) calls, negotiation and renegotiation of the perceived problem situation. As this thesis will explain later, this is part of the process of engaging ideas and situations within social networks.

The ideas presented in Ledington and Ledington (1999, 2001) form the most recent work on the comparison stage of SSM and unfortunately the only real work into the idea for approximately 13 years (Jenkins (1988) as presented in Checkland and Scholes, (1990) was the last real attempt). Ledington and Ledington (1999) argue that comparison is the most important process in Soft Systems Methodology, as did Davies and Ledington (1991), yet in the development of SSM it is the most ignored. In the original text on SSM *Systems Thinking, Systems Practice* (Checkland, 1981) there is very little space (Checkland, 1981, pp177-180) or coherent explanation given to this process. Yet Checkland makes arguments as to what the whole methodology is trying to do in the social world (Checkland, 1981, p.280-4) without considering the fact that the comparison process is the absolute centre of his argument as will be explained further on in this section.

For this reason this thesis focuses on comparison in order to surface and examine the social process that is going on behind the comparison activity and this process provides a basis for understanding the social process that is contained in SSM (Checkland, 1981, p.284). Before delving further into the social process, it is
important to consider the fundamentals of this complicated process and to clearly introduce the topic of study.

1.2 Introduction to Topic

Checkland argued that theory and practice create each other (Checkland and Holwell, 1998, p.11) and suggested a learning cycle as in Figure 1:

![Figure 1 - Checkland and Holwell's Theory/Practice Model](image)

In this model of theory creation, it is taken as given that a human or a group of humans are purposively involved in the process, that we, the human race, engage our ideas into the world in order to learn. In the theory creation process a human would have theories about the real world that they have either learnt from experience, or have a theory about the world that they have created but never applied. Taking these theories and engaging them in reality, creates a mode for people to learn from their experience.

Thus,
"We engage with the world by making use of concepts whose source is our experience of the world…"

(Checkland and Scholes, 1990, p.23)

Taking an idea into any situation, purposefully, is a process of engaging our ideas into the world. It is a concept that forms the central notion of the topic being presented. The idea is that SSM as an approach to problems, seeks to create an engagement of people and ideas (theories), within the context of their own problem situations (practice of those theories); to improve present problem situations as they are perceived. This is one way of perceiving what SSM is trying to do in the social world. However, theories about this abound (see next section for example) yet no one seems to want to tackle this idea of comparison which in essence seeks to recreate this social process of engagement, mentioned in the quote above (Checkland, 1982).

1.3 SSM

Probably the most controversial argument about SSM is the argument as to the relevance of Soft Systems Methodology in the social world. The area has generated rich research (Naughton, (1976), (1979), Prevost (1976), Checkland, (1981), (1982), (1990), Jackson, (1982), (1991), (2001), Flood, (1999), Mingers, (1980), (1984), Rosenhead (1982), Checkland and Tsouvalis, (1997), Rose (2000), for example). However, none of the literature discusses the social reality of SSM and how in practice this is replicated (perhaps with Checkland, 1982 as an exception) through the comparison process as this thesis will show. Returning to figure one above. It is important to note the practice element of this simplified model of theory creation. SSM in practice would give insights as to this social process; therefore in the next section the role of comparison in the practice of SSM will be explained.
1.4 SSM in Practice

The discussion so far may seem like a frivolous argument based in theory but if the two concepts of theory and practice, are indeed interrelated, as suggested earlier, one will not only create the other but could also destroy the other or change the other. If SSM is purely what it is described today in practice, as a learning system (Checkland and Holwell, 1998, p.14) then of what use is it to reality? If all that is achieved is learning, then where is the value in it? Even though all parties involved in the use of SSM in a particular environment may learn, the learning has to be transferred from the analyst to the problem owner. Knowledge then becomes the basis for purposeful action leading to change. This isn’t a learning system, this is the process of knowledge transference for purposeful and effective change. Change seems to be a goal of SSM and not just learning. It seems as though the two, learning and action, cannot be separated in the use of SSM. So why has SSM shifted focus, in social terms, from a social system for problem solving in Checkland (1981) to just a learning system?

In the 1970's when SSM was action oriented (see Checkland, 1981, Chapter 6, for example) it was argued in Checkland (1982) that it was also a system for learning. The contemporary approach calls SSM a learning system with little or no reference to action (Checkland and Holwell, 1998, p161). An apparent shift from action-based methodology and learning system to just a learning system has taken place within SSM (more on this in chapter 2). It has meant a shift in the internal values and possibly the paradigmatic context of SSM. In turn this possibly means a differing implied social reality for SSM users. The theory creation diagram shows (Figure 1) theory cannot exist without practice.

A change in the theory of something will change how it is applied in the real world context. (See Figure 2)
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<td>Same as 1981</td>
<td>No changes</td>
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**Figure 2 A Basic History of SSM’s Development**

Figure 2 outlines the major changes SSM has undergone in the last 30 years of its development. SSM research began with a dissatisfaction of traditional forms of systems analysis, to social based problems of an ill-defined nature, as discussed in Checkland (1981). At this time SSM was applied to broad ‘management’ problems (see chapter 2) in a specific project based environment. The theory at the time seemed to have been that SSM was useful in the real world of problems. Moving full scale to the latest research, Ledington and Ledington (2001, 1999a, 1999b, 1997) and Rose (2000) both suggest that core process of SSM, that of comparison,
can be used in everyday management situations to help structure or make sense of this activity called management. What becomes obvious after further analysis is that how someone constructs a theory of SSM will effect how it is applied and subsequently effect how it is used in real world situations. A different theory for SSM possibly means a different reality with different implications than that of the social reality first presented in Chapter 8 of *Systems Thinking, Systems Practice*. Checkland suggests that the methodology is a facilitator for social change, either incremental or radical, depending on a variety of factors, including the worldviews of those in the situation (Checkland, 1981, p284). SSM in practice then seems to have a differing perspective to that of present theory as shown in Figure 2. Traditionally engaging people and ideas within problem situations was the idea, with a focus on improvement to problem situations. This becomes evident when considering SSM in the seven stage classical model, figure 3:
The above diagram is a seven-step guide to the process of SSM as it was classically presented by Checkland (1981). However, it is important to note that SSM has a dividing line between the Systems world and the Real world (not in the contemporary model – please see Checkland and Tsouvalis (1997) and Wilson (2001) for a more profound exegesis in this regard). It is important because it immediately separates the two worlds, that of the so-called systems world and that of the real world. Figure 3 shows how a set of ideas constructed as a conceptual model are put into social situations, that are considered problematic, for the purpose of debate leading to action. Action will be limited by various factors, as noted in Checkland (1981) (pp.280-284). However, the purpose of the original model is action stemming from the comparison stage.
The seven stage model starts with creating a structured expression of an unstructured problem situation (see Davies and Ledington, 1991 for an expansion on these two stages). Stage 3 moves from the real world into the 'systems' world. This is a shift from one reality form to the next reality which is in essence a theoretical reality. The first reality, what Checkland (1981) calls the perceived real world, shifts to what he calls the perceived systems world. At this level the user will create relevant theories about the real world from the expression stage (stage 2). Stage 4 creates systems models of human activity from root definitions, which present a conceptual model of the relevant system. Such a model is an ideal type in Checkland’s words (Checkland, 1982). Stage 5 compares 4 with 2 and Stage 6 is the discussion about feasible changes and stage 7 is the action to be taken. This overall guide shows how SSM users move between theory and reality frequently and as Checkland suggests this process is both iterative and non-linear (Checkland, 1999). Without even understanding what systems models are, or what root definitions are it seems dubious that SSM users seek to create their own framework of ideas about a problem situation and take that idea and compare it to perceived reality at Stage 5. This process is in essence a creation of a particular perception that is modelled into a ‘type’ of representation of reality. In other words, SSM users seek to interchange ideas they have about the situation with reality as it is perceived.

However, creating a set of ideas and modelling those ideas into systems models of human activity takes skill, and according to Mingers and Taylor (1992) and Ledington and Donaldson (1997), a large amount of time as well. Furthermore, it may not be the systems modelling process that is complex but the troublesome notion of comparison as mentioned in Ledington and Ledington (1999). According to Ledington and Donaldson (1997), people claim to use SSM despite that they may only draw rich pictures. Furthermore, “The comparison stage of SSM, as described by a group of students who were reflecting upon their experiences in learning and applying SSM, is an ‘abyss’ to be entered with fear and trepidation” (Ledington and Ledington, 1999, p1150). Moreover, Checkland actually changed the word comparison to ‘structured exploration’ due to the fact that the word comparison was troublesome (Rose 2000). Checkland himself stated:
“…that this stage is not in fact a proper a comparison of like with like…”

(Checkland, 1981, p177).

Returning again to the model of SSM and specifically stages 4 and 5. Stage 4 is the construction of the systems models, which then are ‘compared’ with 2 at stage 5. Stage 2 is the expression of the real world problem situation. It is taken as given that people will be involved in this ‘situation’ all of which will have varying worldviews. Immediately when considering this process three key elements emerge. The real world problem situation that is expressed, the people in the situation, and the ideas presented in the systems models. Checkland put it this way:

"Models are only a means to an end, which is to have a well-structured debate about a problematical situation in order to decide how to improve it. That debate is structured by using the models based on a range of worldviews to question perceptions of the situation."

(Checkland and Scholes, 1990, p.43)

A quick analysis reveals that two distinct processes are at work. Firstly there is a process of the creation of an ideal type (essentially a framework of ideas about the situation), meaning that the theoretical type of reality, constructed through systems models, is presented. The initial investigation of the situation in stages 1 and 2, helps the analyst to create stage 3, which in turn helps to create stage 4. These four stages are interconnected. The fifth stage is where the methodology makes a 180 degree turn. The notion of comparison is introduced but it is not a comparison of like with like (Checkland, 1981 p.177) and this appears to be where Soft Systems Methodology runs into trouble. This ‘abyss’ of comparison seems to have been ignored because it is a re-creation of a social process and is an extremely difficult concept to understand. The steps that precede it are all a part of the process, that of creating a type to ‘compare’ with perceived reality, but the actual process of taking the ‘type’ into the social world is not a comparison.
Why isn’t it a comparison? Checkland has argued that the conceptual models can only show the how of what has been modelled into a type (Checkland, 1981, p228). That is, the systems models are a concept, hence the term ‘conceptual’ model. Keeping this in mind, the concept is placed into a network of social activity in some kind of organisational context. The conceptual model is used to present a framework of ideas, or a form of theory and start people talking about their present situation. Further, the situation is the placing of ideas into a social network of some kind to start the process of discussion about the perceived problem situation.

What is really happening is an engagement of a concept with people in a social situation, who all have their own perceptions about the situation. Checkland called these perceptions Weltanshauung, or culture centred worldview (Cassells, 1997). The people then begin to question their perceptions against the concept, or type, presented to them and this leads to a debate about what can be done to change the situation at stage 6, which of course is followed by the physical carrying out of the action at stage 7.

Returning to Checkland:

"We engage with the world by making use of concepts whose source is our experience of the world; this process of engagement, usually unconscious as we live everyday life, can be made explicit; one way of doing so is embodied in so-called 'systems thinking', based on the idea of making use of the concept whole."

(Checkland, 1990, p.23)

The use of the word engagement then better expresses what is going on at stage 5 because a set of ideas that form a concept, engage with people in a ill-defined problem context in order to stimulate a social process (Checkland, 1981, p284 and Checkland, 1982) that is intended to lead to change in the real world. In this thesis this point is argued and it provides evidence for this by presenting cases that use the engagement concept in practice. Furthermore, the thesis presents six areas of discussion, mentioned further on in this section, that will clarify the use of concept
and this leads to discussions for future research in the final chapter. It is now important to put the engagement idea in context and show what the thesis aims to achieve.

1.5 What the thesis aims to achieve

This thesis examines the engagement concept which is traditionally represented as ‘comparison’, a social process that is within SSM; outside of the context of SSM. It is intended that by doing this that a greater understanding of the social reality implied by the comparison phase in SSM and indeed the social process of SSM, at least sparsely, will be understood. The thesis argues that SSM seeks to engage ideas within all kinds of situations in order to bring change to situations of concern. Further the thesis argues that with each cycle of SSM, the goal isn’t rigour and modelling but the engagement of one set of ideas into a situation of concern. That is, SSM seeks to engage a framework of ideas in systems model form with the people, inside the area of concern. The process of engagement presented in this thesis takes these core ideas inside the notion of comparison and extracts them for analysis. In chapter 3 a model will be presented for the engagement concept and the idea that SSM is seeking to change the problem situation,

Therefore the thesis seeks to understand, evaluate and examine the concept of engagement from the perspective of what SSM hopes to achieve in the social world. In other words, the whole purpose of this thesis is to understand the principles that underlie the ideal of comparison. It is expected that doing this will present the concepts in a clear and easier to understand way. The thesis also seeks to present the engagement process in action and learn from six examples of the concept in use. The practice element of the thesis will shed light on the theory and help to understand and evaluate the engagement concept.

Having stipulated this, it is now important to present a model of what is hoped to be achieved by this thesis. The thesis seeks to present the above concept of engagement, together with its use in practice and fuse the ideas into a communication dialog (this thesis). Checkland and Holwell (1998) suggest that any piece of research can be categorised as having a pre-conceived F or Framework of
Ideas, M or Methodology for applying these ideas (or testing in the case of positivistic research) and A or an Area of concern, that is the area that the F might eventually contribute to. This is the FMA concept. Further exploration of this topic is presented in Chapter 4. The thesis has as its central framework of ideas, the engagement concept. The methodology for applying the engagement concept is action research and the area of concern is the practice of SSM-based problem solving. (Figure 4).

(F) ‘Engagement’ (A) Practice of SSM-based problem solving

(M) action research

Communication of this engagement

Figure 4 - The overall guide of what the thesis aims to achieve

For a greater understanding of the research mode see Chapter 4. Basically the assumption made by the FMA concept, and recent research into the FMA concept (Checkland and Holwell, 1998, Ledington et al, 2001) suggests that the FMA concept is a spiral of learning that at each stage yields learning about each element. For example, learning might be achieved about the researcher’s ideas (F) and the researchers (M) or the event the area (A) that the researcher is concerned with. More focus on these issues in Chapter 4. It is now important to discuss the physical structure of this thesis.
1.6 The Structure of the Thesis

The ideas presented in this chapter continue through to chapter 3. Chapter 2 is the theoretical background to the ideas and chapter 3 presents the theoretical framework for the research. Chapter 4 is the methodology chapter which incorporates the research design, how the ideas where put into practice, the action research approach and how the data was collected and managed in the various research situations. Chapters 5-10 are the cases and results of applying the framework via the action research methodology. These chapters present the conclusion of the thesis, the overall outcomes of the research, its contributions and directions for future research.

In summary this thesis aims to evaluate and study SSM in the context of the complicated ‘comparison’ activity. Furthermore, the thesis aims to take this activity and understand in it the context of the ‘engagement’ of ideas and situations. By analysing this concept the thesis aims to surface the underlying social reality that is implied by SSM not only during the comparison stage but during the whole cycle of the methodology. The secondary purpose of doing this is also to evaluate the social reality implied by SSM for the purposes of critique and discussion.

The next chapter begins this process by revisiting the social reality implied by soft systems methodology and shows this via a literature review. This will form the background and context for the research. It will also expound in greater detail the paradigmatic nature of SSM and discuss the social reality implied by SSM. The chapter will therefore take the form of a literature review on the social reality implied by SSM.

1.7 Discussion on Motivation

The motivation to look at this notion of engagement emerged whilst reading the literature on SSM. So many authors discount SSM’s usefulness and so many count its virtues. Prevost (1976), Jackson (1982, 1991, 2001) and his intellectual partner Flood (1999) are the main critics. The criticism that SSM could not achieve ‘free debate’ is the only argument that is addressed here. This is simply because out of
all the claims made against SSM this appears to be the most frequent. Therefore this negative idea was taken and compared with the virtues extolled by many others. After this analysis Checkland’s initial concerns were exemplified by literature:

“SSM has been ill-served by commentators, many of whom demonstrably write on the basis of only a cursory nature of the primary literature (for example see Tudor and Tudor, 1995, p.71 and Weaver et al, 1998, p.21).”

(Checkland, 1999, A42)

The motivation for this research differs inasmuch this thesis seeks to understand how SSM facilitates the process of social construction of reality, based on the interjection of ideas into problem situations. In other words, to see how humans create reality through engaging with the world and how this process could be extracted, represented and discussed in order to be understood, is the primary motivation for this research. The idea being that the social reality implied by SSM could be understood to a greater level than it currently is. This would provide a clearer definition of what SSM is trying to do in the social world and thus would make it easier to teach. The second level of motivation came from the problems raised by Wang and Smith (1988), Davies and Ledington (1991), Mingers and Taylor (1992), Hirschheim et al (1995) and Ledington and Ledington (1999) which mention how difficult it is to train people in SSM and how ‘academic’ it appears to be. Hopefully teaching these concepts can be made clearer by understanding just how SSM does what it does.

The concept of engagement has not formally been studied or researched at all in the last thirty years of SSM development. Yet this principle is the core of SSM. The idea of drawing this concept out of SSM and putting it into real world situations became the entire focus of the research. The desire to understand and develop this idea became the main motivator for the research.

In summary the motivation was birthed from a desire to see engagement theory in practice. The result of which is an 18 month long action research project which put the engagement theory into practice in a variety of situations and actually observed
the unconscious use of the idea in practice. The research themes will now be discussed.

1.8 Overall Research Question

The questions presented here are really themes but for the sake of clarity are formed as questions. These questions form a basis that could help to interpret the outcomes of the thesis. These questions will be addressed systematically in the final chapter. The themes are:

1) What Social Reality does SSM imply?

Second:

2) What is the practical meaning of the Engagement Concept?

This question relates to how useful the engagement concept is and how it can make sense of the social process in SSM. The action component of this research will answer the practice side of things and to a certain extent the concept has been presented so far in Chapters One and Three. The cases presented in the later chapters form six very different approaches that use this concept to help understand the idea. Third:

3) Is the Engagement Concept useful in the real world of social problems?

This question emerged out of a need for evidence. The field research will present several long cases where the engagement theory was used successfully and in one example unsuccessfully. However, there are serious problems for the approach in larger more complicated environments, as Chapter 6 and 8 will discuss.

4) What contributions can be made to knowledge by seeking to apply the Engagement Concept as a basis for intervention in real world situations?
The contributions made to knowledge will be presented in the Chapter 8 (Outcomes from the research).

The theoretical framework of this thesis stems from the ‘comparison’ phase of SSM. The core proposition is that the engagement model will help to make sense of this social process inside SSM and will help to create a way of understanding how SSM achieves what it achieves in the social world. Moreover, the framework provides a guide that is clear and well-defined for understanding the social process of engagement. The six cases discussed in this thesis present the concept of engagement and discuss it and evaluate it at great length. The next chapter will present the Research Design. The next chapter will also discuss the paradigm of this research, the way it was managed as a process and introduce each particular research situation. It will also go into great detail about data collection and discuss the issues relating to the process involved in the mode of research undertaken. The chapters after this will show the use of the concept in practice in real situations of concern.

In summary the concept of engagement presents a two-level model of engagement. Firstly, (E1) the engagement of a theory or a framework of ideas with an area of concern. Secondly, (E2) the engagement of people with those ideas. Understanding this process is attempted in the subsequent cases (Chapters 5-10) with specific reference to the following areas of concern: Technology Management, Database Development, Information Systems Development, Training and Development and Aged Care. Each case will briefly introduce the topic, the framework of ideas that was designed and applied. Before discussing this though, the research design will be discussed and that is the topic of the next chapter.
2.0 Literature Review on the Social Reality Implied by SSM: Background and Context

2.1 Introduction

This chapter examines the social reality implied by Soft Systems Methodology as presented in the research literature. The purpose of this is to give a background and context to the work. It is also to expose the literature in an around this subject in order to give a broader understanding of the research problem. SSM will first be introduced and examined according to the primary literature. An examination of SSM in the secondary literature will then be pursued. An analysis of SSM is then considered, using the Burrell and Morgan's four-paradigm matrix, in order to provide a basis for understanding the social reality implied by SSM. This in turn will lay the foundation for the rest of the chapter which examines the primary critics of the social reality implied by SSM. The chapter will then examine the evolution of SSM and conclude with suggestions for future directions for SSM.

2.2 Background

SSM began its long process of evolution in the late 1960's when traditional methods for systems analysis were found wanting in practice. Subsequently this led to a thirty-year research program into real-world problem situations of a socially rich nature (Checkland, 1981, 1982, Checkland and Scholes, 1990, Checkland and Holwell, 1998). The chapter will examine SSM according to its implied social reality. In other words, this chapter will explore and evaluate SSM according to what the methodology tries to achieve in the real world. Furthermore the methodology will be examined alongside those who have critiqued it according to what it is trying to accomplish in the real world of social activity. The literature of SSM is fairly widespread but texts that contain exegeses on the social reality implied by SSM are fairly rare if not non-existent. In the same manner the

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1 A re-worked edition of this chapter has been presented and published at the 7th Annual ANZSYS conference, Perth Western Australia.
secondary literature on SSM is usually at both technical and philosophical odds with the body of mainstream primary literature. Checkland expounded on this:

"SSM has been ill-served by commentators, many of whom demonstrably write on the basis of only a cursory knowledge of the primary literature”.

(Checkland, 1999, A42)

Checkland goes on to say that exposing the amount of misconceptions of SSM would be too much effort considering the amount of time we have to live! This seems to be the case, even with some of those who have at some time worked with Checkland. Therefore, this paper will try to do SSM justice by concentrating on the primary literature and major secondary texts of SSM. It will include a detailed perspective of SSM according to primary developer Peter Checkland and cover other major contributions along the way.

2.3 SSM according to the Primary Literature

As mentioned above, this chapter will review the primary literature on SSM, as it was put forward by the creator(s) of SSM. The core texts include Systems Thinking, Systems Practice (henceforth STSP), Soft Systems Methodology in Action (henceforth SSMA), Information, Systems and Information Systems (ISIS) and Soft Systems Methodology: a Thirty Year Retrospective (henceforth SSM30). Two main non-Checkland core texts include: Information in Action (Davies and Ledington, 1991) and Systems: Concepts, Methodologies and Applications (Wilson, 1984:1990) and Soft Systems Methodology: Conceptual Model Building and its Contribution (Wilson, 2001). This non-Checkland based primary literature though contains very little discussion of SSM's paradigmatic framework, what SSM hopes to achieve in the real world and therefore will be used sparingly.

Secondary literature that discusses what SSM attempts to achieve in the real world is almost non-existent. With the exception of a handful of papers (Ledington and

The primary literature, which is *STSP, SSMA* and *ISIS* all form the foundational texts on SSM. *STSP* are the primary texts defining SSM and introduced the 10 years of research that went into the emergence of SSM. It also introduced the seven stage model to the world and introduced the two main bodies of systems thinking, that of hard systems thinking and soft systems thinking. The second major text, *SSMA*, was a practical guide on how SSM was applied in various managerial/project type of situations. *SSMA* introduced two new versions of SSM the two-stream model (Checkland and Scholes, 1990, p29) and Mode 2 SSM (Checkland and Scholes, 1990, p.281-282).

Whilst the above primary texts on SSM are helpful for the student, only one (Checkland (1981)) bother to try and explain what SSM is trying to achieve, philosophically speaking, in the world of social activity. Further to this, Checkland (1981) only focussing rather vaguely on the comparison activity and how this is designed to possibly bring to change to ill-defined problem situations (p.284). This thesis is aimed at uncovering what social reality is implied by the comparison phase and hopes that by uncovering this ‘social reality’, people will be better able to understand SSM. Therefore to begin with an understanding of what kind of social reality SSM implies will be undertaken.

To begin this uncovering, a basic understanding of the whole of SSM will be undertaken, based on the primary and secondary literature. The paradigmatic framework derived from the literature will then be examined followed by the evolution of SSM. The following section will then take an outward look at criticisms of SSM’s paradigmatic framework. A graphical examination of the various points of view will be undertaken using Burrell and Morgan's four paradigms as a guide and the section will compare differing views on SSM's paradigmatic framework. The chapter will then conclude
Prevost’s critique though, didn’t receive much attention at all, except from Naughton (1979) who suggested that Prevost's argument lacked weight and SSM was demonstrably not functionalist. Jackson’s ‘critical systems’ critique still continues (see Jackson (2000) for example and appears as if it may have had an impact on SSM. For example, since the critique was first made by Jackson (1982) it was responded to by Checkland (1982) by stating that SSM could be critical in application. Checkland and Holwell (1998) by contrast suggest that SSM is a system for learning. It would seem that the critique by Jackson (1982) has led to this assertion. Previously SSM was considered to be a methodology for tackling ill-defined problem situations (Checkland and Scholes, 1990, p18 and Checkland, 1981, p.15) (The social reality implied by SSM is interpretive according to Jackson and Functionalist according to Prevost. Checkland, however argued that SSM is both interpretive and partially radically humanist (Checkland, 1981, pp.280-1 and Checkland, 1982, p.36-9).

with a summary of the major points.

### 2.4 The Defining Core Research

SSM began with the simple notion that 'the systems approach is not a bad idea' (Churchman, 1968). This simple notion first developed by C. West Churchman was assimilated into Checkland's thinking. Checkland liked systems ideas and began to employ a systems approach to problem solving. Immediately he ran into trouble when faced with hard to define problems. These problems were not uncommon in management but were not dealt with in the management literature. The experience eventually sparked a research program into real world problem solving, headed by Checkland and facilitated through many people at the University of Lancaster in the United Kingdom.

The traditional scientific approach, according to Checkland (1981), to management problems has three major faults. Firstly, there are problems for the scientific methods when it comes to complexity. The complexity of social networks in particular cause a problem for the scientific method because:
"Cursory inspection of the world suggests that it is a giant complex with
dense connections between its parts. We cannot cope with it in that form
and are forced to reduce it to some separate areas which we can examine
separately."

(Checkland, 1981, p.60)

Checkland categorises the scientific method as reductionism. That is, the whole is
divisible into its parts. In turn he suggests that reducing the world into separate
parts is not feasible in networks of social complexity. This is because the social
world is:

"...extremely complex phenomena which entails more interacting variables
than a scientist can cope with."

(Checkland, 1981, p.66)

An example of this is not given by Checkland, but when considering the
relationship between parent and child one immediately notices that the relationship
is far too complex to be reduced, repeated and accepted or refuted. Essentially it
just exists in all its complexity.

Secondly is the problem for science in relation to social networks.

"...given the 'messy nature' of social phenomena as the appear to us, we can
expect the findings of the scientific approach to the investigation of social
reality to have certain characteristics which distinguish them from the
findings acquired by the natural sciences’ investigation of the physical
world."

(Checkland, 1981, p.68)

This assumption is very profound in the context of SSM because this is essentially
what SSM is: a system for enquiring and learning about real world complexity or
phenomena in a social context (Checkland and Holwell, 1998 p12:p160). Checkland argues that science, both the natural and social sciences, deal ineffectively with the social world, especially the organisation in the social world.

By this Checkland means 'human activity systems' where humans participate in some purposeful/rational activity, not necessarily companies but groups of humans pursuing some kind of purposeful activity. For example an accounting department in a large governmental organization purposefully (although some might argue this point) and rationally performs purposeful activity as a whole entity. Such a concept moves away from the idea that all systems have goals or objectives and towards the idea that these systems of human activity pursue purposeful activity or purposeful and organised action in a social context. Checkland and Scholes (1990) discuss the nature of purposeful activity on the presupposition that all humans attribute meaning to what they observe and experience (p.1). We as humans, according to Checkland and Scholes (1990), are living in a state of readiness to interpret the social world. (More on this idea in Chapter 3). Further, (ibid) suggests that humans act from their previous experience in the social world and they do so through interpretations of the world, through previous experiences in it. However, Checkland and Scholes (1990) suggest that:

“By purposeful action we mean deliberate, decided, willed action, whether by an individual or by a group.” (p.2)

This action is not the only type of action that exists but is only one way of understanding activity in the social world. Ibid also argue that people intentionally choose which action they want to purposefully pursue on a continual basis. Therefore, it becomes apparent that any particular person might be pursuing any kind of purposeful action according to their own formed intentions or mental arrangements. For example, a person who decides to become a teacher wilfully undergoes the training with the purpose of becoming a teacher. They then have decided, intentionally, to pursue all of the required activity to become a qualified ‘teacher’.
The next area which Checkland (1981) argued that science fails is in the broad social area of ‘management’.

Checkland (1981):

"The scientist selects the most difficult problem, which in his judgment offers a chance of solution, real life pushes its problems on us. Real world problems are of this kind: …How should we design our schools? Should I marry this particular girl? Shall I change my particular career? Such problems are in fact problems of management broadly speaking”.

(Checkland, 1981, p.72)

These real world 'management' problems are everyday issues that humans have to deal with that simple hypothesis testing to destruction cannot accommodate. More specifically Checkland found that it is useful to divide the world into two types of problems. First, there are hard problems (Chapter 5 of STSP has a detailed critique of this type of systems thinking) and soft problems (see Chapter six of STSP). Hard problems are easy to define technical problems that often have specific properties or forms (Checkland, 1981, p.74). These properties are the same every time and the same solution could be given every time. This means that a hard scientific view of the world could be applied using 'systems ideas' and problem solving could take place. This is termed hard systems thinking. Soft problems are those 'management' problems that exist in the social world. The way SSM can deal with such social 'management' problems is well documented. In SSMA Checkland and Scholes present many examples of SSM's usage.

Checkland took the above mentioned Complexity, Social Science and Management issues and moved towards a systems model for real world problem solving that in essence would deal with these issues. This began with Hard Systems Thinking and then evolved towards a new methodology for learning about complex real world situations.
Thus the next ten years were taken up with the formulation and presentation of SSM. Checkland used a unique form of action research, in that, he tested the ideas in practice through a cyclical learning process, (as mentioned in Chapter 1). At its most simplified level this form of action research is articulated as Figure 5:

![Figure 5 - A reprise of Figure 1](image)

(Checkland and Holwell, 1998, p.11)

The idea articulated by this model is one that Theory and Practice continually create each other through this learning cycle. The learning cycle in essence is a continuous spiral that starts and never ends. Checkland and his associates at Lancaster exposed the systems ideas and concepts to real world situations and eventually came up with what is now known as 'Prescriptive' SSM (Checkland, 1999, A35-A36).
Checkland points out about this model:

"[Prescriptive SSM model above] represents a chronological sequence and is to be read from 1 to 7, a logical sequence which most suitable for describing it but which does *not have to be followed in using it*!"

(Emphasis added, Checkland, 1981, p.162)

Furthermore Checkland adds:
"...Recent work...provided proof that it's possible wholeheartedly to start a project at stage 4..."

(ibid)

Also he adds:

"Backtracking and iteration are also essential..."

(ibid)

The seven stage model then is an iterative process of flexible learning, not a rigid method. It is a logos of method - a methodology. The process of SSM begins with the problem situation and ends with the problem situation improved, ideally. This raises questions as to what the methodology hopes to achieve in the real world. Judging by the paradigmatic approaches mentioned in this chapter, any approach to social problems that attempts to change anything is not purely regulatory, meaning that if SSM seeks change in the real world it is not confined to the pure boundaries of Interpretive Paradigm. As will be shown in the following section, anything that desires change or aims for some kind of social change must be considered within the paradigmatic regions that suggest change in a social context. For example, if a person sets out to change a social arrangement by critiquing it, then they bring with them assumptions for change, they would be mapped into the change regions. If someone wants to use the doctrine of Hermeneutics to interpret something, they don’t seek change they seek understanding. Subsequently, they would be mapped into the relevant paradigm area. These arguments and ideas will be expounded in the following section.

In conclusion, SSM arose out of a need to solve ill-defined ‘management’ problems in the real world. More specifically 'management' problems that are of a 'soft' nature. Checkland argued that this would embody either slow incremental change or sweeping radical change in the real world (Checkland, 1981, p.281). Simply put by attempting to solve problems in real world contexts, change will occur. This leads to the question: what is the social reality implied by SSM? The next section
explores in more depth the social reality implied by SSM and seeks to understand the various ideas presented from primary and secondary literature.

2.6 Paradigmatic Analysis


![Burrell and Morgan's Four Paradigm Matrix](image)

Within each one of these paradigms are smaller views called 'schools of thought'. These are different ideas in comparison to others in the paradigm but are essentially coming from the same foundational principles. These will now be discussed.
The Functionalist Paradigm is the dominant framework for social research assuming pure objectivity or that the world is utterly definable in all cases. Functionalist schools of thought are what Checkland called ‘scientific methods’ or the method of science.

“It [functionalism] is a perspective which is highly pragmatic in orientation, concerned to understand society in a way which generates knowledge which can be put to use”.

(Burrell and Morgan, 1979, p.26)

Hard systems thinking belongs to this view as does Ludwig Van Bertalanffy's General Systems Theory. The key assumptions here for systems theory is that the world is made up of systems which can be engineered. Checkland originally, according to STSP shared this view until he found that applying this idea to reality raised more questions than it answered. That is, trying to break the whole down into parts raised questions like what is a system and what is information?

Interpretive thought, on the other hand, is a subjective approach to reality based firmly upon the assumption that social reality is created continually, by humans in the social world. The world is taken to be

“…very complex, problematical, mysterious”.

(Checkland, 1999, A10)

Therefore trying to engineer the unknowable is likened to trying to mow the lawn with tweezers or trying to get a watermelon into a shot glass, it’s impossible! This paradigm also suggests that understanding the social world as phenomena and intersubjectively shared social meanings is about as close as we will get. There is no assumption in this paradigm that the world is 'tyrannical' or plagued by ideological superstructures, that is left up to Radical Humanist and Radical Structuralism Paradigms. Interpretive thought seems to be the paradigm that has little or nothing to do with action as such, just meaning and
"It seeks explanation of the social world within the realm of individual consciousness and subjectivity, within the frame of reference of the participant as opposed to the observer of action."

(Burrell and Morgan, 1979, p.28)

It is important to note that the interpretive paradigm sees:

"The social world as an emergent social process which is created by the individuals concerned."

(ibid)

And:

"Social reality, insofar as it is recognized to have any existence outside the consciousness of any single individual, is regarded as being little more than a network of assumptions and intersubjectively shared meanings."

(ibtid and p.31)

The third and arguably the most controversial is the Radical Humanist Paradigm. Radical Humanism embodies many differing doctrines including, anarchy, emancipation, consciousness, anti-organisation theory and existentialism. However:

“…its frame of reference is committed to a view of society which emphasises the importance of over-throwing existing social arrangements. One of the most basic notions of this paradigm is that the consciousness of man is dominated by these ideological superstructures with which he interacts, and that these drive a cognitive wedge between himself and his true consciousness. This wedge is the wedge of ‘alienation’ or ‘false consciousness’, which inhibit or prevents true human fulfilment”.

(Burrell and Morgan, 1979, p.32)
An important part of this view is critical theory. Critical theory uses existing disciplines, ideologies and theories to provide a critique of the status quo in order to drive change. This change is supposed to ‘emancipate’ the human from ideological superstructures of the consciousness imposed on the individual by the oppressive social world in which he/she lives. Therefore they:

“…seek to change the social world through a change in cognition and consciousness”.

(Burrell and Morgan, 1979, p.33)

The importance of ideas like debate and critical reflection are all are ultimately limited by the power of society. Returning once again to the seven stage model of SSM (STSP, p.163). This process involves three major sections. Firstly stages 1 and 2 which assumes that the would be analyst is attempting to put together a picture of the ill-defined problem situation. Further, the analyst is attempting to reconstruct the situation and express it so it can be modelling later in the soft systems process. See below:

“The processes involved in the whole of systems modelling are:
1. Generating relevant systems
2. Naming the system as a root definition
3. Transforming the root definition into a conceptual model.
4. Comparing the model with the situation”

(Davies and Ledington, 1991, p.58)

Followed by, the final two sections which provide the change platform. The debate about change phase and the ‘take action’ phase. Already it is evident, from this discussion, that SSM is aimed at some kind of change in the real world, at least the classical model was. It is also a subjective approach because the analyst has to get:
…the richest possible picture, not of the problem but of the situation in which there is *perceived* to be a problem.

(Checkland, 1981, p.163, emphasis added)

So then SSM deals with perceptions and not cold hard facts about the real world. Central to this is the idea of the worldviews (or Weltanschauung) in human activity systems.

Checkland argues:

> The concept of human activity system is crucially different from the concepts of natural and designed systems. These latter, once they are manifest, ‘could not be other than they are’, but human activity systems can be manifest only as perceptions by human actors who are free to attribute meaning to what they perceive. There will thus never be a single (testable) account of human activity system, only a set of possible accounts all valid according to particular Weltanschauung.


The worldview then is subjective. So the social reality of SSM is subjective. Looking at the four paradigms it can be placed in either the radical humanism or interpretive paradigms. The next test is the degree of change that the methodology will perform. According to the primary literature:

> “…given the analyst’s complete freedom to select relevant systems which, when compared with the expression of the problem situation, embody either incremental or radical change, the area occupied must include some of the subjective/radical quadrant.”

Before examining criticisms of Checkland’s idea of the social nature of SSM, it is important to examine a trend in SSM. This is the move from an action based to a learning based orientation.

2.7 SSM and it’s Journey from 1981 to 1998

SSM from the crudely described version above (seven stages) migrated to a process of two streams in 1988 (Checkland and Scholes, 1990, p.29) with three streams of analysis. The social system analysis comes straight from the work of Sir Geoffrey Vickers and the appreciative system model (Checkland and Scholes, 1990, p.48, Checkland and Casar, 1986). Checkland and Scholes argued that three things interact with each other, these are: roles, norms and values.

“Each continually defines, redefines and is itself defined by the other two.”

(Checkland and Scholes, 1990, p.49)

This is a continuous process. Out of this process the analyst can successfully create a mental picture of norms, roles and values in the organisation.

The political system analysis is a variation of the social systems analysis in as much as it is derived from Vickers’ model (ibid, p.50). Checkland argues:

“…Analysis Three in the stream of cultural analysis accepts that any human situation will have a political dimension, and needs to explore it”.

(ibid, p.50)

And politics is taken to be:

“…a process by which differing interests reach accommodation…”

(ibid, p.50)
Checkland goes on to add that politics, endemic in human affairs, is about managing the relationships between those of differing interests.

The analysis of the intervention serves to divide the process into three roles, that of client – ‘the person or persons who caused the study to take place’ (Checkland and Scholes, 1990, p.47), the would be problem solver – ‘will be whoever wishes to do something about the situation in question’ (ibid) and the problem owner – the parties involved in the situation such as client, problem solver and those affected by the would be solving of the problem. The next big advancement by 1990 was the invention of mode 2 SSM.

This is the process of what happens when the process of SSM becomes internalised. Several changes in SSM apparently take place when the shift from mode 1 to mode 2 occurs. Firstly SSM mode 2 users will focus less on intervention and more on interacting in the problem situation. That is a more rigorous approach to the problem is taken through intensive reflection and ‘using SSM to make sense’ (Checkland and Scholes, 1990, p.284) of complex real world problem situations (See SSMA Chapter 7 for example).

Mode 2 has permanently changed the focus of SSM, to that of a learning system that can lead to change. Mode 2 users and mode 1 users are quite different in their approach to SSM (see Figure 8):

<table>
<thead>
<tr>
<th>Mode 1</th>
<th>Mode 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methodology driven</td>
<td>Situation-driven</td>
</tr>
<tr>
<td>Intervention</td>
<td>Interaction</td>
</tr>
<tr>
<td>Sometimes sequential</td>
<td>Always iterative</td>
</tr>
<tr>
<td>SSM as an external recipe</td>
<td>SSM as an internalised model</td>
</tr>
</tbody>
</table>

Figure 8 - SSM mode 1 (Classical/Prescriptive) versus Mode 2
This table explains the fundamental differences between mode 1 and mode 2. Checkland continues:

“The process of internalisation is a very real one for those to whom it is happening, but it is not an easy process to describe, certainly not as a series of steps recognized at the time they occur, for the steps are often not so recognized.”

(Checkland, 1999, A35)

Moreover the learning gained from the situation is the goal rather than change in the real world (see SSMA p.283) yet change is the overall hope of the process (STSP A40).

2.8 SSM in 1998

By this stage of the development, SSM has only five stages (See ISIS p.160), however, the approach now is taken to be five models of purposeful activity moulded into one process as a learning system.

Contemporary SSM contains many of the principles found in previous incarnations but with specific re-wording and the complete demolition of the systems thinking line (see Checkland and Tsouvalis (1997) for a full explanation of this). This model seems geared toward a mode 2 like use. That is, in this incarnation the focus is on learning and a lot less on intervention and problem solving. This is a decided shift in parts of SSM from Humanism to Interpretive paradigm.

The original reason SSM was started was to ‘solve’ hard to define problems in the real world. Now the focus in SSM seems to be on the learning instead of just ill-defined problem solving, and the improvement aspect is not as important.
2.9 Contemporary view of SSM

The contemporary view of SSM is that of ISIS mentioned above. The constitutive rules of SSM for example (Checkland, 1999) are now three definitive rules below:

(1) You must accept and act according to the assumption that social reality is socially constructed continuously;
(2) You must use explicit intellectual devices consciously to explore, understand and act in the situation in question; and
(3) You must include in the intellectual devices ‘holons’ in the form of systems models of purposeful activity built of the basis of declared world views.

(Checkland, 1999, A35)

Changes to the existing processes have been suggested by Ledington and Ledington (1999) in the form of Decision Variable Partitioning and Extending the Comparison phase of SSM (1999, 2001) but few other theorists have offered any worthwhile contributions to date. These approaches and extensions to the process of SSM challenge the concepts behind the modelling process but this is all that currently exists in the form of ‘challenging’ the shape of SSM.

Wilson (2001, p10) has argued against suggested changes to SSM’s shape argued by Checkland and Tsouvalis (1996). Wilson (2001) also argues that SSM needs more rigour, not less and the sheer difficulty that people have with it is no reason to change the shape of SSM. Wilson’s point seems to be that SSM is good enough as it stands and changing it would not resolve so-called difficulties with the methodology in practice. However, Wilson’s opinion on SSM’s core shape, are not relevant to this chapter of the thesis but are discussed in more depth in the suggestions for future research section of the thesis.
2.10 Interpretations and Criticisms of SSM’s paradigmatic framework from secondary literature

The most consistent critic of SSM is critical systems theorist Mike Jackson. In 1982, he suggested, after Mingers (1980) that SSM had no provision for political structure and was limited by its paradigmatic framework. For example:

“Using Burrell and Morgan’s framework I argued soft systems thinking is situated within the interpretive paradigm in that it’s guiding assumptions are subjective and regulative”.

(Jackson, 2001, p.236)

Jackson also argued that because of SSM’s conservative bias it would never be able to help the afflicted in anyway. Jackson’s critique continued by stating that SSM could not be radical and emancipatory like critical theory but would only help to confirm the status quo because of its philosophical implications (Jackson 1982).

This philosophical examination of SSM, by Jackson was done in accordance with the Burrell and Morgan’s paradigm matrix. Jackson in essence was arguing that SSM fits into the interpretive paradigm only. Checkland presented the methodology as fitting over radical humanism/interpretive paradigms as mentioned earlier. Mingers (1984) re-opened the debate again. Mingers, however suggested that critical theory and SSM could share a mutual dialogue (Mingers, 1980) has chosen to focus on the critical systems thinking developed by Jackson.

Jackson says that soft systems methodology has an inbuilt inability to handle the complex human and social aspects of social situations then offers no physical evidence (ibid, p.235). SSM seems flexible enough to jump paradigmatical boundaries into humanism or even back to functionalism if the user so desires. It is a methodology not a method. At least Checkland presents some evidence to support his position (see SSMA Chapters 6,7,8,9 and ISIS Chapter 7 especially).
Others have looked at SSM’s paradigmatic framework, not to the extent that Jackson did, but they are worth noting.

It is interesting to note that Hirshheim et al, (1995) and Ledington and Ledington have both criticized the modelling phases of SSM as too simple and possibly functionalist. Naughton (1979) argued against the case that SSM is functionalist; a charge made by Prevost (1976) but stated that SSM had a whiff of functionalism (Checkland, 1981, p.252).

Despite all these critiques of the social reality implied by SSM, there is no evidence from either side to establish the case. Checkland in 1981 said:

“…the comparison will lead to a discussion of possible changes. These are of several kinds, and any combination may be appropriate in a particular situation.”

(Checkland, 1981, p.180)

Is this interpretive practice? Interpretive practice can be understood as something that is about understanding and meaning (please refer to chapter three for more on this subject) rather than change. In Burrell and Morgan’s four-paradigm matrix, the Interpretive Paradigm is suggested to be about maintaining the social order. Checkland argues that SSM does not necessarily fit this ideal:

“…given the analyst’s complete freedom to select relevant systems which, when compared with the expression of the problem situation, embody either incremental or radical change…”


This will be limited by a desire for action in the real world (ibid) but the ideals are still humanist ideals.
Secondly, SSM contains underlying principles that can provide a critique of the status quo in any given organisation. Stage 5 provides a tool for using the systems ideologies against the real world perceptions found in stage 2. It is hoped that by comparing stage 4 with 2 a debate will be started about feasible changes. This suggests that SSM is built around rudimentary principles rooted in critical theory.

Mingers (1980) recognized this:

“…three major points of agreement. Firstly both take seriously the problem of human action – at the same time purposive/rational … and natural or unchangeable as a result of the characteristics of the human animal. Secondly, both conclude that hard systems analysis, cannot cope adequately with the multi-varied complexities of the real world. Finally both deny the inevitability of the divorce between rationality and the values which characterizes natural science”.

(Checkland, 1981, p.283)

In order to understand the various perceptions of SSM and its paradigmatic framework, this paper will now present tables that map SSM.
2.11 The Mapping of SSM

The first map presented is Checkland, 1981.

As mentioned Checkland argued that SSM had compatibilities with Critical Theory therefore should be mapped that way. Checkland suggests in Checkland (1982) and Checkland (1981) pp.280-284 that the SSM can help people to reshape the way they think about situations even to the point that social reality is renegotiated. SSM then can help in this process which may or may not lead to change. If the process leads to change then surely the use of the philosophical assumptions contained within SSM led, at least in some way, to change taking place.

Next is Jackson’s case (Figure 10).
Figure 10 - Jackson’s (1982) view on the social reality implied by SSM

The critics of conceptual modelling which are Hirschheim et al. and Ledington and Ledington viewpoint of the social nature of SSM are re-presented below:

Figure 11 - Ledington and Ledington (1999), Hirschheim et al (1995) and possibly Wilson's (2001) views on the social reality implied by SSM

(Burrell and Morgan, 1979, p22)
Hirscheim et al. and Ledington and Ledington have argued that SSM’s conceptual modelling is too simple. There is evidence (unlike most critics of SSM’s paradigmatic framework) in Ledington and Ledington to suggest this (Ledington and Ledington, 1999) but it is not expressed as a direct argument against SSM’s paradigmatic framework. These assumptions can be carried over to Wilson (2001) as mentioned earlier in the chapter.

The maps here and the previous section lead to the question. What then is the social reality implied by SSM? In short there seems to be no two texts that agree on the social reality implied by SSM. This is troublesome considering that SSM is a thirty year old standard and such foundational issues should be resolved. The thesis then is aimed at understanding the social reality of SSM, in order to bring more clarity to these foundational issues.

SSM is a well established standard, used by the British public service and has a large number of researchers around the world. Yet it has never been properly examined as to what it is trying to do in the social world except by a handful of people, the majority of which have assumed that SSM is limited by it’s philosophical underpinnings simply because of one limited, heavy handed and somewhat overly political critique. On the other hand we have people like Checkland (1982) who argue that 100 plus cases show that SSM is interpretive in inquiry yet can be critical in application in some cases. He suggests that these cases show this about SSM but fails to give direct evidence or even a clear discussion to further his point.

Since Checkland (1982) there have been no valid attempts to understand what SSM is attempting to do in the social world or what social reality it implies. Researchers have discredited SSM, relying on paper thin critiques that are unsubstantiated to say the least. For example, Jackson (2001) still suggests that his critique of SSM led to the creation of ‘critical systems thinking’. However, it could be argued that Jackson was only attempting to fill the paradigmatic void left by the soft systems and hard systems distinctions as made by Checkland (1981). The natural progression seemed to be ‘critical systems’ and Jackson used SSM as his platform for creating ‘critical
systems’. However, ‘soft systems’ thinking was not explicitly labelled as interpretive and only so, until Jackson (1982). Why then is SSM seen now as purely interpretive when Jackson provided no evidence for his position, yet it has become the accepted standard that SSM is interpretive? Jackson has not since given enough evidence to suggest this, yet still maintains this point as does colleague Flood (1999). This is a great injustice to the potential effectiveness of SSM and somehow has become the accepted standard. The work here refutes this idea and instead returns to understanding the foundational principles first then reflecting on them after using them in practice.

Jackson only used Burrell and Morgan’s four paradigm matrix for his argument suggesting that the paradigms are incommensurate. As an aside Schultz and Hatch (1996) disagree with this analysis that all four views are incommensurable. In essence this destroys Jackson’s argument and questions the nature of ‘critical systems’. (More on this argument later in Chapter 11). Unlike Jackson’s method in 1982, this thesis will use theory and the central activity of SSM, in practice, in order to understand the social reality implied by SSM. It is hoped that by using the central focus of SSM in practice that theory about what SSM attempts to do in the social world will be examined and evaluated. Thus, creating a foundational frame of reference (with evidence), that is both defensible and contains sufficient clarity to be explicable and teachable to future researchers and students alike. However, before this ideal can be realised an explanation of the theoretical framework of this thesis is required. Chapter three introduces the theoretical framework for the thesis and revisits issues in chapter 1 and 2. The chapter also lays the foundation for introducing the methodology chapter (4) and the subsequent case chapters (5-10).
3.0 Theoretical Framework

3.1 Introduction

The purpose of this chapter is to present a theoretical framework for thesis. The following section goes into detail about the theoretical framework of this thesis which includes specific reference to the social process of engagement. After presenting the theory of engagement, the thesis moves to present the model for application in the real world of social activity. From here the motivation and research themes are discussed which leads to the next chapter, the research design. The following section of this introduction discusses the foundational elements of theoretical framework.

3.1.1 Foundational Elements of Theoretical Framework

The paradigmatic analysis of SSM, discussed in the last chapter, yields unclear results. The theoretical framework, therefore, of the engagement concept may also have unclear boundaries. The position taken by this work, however, is that SSM is generally interpretive and partially critical. The core research literature supports this view. However, at this point of the thesis this is a theoretical argument, much like Jackson’s (1982, 2001) argument that SSM is too interpretive. However, the purpose of the cases is to put the theory into action and to learn from this application. The view of SSM as partially critical is taken on by this thesis as it is consistent with Checkland’s view below.

“Use of the methodology thus facilitates a social process in which people negotiate and renegotiate with others their perceptions of the world.” (Checkland, 1982, p.38)

Also:

“…the social reality implicit in the methodology [STSP pp.280-284] …is that social reality, the reality of ‘individuals’, ‘groups’, ‘organisations’, ‘roles’ etc. is not a
given like fire engines, frogs and foxgloves, but is continuously constructed and reconstructed by communication between individuals.” (ibid)

The continuous construction of communication is the social process implied by both the interpretive paradigm and the radical humanist paradigm (see chapter 2). The first constitutive rule in SSM, the latest discussion of which is in Checkland 1999 states:

“…you must accept and act according to the assumption that social reality is socially constructed continuously…” (Checkland, 1999, A35)

In other words the user of SSM will have to act according to this assumption, according to Checkland, if the methodology is going to be ‘legally’ used. The social process inside SSM, the focus of this thesis, is not just an assumption, it is doing something according to an assumption, much like how people in the real world act according to what they believe. Furthermore, a user of SSM must realise that the assumption that social reality is socially constructed will lead to behaving and thinking in a certain way. When discussing how to teach SSM, Checkland (1999) argues that it isn’t what is taught in terms of what to think, but rather it is teaching students about a way of thinking that leads to conscious reflection. That way of thinking is firstly outlined by the assumption that social reality is socially constructed continuously. In other words, humans in the real world only have the ability to interpret and they subsequently interpret the world from their own mind – social reality then exists as a set of shared meanings.

The assumption of shared meanings and the social construction of these shared meanings is the very foundation of SSM. Furthermore, SSM attempts to recreate this social process in its application during comparison. In the comparison stage conceptual models are used to structure a debate about possible changes. These possible changes are the result of a social process of the engagement of ideas and situation. Moreover, the ideas that are presented in the conceptual models are created by the analyst as a framework of ideas. The framework of ideas (or theory) is put into the real world situation for discussion and debate hopefully leading to change. For example, SSM facilitates a social process, that of negotiation and re-
negotiation of the perceived situation (Checkland (1982)) for the purpose of improving that situation. It starts this process with conceptual models (Checkland and Scholes, 1990, p23) and declared worldviews (Checkland 1982).

At Stage 5 of SSM, the output of Stage 4 is compared with Stage 2 to structure a debate about change. However, it isn’t the models that are structuring the debate about change or even the modelling process that is so important at this phase, or even the ‘comparison’. It is the engagement of one set of ideas that are purposefully constructed with the people in real world situations of concern. Purposeful construction of ideas is the first principle of engaging ideas and situation. SSM’s purposeful construction of ideas into systems models can possibly create a way of teasing out issues that can be discussed and recreated socially by parties involved. However, these models are just a means to an end (Checkland and Scholes, 1990, p23). The end is a meaningful debate about desirable and culturally feasible systemic changes (stages 6), leading to action (stage 7). For debate to be meaningful there has to be some kind of structure and a lack of randomness about the engagement of ideas. That is why each engagement needs to be designed purposefully.

In SSM’s case each engagement is designed from the very beginning. Starting with an expression of an ill-defined problematic situation, defining the root definition and modelling the relevant systems of human activity. These first four stages of SSM are where SSM users would design, iteratively, their engagement. No engagement, outside the analyst, has taken place yet, the engagement has been purposefully constructed from ideas that the analyst will think are relevant. An analyst, is then perceived to be someone who has knowledge about something that can be seen to be ‘relevant’. Perhaps this knowledge an be seen as how to facilitate the process of debate leading to change via the use of SSM’s conceptual modelling process. That is, the analyst/modeller, in SSM terms, is someone who investigates the situation, constructs a root definition and from this forms a conceptual model to structure a debate about change. The assumption for the analyst in SSM is that the analyst uses ideas about the situation that they see as relevant to foster debate. Taking this a step further means that the analyst uses a set of well constructed
‘ideas’, in the form of a systems model to question the situation that is considered to be problematic.

The process of engaging these purposefully created ideas in the form of a systems model leads to the conclusion that the analyst creates a set or framework of ideas in any given situation. This ‘framework’ of ideas comes from a situation that the analyst deems to be potentially relevant to the problem context. Using the established set of ideas the analyst then proceeds to engage these ideas into the situation of concern. This is a social situation of concern, where these ideas can be discussed and debated. However, in SSM the use of models is only a means to an end. The end is to have a well structured debate about change (Checkland and Scholes, 1990, p.43)). The focus of SSM then is to bring change, via a process of engaging ideas into a situation of concern with the people in the situation (more discussion on this notion in 3.3) because they are the ones that will debate the situation and ultimately perform the actions leading to change. The ideas themselves and how they are attained appear to be irrelevant. What appears to be the heart of SSM is the activity at which the ideas, the situation and the people all come together to discuss the situation.

The social process being facilitated by the models is what this thesis is attempting to extract and use by itself with the purpose of trying to understand the social reality implied by SSM. If this is indeed the core activity behind SSM (Ledington and Ledington (1999, 2001)) then it will hold the insight as to what, philosophically at least, the methodology is attempting to achieve in the real world. The rest of this chapter is devoted to discussing the process of engaging ideas into social situations and discussing the theoretical implications of this approach. Following the next section, motivation and research themes will be investigated followed by a summary and then the methodology chapter.

3.2 Theoretical Framework - The Social Process of Engagement

The majority of the business literature defines humans as goal seeking animal (see for example Collins and Maclaughan (1997), Watson (1999), Clark (1994), Harvey and Brown (1996) and many others), meaning that humans decide what they want to
do according to goals and not according to any other means. This is despite the research of Nobel prize winner Herbert A. Simon, who suggested (Simon 1991, Simon 1997) that humans aren’t machines that seek goals but make decisions according to ‘judgments’ and ‘value’. Further, Koestler (1968) suggests that humans differ from goal seeking machines inasmuch as they pass the level he calls automaton (robots if you will) and can create. By this, Koestler (1968) means that humans operate on a level above robots that are programmed for action and can re-interpret their existing environment through the processes of learning. Moreover, the re-interpretation of anything, leads to something becoming ‘created’. Robots can only do set tasks. The process of re-interpretation forms the basis for creation simply because it provides a new way of understanding something that was previously not understood. For example, when Leo Fender created the first electric guitar for sale he had taken interpretations of electrical currents and the acoustic guitar, and re-interpreted both, which led to the creation of the electric guitar. Essentially the electric guitar was nothing new, it was a simple re-interpretation of two specific things. Whilst the instrument itself was a creation it resulted from Leo Fender re-interpreting electricity and guitars.

This suggests that humans interpret and create their world rather than mechanistically live in it moving from one goal to the next. Vickers (1965) argues that individuals live in a state of readiness to interpret the world through what he called an appreciative setting. Checkland and Casar (1986) attempt to model this process in what they called the Appreciative Systems Model.

However, Vickers took Simon’s idea a step further by suggesting that humans seek to maintain relationships, with the world, as well as make ‘judgments’ according to ‘value’. “…Vickers is attempting to provide a description of what he regards as the actual social process which characterizes human communication and action.” (Checkland and Casar, 1986, p4, see pp5-7 for the models).

“Appreciation perceives (some of) reality, makes judgments about it, contributes to the ideas stream, and leads to actions which become part of the events stream.” (ibid). Thus our perceptions of reality lead to changes that can be measured in the real world. Also, the process of appreciation takes as given our ability to choose,
which may or may not be hindered by various elements at various times, hindered by forces that may be out of our control. Every person is said to have appreciative settings, of standards of fact and value. Everyone has a differing Weltanschauung (culture centred world-view (Cassells 1997)). These settings come from previous appreciations of the ‘life world’. In SSM terms, someone’s ‘settings’ are altered when their perceptions about a situation change.

For example, instead of seeing humans as goal seeking mechanisms, Vickers argued that “The objects of our desires and aversion are not objects but relations” (Vickers, 1965, p.33) What humans want and what we don’t want, we are positively or negatively engaged with, on a relational level. In other words, we seek to maintain relationships, through our concepts of the world that we have learnt from engagements with the world.

“To explain all human activity in terms of ‘goal-seeking’ though good enough for the behaviour of hungry rats in mazes, raises insoluble pseudo-conflicts between means and ends (which are thus made incommensurable) and leave the most important aspect of our activities, the ongoing maintenance of our ongoing activities and their on-going satisfactions, hanging in the air as a psychological anomaly called ‘action done for its own sake’” (ibid). In other words, humans create relationships with the social world and seek to regulate these relationships, through managing the complexity of the social world through a process of ‘appreciation’. Humans ‘appreciate’ the world through our values and pre-existing and pre-created standards from the every day flux of events and ideas. This process of appreciation leads to new values being created, as part of your own ‘standards’(Checkland and Casar, 1986, p.5). As Checkland noted:

“Appreciation perceives (some of) reality, makes judgements about it, contributes to the ideas stream, and leads to actions which become part of the events stream” (ibid).

The first case study presented in this research is an example of this concept. A greater explanation of this can be found in Chapter 6, where the topic of ‘value creation’ is introduced.
Engaging ideas in a situation, was purposefully done in the action research element of this thesis (see next chapter) with the sole intention of shifting current engagements people have with the life world. In other words, I sought to shift people’s understandings about the world, albeit slightly. This is because SSM seeks to change the appreciative settings (ibid). This is where the two, Appreciative Systems and Soft Systems, meet. Shifting worldviews then equates to changing settings in appreciative systems theory and, as becomes obvious, the two share a common dialog because SSM works on the same social constructivist assumption as Vickers model. SSM though is a methodology for learning that seeks to improve problem situations and Vickers’ model is an expression of how people create their own standards of value and fact. For this reason the Appreciative systems model will be used to understand how the values of those that were in the research site changed, or didn’t, through the employment of the engagement model.

The main argument made by this thesis is that SSM contains a social process that can be made explicit in the engagement model. This social process attempts to change people’s appreciative settings or shift their worldview through a process of human communication. People begin to discuss how they perceive a situation and “negotiate and renegotiate with others their perceptions of the world” (Checkland, 1982, p38). SSM though only focuses on structuring activity models, which the analyst deems to be relevant. How would an analyst know that they are relevant? Furthermore, how can activity modelling accommodate for the changing social aspects that SSM is attempting to facilitate? Models cannot change appreciative settings nor can they facilitate anything. It is the willing participation of humans that facilitates this process. This exposes a weakness in SSM as too much emphasis is placed on the modelling process and not enough emphasis on the underlying process of engagement. For the last thirty years SSM users have concentrated on the rigorous systems modelling process as the core of SSM instead of realising that SSM is trying to facilitate a social process through the use of the models.

Wilson (2001) suggests that the models are used to help validate the process as a whole. Likewise, Checkland (1999) said that models are now required as part of the practice of SSM. It seems that core literature is telling users of SSM how they
should facilitate the engagement process that SSM is supposed to facilitate. All the models are a potentially relevant ‘systems’ of human activity designed to structure a debate about change. If a debate can be reached by using other means then surely this is also relevant. Ledington and Ledington (1999) noted that the modelling process is intrinsically flawed and possibly functionalist. Other researchers have suggested that it is too simple (Hirschheim et al. (1995)). The most puzzling question for users of SSM then is why do the models have (Checkland, 1999, A34) to be used? Isn’t the most important thing to actually allow the negotiation and renegotiation of the social world through the process of engagement? If it is then why must the models be used?

If the end is to have a well structured debate about change, can’t the models be done away with and other processes used to help structure this debate. If the debate is so important why are we as users, researchers, analysts and teachers restricted to the modelling process? The modelling process is only one way to facilitate the ‘engagement’ SSM is after and it is only a means to an end.

What becomes important to realise, as mentioned in the section, is people have an ‘engagement’ with the situation in question. That is, people have an ‘appreciation’ of what they would consider their reality. Furthermore, SSM attempts to facilitate a shifting of ‘appreciative settings’. So people have a present engagement with their world simply because they are in it. In their world they will have an ‘appreciation’ or an ‘engagement’ with their social world. Therefore before defining the principles of an engagement this assumption has to be understood. The assumption is that all people have an ‘appreciation’ of their current situation. This assumption however is twofold, firstly people have their perceptions (or a mental model) and secondly their actions come from their perceptions (or mental model of the world).

Here is where the process begins to become even more complicated (section 3.4 discusses in detail the process and offers a model for clarity). Firstly, there is an engagement of ideas and situation in SSM by placing the conceptual model into a real world situation with humans (Checkland, 1981, p.177). The next engagement happens as a result of this when people begin to renegotiate their world with others in a problem situation, meaning that human communication about a problem is what is desired. So there is one big engagement based around a smaller engagement, the
first putting ideas into a situation and then the people in the situation engaging with
the ideas that in turn leads to perceptions shifting, through what Checkland called
meaningful and purposeful debate (Checkland, 1981, pp180-2). To add further
complexity to this issue, each individual will have a differing engagement with their
environment and interpret their world differently.

The main idea behind engagement then is twofold: firstly the engagement of ideas
(Engagement Mode 1) and situation, secondly the engagement of those in the
situation with the ideas (Engagement Mode 2). If SSM was just putting ideas into a
situation through a modelling process, however the models were created, this
process would be positivist, Mainly because this would resemble a experiment
where a set of ideas forming a theory is tested against an area of concern
(Checkland and Holwell, 1998, p18). It is the social element of reconstruction and
construction of the models through human discourse that adds the
interpretive/critical element. Without it there would be no interpretive/critical bent
to SSM, remembering that we gain our understanding of the world from the
concepts we have derived from the world. This means if the models in SSM don’t
make any sense, the ideas have been engaged in the real world but the people in the
real world are not engaged in the ideas. For a model to facilitate a process of human
communication leading to change, it must first be understood.

So then, SSM seeks to create an engagement whereby ideas and situations come
together, much like the process of theory creation alluded to in Chapter 1. Such a
process, however, involves complex networks of human interaction and
organization. It is simply not enough to put your ideas into reality, humans must
engage with these ideas, as they do with everything else in the world. Otherwise the
ideas will not be effective. When presenting a model in SSM, which is engaging
ideas and situation, it is important to note that humans are present, mainly because if
they don’t understand the rigorous modelling then they will not care about the
analyst or the ideas presented. Models are only one way to facilitate an
engagement, why then are the primary texts dictating rules that suggest that the
models must be used. For example, the latest constitutive rules in Checkland (1999)
say explicitly:
“…you must include in the intellectual devices ‘holons’ in the form of systems models of purposeful activity built on the basis of declared worldviews”

(Checkland, 1999, A35)

Checkland and Scholes (1990), on page 43, states that the models are only a means to an end. Does this then mean that if an analyst wants to engage people in their situation and facilitate the social recreation of that situation, the analyst has to use systems models? Even though the analyst has adopted the thinking needed to facilitate this process, according to Checkland (1999) it still isn’t SSM unless you use the models. Surely there are other ways, by using the thinking embedded in SSM, to engage people in their situation. If not then SSM will not develop because there is still too much focus on the modelling and not enough focus on what SSM is trying to achieve in the real world of human activity. Humans must be engaged into the ideas that have been engaged into the situation via any means necessary, it therefore seems puzzling that models absolutely have to be used for an analyst to say that there are using SSM. This weakness in the development of SSM forms the primary motivation for this research. Before discussing the motivation of the research in greater depth it is now important to introduce the principles of an engagement and the model of engagement used in the cases.

In summary, the concept of engagement has a primary purpose. It attempts to stimulate discourse about a situation to lead to change, by placing ideas into the situation and engaging people in those ideas. These ideas are nothing by themselves, neither are the people the magic ingredient as such. It is a combination of good ideas presented for people to engage with and debate about that is crucial. This process creates a mode for people to interchange ideas through human communication which hopefully stimulates change. The purpose of this thesis is to investigate this idea of the twofold engagement, using established and valid action research, separate from SSM to better understand this social process.

The theory of engagement will be evaluated by its use in the case study items of this thesis. In four cases the engagement concept was used to: manage technology; build an international database; develop an international IS (at least partially) and
was used in a training and development. Engagement’s use in Aged Care is also discussed but only from the point of observation. Engagement was evaluated over these cases and the results section of each case discusses what was found in the cases. An analysis of the case at the end of each case chapter will discuss the results and case in the context of the whole topic of this thesis. However, it should be noted that the engagement concept forms a foundation for understanding the social reality implied by SSM and hence ‘understanding’ is what is desired, not one explicable result in each particular case. The research cases provide a solid grounding for understanding the use of Engagement as a framework for understanding the social reality implied by SSM.

3.4 A Model For The Engagement Concept

"We engage with the world by making use of concepts whose source is our experience of the world...."

(Checkland, 1990, p.23)

Most dictionaries define an engagement as being an interlocking of one entity and another entity in some form of purposeful activity.

In basic terms an Engagement can be illustrated as thus:

![Figure 12 - A basic shape for Engagement (Adapted from Ledington (2001))](image-url)
(F) is a theory, a framework of ideas, (S) is the situation and (O) is the outcome whether it be good or bad. In SSM terms, the models (ideas developed from the verbalized root definition of relevant systems) are placed into reality for the sake of ‘comparison’ with the problem situation. One is engaged with the other to bring about an outcome. However, in any given situation, as argued in the previous section in whatever organizational context, human beings are involved. Berger and Luckman (1966) suggest that social reality is constructed continually by individuals. This is known as social constructivism. This is in essence the assumption made at SSM stage 5 and Checkland clearly supports this notion of social constructivism (Checkland 1981, p280 and Checkland 1982) and through the constitutive rules (Checkland, 1999, A35). Yet the ‘comparison’ process, the centre of an attempted recreation of this process, has seen little development as has been mentioned. The process of taking one model of reality, putting it into a problem situation to stimulate debate is an attempt by Checkland to facilitate the process of social construction via human participation and communication about their perceived reality (Checkland 1982). Where does a comparison enter this? There is no explicit comparison of anything to anything, it is the creation of a model (an ideal type, according to Checkland (1982)) as it was perceived by a practitioner and the engagement of those ideas into a problematical situation.

That is why the above basic model of engagement is too simple and lacks definition. It fails to properly accommodate for the social process of people interacting with ideas and each other in the world. It could be argued though that SSM seeks to engage ideas in situation to get people to engage with these ideas. It isn’t the engagement of the ideas and situation that facilitates change, it’s the notion of the inner engagement (or Engagement Mode 2) of people becoming engaged with these ideas. The model below expresses these concepts:
This is an attempt to represent the social process of SSM. The ideas and situation are engaged with the real world as it is perceived. However, to be effective the ideas need to ‘engage’ the people in the situation as mentioned earlier. E2 takes place when the ideas have been presented in the situation and people in the situation engage with the ideas. E1 is the process of constructing and learning about an (F) to use to engage people with in E2. SSM seeks to engage people with ideas, in essence, although they are rigorously formed models that attempt this process.
Engagement, however contains no such rigor but is reliant on the ideas from the inquiry mode, engaging with the people inside the situation of concern.

The second engagement then complements the first because it uses the ideas to facilitate a debate that is possibly not linear. The model admits that mistakes can be made and learning can ensue. Likewise the model assumes that learning from pure experience can ensue as well. Therefore, the model is more focussed on improvement and management in comparison to SSM which, at least contemporaneously (see Wilson (2001) for example), seems to be focussed on modelling and rigor. The engagement model moves away from these notions because it seeks to change situations through ideas and debate, rather than through the aforementioned flawed modelling process. Further, engagement admits that there are other ways to structure and subsequently facilitate a debate about change. It is also important to discuss the non-methodical and cyclical nature of this process.

Learning is progressive by nature and a process that all human beings go through. Indeed learning is something that is the result of building upon concepts we have previously learnt (through experience or teaching) in the world and can be seen as cyclical in nature. That is, learning is something that begins with a person. That person, through engaging their ideas in the world, learns from this experience and hence creates a form of knowledge in their own mind. A small child learns to walk by actually attempting to do it rather than sit down and read through a one to seven stage manual. Why should the processes of business problem solving or management be any different? This assumption is the basis for engagement and is crucial to understanding the process. Learning forms the basis for structuring ideas into a framework and people form the basis for discussing (purposefully and rationally) these experientially learnt concepts. Hence, when people discuss, debate or have discourse around ideas they are using these ideas to critique the situation they are in with an eye to improvement.

The use of ideas to improve problem situations appears to be the focus of SSM (especially noted frequently in Checkland (1981) and in Checkland (1982). However, the focus of the two most recent books on SSM is still on the modelling process rather than the underlying process of engagement and debate. This
underlying process, extracted and presented above, has nothing to do with models or root definitions. Neither has it anything to do with rigor. Rigor sounds a lot like hypothesis testing and does not lend itself to the interpretive inquiry process discussed in Ledington and Ledington (2001). Rigor in SSM is always related to the modelling process, (see Wilson (2001)) – a process carried out by the expert analyst who, as mentioned earlier, selects systems that might be relevant according to their opinion. Engagement moves away from making the analyst an ‘expert’ and uses the ideas of the people in the situation as well as their own ideas. Whilst the Engagement analyst has to monitor and manage the overall process of learning, the ideas for change are not limited to models or even debates about models. The ideas for change come from the people and the analyst working together in a realm of mutual sense making spurred on by the principles of interpretive inquiry (Ledington and Ledington (2001)). Instead of using models and ideas derived from these models to stimulate a debate about change, engagement uses ideas derived from inquiry to structure a debate.

This model was used in six situations, during a period of time with varying results. Chapters 5 and 6 will evaluate the model of engagement in action in the fields of: Technology Management, Database Development and Design, Information Systems Development and Design, Training and Development and in Research Management. There is also one case which was the observed use of the approach in the field of social work. Each case will briefly introduce the field and discuss how the engagement and inner engagement ideas were explored in practice. Motivation for this research will now be discussed.
4.0 Methodology

4.1 Introduction

Having now introduced the topic, the background of this work, the motivation and the theoretical framework for the research, it is now important to discuss the methodology. This section presents the research design and data collection methodologies and concludes with descriptions of the research process. This chapter forms a guide to the research, making plain the approach and how the overall process of research was completed.

The chapter also provides a platform for discussing the cases in Chapters 5-10. Firstly, the paradigm of the research is discussed, according to Burrell and Morgan (1979)’s four paradigm matrix. After discussing the research paradigm, the research design is discussed. The section goes into great detail as to the mode of action research that was used. Furthermore, it discusses the use of the FMA concept in this research as well as the use of The Research as a Process of Inquiry model. The next section discusses the situations for the research and how data was collected in each situation. Finally, there is a summary of the Methodology of this research.

4.2 Paradigm for the Research

A paradigm for research is a framework of beliefs, through which research itself becomes filtered. In 1979 Burrell and Morgan introduced their version of social research paradigms with *Sociological Paradigms and Organisational Analysis*. This work has been replicated in modern social research theory (Cassells 1997, for example) yet stands as the cornerstone of the paradigm theory of social research. Burrell and Morgan (1979) argued that there are four particular paradigmatic perspectives.
4.2.1 **The Paradigm for this Research**

As discussed in Chapter 3 there are many paradigms for researchers that provide a frame of reference for interpreting such work. The model for this research will now be discussed.

This research relies on Schultz and Hatch’s (1996) notion of Paradigm Interplay. The idea being that paradigms are not incommensurable but exploit compatible areas of thought described as grey areas. With this link it is possible to exploit similarities between the two seemingly incommensurable positions.

“In interplay, the researcher moves back and forth between paradigms so that multiple views are held in tension…interplay allows for cross-fertilization between the ever-growing number of paradigms.”

(Schultz and Hatch, 1996, p.535)

Interplay then places the researcher in a grey area (ibid) allowing the researcher to focus on the similar elements of the paradigm thus creating interplay. What becomes evident at this point, is that this research exploits this interplay on two levels. Firstly it exploits the social constructivist position shared by critical theory and interpretive theory (Burrell and Morgan, 1979, p32). It assumes that reality is interpreted rather than pre-defined as in functionalism. Secondly, it takes the idea of using theories to challenge the status quo found in critical theory but not found in Interpretive Sociology anywhere. The concept of changing existing social arrangements, through a multi-disciplinary approach stems from critical theory and at first seems incompatible with interpretive theory.

“Its [Radical Humanist Paradigm] approach to social science has much in common with that of interpretive paradigm, in that it views the social world from a perspective which tends to be nominalist, anti-positivist, voluntarist, and ideographic. However, its frame of reference is committed to a view of society which emphasises the importance of overthrowing or transcending the limitations of existing social arrangements.”

(Burrell and Morgan, 1979, p32)
This research makes no assumptions about ideological superstructures or overthrowing existing social arrangements. The change factor experienced in this research goes beyond the interpretive paradigm though as it did change the status quo as it was perceived, this will discussed in the cases. The paradigm of this research is interpretive with a paradigm interplay strategy to radical humanism, leaving behind the weighty connotations mentioned above though committed to change in the organization of choice. Action Research was the mode chosen for this project because it has interpretive underpinnings, as mentioned, but also is emancipatory in nature (Greenwood, 1999). This differs from the interpretive research models presented in Klein and Myers (1999) and the models of interpretive philosophical thought presented in Mingers (1984). Mingers (1984) suggested four approaches: phenomenology, ethnomethodology, the philosophy of language and hermeneutics as offering some kind of critique of the interpretive paradigm. A closer examination reveals that none of these approaches are committed to any sort of change and rely solely on the assumption that social reality exists in the “minds of men” (Burrell and Morgan, 1979, p260). The research paradigm can then be understood below:

![Figure 14 - The paradigm of this research](image)

(Adapted from Burrell and Morgan, 1979, p.29)

“The purpose of interpretive research is to understand and analyse subjective interpretations and their consequences”. (Robey, 1994, p2)
Further, interpretive sociologists are “opposed to structural absolutism” (Burrell and Morgan, 1979, p260). This isn’t the mode of research that happened in this thesis but it is part of it. The other part could be defined as partially emancipatory as it offers change from understanding. It also contains a participatory action research program which led to change in real world situations. The change in the situations is argued in the cases as a change of perceptions that led to a change in actions, as discussed in detail in Chapter three. This will become clearer when considering the mode of action research undertaken in the following section. The research desires both understanding and change. Schultz and Hatch (1996) suggest a basic interplay strategy that exploits compatibilities but ignores contrasts.

Other researchers (Mingers, 2000, 2001) have suggested that paradigms are claimed to be incommensurable by some researchers (although suggesting himself they aren’t) but exploiting the mass of approaches would result in rich research output. However, philosophically speaking there are too many doctrines within paradigms that would conflict and make the research seem to be too confusing. If the IS researcher were able to exploit paradigm interplay, by wilfully exploiting the grey areas between paradigms, then research would still be clear and not contain many and varied worldviews that seemingly conflict. However, there is a growing body of literature supporting the pluralist methodology approach of Mingers (2000, 2001) and there is only one published paper supporting Paradigm Interplay (that is actually a management paper – Schultz and Hatch (1996) and not explicitly IS).

This research uses Paradigm Interplay strategy by exploiting compatible areas between Interpretive Paradigm and Radical Humanism. Firstly, the research uses an approach that is emancipatory in nature (see following section) and uses human communication to explicitly change situations of concern, much like SSM does (Checkland (1981) pp.280-4 and Checkland (1982)). However, the research assumes that social reality is constructed continuously by the individuals who perceive it and assumes no overt political stance. So, the interpretive view of reality is used and the radical view of communicative action is used. These issues will become clearer in light of the following section.
4.3 Research Design: Action Research

The design of the research in this particular case was somewhat unconventional from the distinct types of action research that are available. Probably the closest form of Action Research relating to this project is participatory action research.

“Participatory Action Research is a process through which members of an oppressed group or community identify a problem, collect and analyse information, and act upon the problem in order to find solutions and to promote social and political transformation”

(Reason and Bradbury, 2001, p.1)

However, as a process this indeed was not what the research seemed to be indicating. As a result of actions at the research site, change has occurred, that is not just a perception change but a change in perception (a change in cognition and consciousness leading to real world change – Case One for example) that led to change in the way ‘management’ activity was conducted. As simple as this is, it will help keep practices efficient. To say the changes were political is simply not the case. The changes can only be measured in social terms because political change was not the purpose of the action research component. However, they were changes nonetheless.

Another action research methodology suggested by Baskerville and Wood-Harper (1998) is canonical action research. This form of research ‘directs’ the change in an organization from a well-defined plan. However, this research only had a framework of ideas so this form, whilst close is still not completely relevant.

The closest valid form for the action research model of this thesis is the model for action research presented in Soft Systems Methodology. Baskerville and Wood-Harper (1998) argue that this research process is valid, and furthermore Checkland (1981) used action research in connection with systems analysis. Moreover, “Checkland not only used an action research approach extensively in developing his soft systems methodology, but action research concepts for gaining professional
knowledge permeate the soft systems approach itself” (Baskerville and Wood-Harper, 1998, p98). The theoretical framework then will be applied to the research area in the same way SSM was developed. The following section will describe the research methodology undertaken and attempt to explain the processes involved in such research.

4.4 Towards a Definition

In this section the question of what is action research is addressed. According Greenwood:

“Action research [is] a practical way of dealing with organisational problems by means of mobilizing and involving social science in a specific manner…”

and

“Action Research refers to a specific way of understanding and managing the relationship between theory and practice, between the researcher and the researched…”

(Greenwood, 1999, p.9)

As succinct as these definitions are, they are not an exact description of the process of action based research. The most famous quote comes from Rappaport:

“Action research aims to contribute to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework”

Rappaport, 1970, p.499 in Myers, 2000, p.7)

This best describes the research situation. It leaves the weighty critical theory implications about political change behind and suggests that action research is of mutual benefit to both researchers and people who possess a particular problem
situation. It is an ideal that most action researchers would aspire to. In other words it is hoped that each particular action research engagement could be fruitful.

Whilst the above quote describes what action research is and can aspire to, it still doesn’t fit the description of the particular action research model the project needed. When trying to find a suitable model for the research, a need arose for an approach that encompassed all types of research situations. Below is Checkland’s FMA concept which Checkland and Holwell (1998) suggest are elements relevant to any piece of research.

![Figure 15 - The FMA concept](image)

(Checkland and Holwell, 1998, p.23)

Checkland and Holwell (1998) stated:

“At a basic level, any piece of research in any mode may be thought of entailing the elements in figure 1.7 [above diagram]. A particular set of linked ideas F are used in a methodology M to investigate some area of interest A.”

(ibid)
The Framework of Ideas in this research is the concept of engagement inside soft systems methodology. These ideas were employed inside a methodology, a previously undeveloped methodology for action research. This model is called the research as a process of inquiry model.

![Diagram](image)

**Figure 16 - The Research as a Process of Inquiry Model**

(Adapted from Ledington, 2001)

The model represented as figure 18 above represents a theoretical process that is both hermeneutical (Klien and Myers (1999)) and cyclical. Firstly, the researcher creates a framework of ideas for injection into some ‘real world’ problem situation. The researcher firstly creates a theory or uses a theory that might be relevant about the situation represented as (A) in this model, and places the framework of ideas into a problem situation. The participant/researcher then observes what happens as
a result of this injection/engagement and what comes from this is the results of the process. This model assumes all research to be a process on inquiry into the perceived world of social activity. That is, all research is trying to inquire of the world for the purposes of measuring and learning something about the world. In this instance though there is a perceptual filter that strains data out – this is the users paradigm.

This perceptual filter stands between the researcher and the ‘world’ straining everything through it, much a tea strainer removes tealeaves from hot water. As data comes in, it goes through the individual and is perceived. The model above is suggesting that the process of research can be measured in terms of what is gain but only through researcher perception. In other words, to define anything as a contribution to knowledge, definitively speaking, requires that the research is understood via it’s filter. All data gained from this experience of placing ideas into situations of concern and reflecting on both the observant/researcher’s perception is only beneficial to the researcher and their paradigm. New insights then are not gained from what the data is telling us, new insights are gained from what we *interpret* the data as saying to us. The poverty-stricken objectivist model suggests that all researchers must remain at arms length to the research and not allow the paradigm an individual possess interfere with the research. However, what the objective school fail to realise is that the hypothesis they are trying to destroy is only a theory that has come from an individual that in turn has come from individual perception of something deemed relevant!

This model though assumes nothing about the world and everything about the researcher. The model takes the researcher as already being a biased individual (paradigmatically speaking) therefore any data analysed will be analysed through this paradigmatic lens. The model above is basically about taking a theory about something, injecting/engaging into a situation, gaining insights and data from the situation and starting again; all through a paradigmatic lens. The researcher is thrust into the situation and begins to place ideas into a situation of concern and learn as a result of this process.
In this model there are three distinct learning cycles going, after the engagement of ideas with the research situation. The learning on the first level refers to learning on the overall level of the project. That is, the area of concern and the researchers overall framework of ideas. Secondly, the user of the approach learns about ‘data’ (D) and the implications (I) of their (F). Thirdly, the researcher learns about their paradigm and it’s implication at (V) in the model. However, each process is a direct result of applying ideas contained in a framework to an area of concern. Learning about something happens, according to Checkland and Scholes (1990), as we engage our experientially learnt concepts with ‘reality’.

The cycle essentially starts with an area of concern (A), the social process in SSM, and a framework of ideas (the social process of engagement mentioned in chapter three) and engaged the two with the purpose of learning experientially. So then, the FMA concept provides an overall outline, as to the status of the research and the above model became the singular process model to follow time and again. For example, in the database case the framework of ideas was the social process of engagement and the Database Development Life Cycle. The two ideas for this case were combined and applied to the model of the two intertwined to an area. This was the overall process. At a methodological level, the above model was used to carry out the process within the already mentioned research paradigm. Further the model helped to extend the FMA concept. That is, as learning came from the cases the (F), (M) or the (A) would be changed, if they had to be. The application of ideas to situation via these processes became paramount is understanding the research topic. Each cycle gave further insight into the research, thus allowing the research to continuously improve the mental model of the research, that the researcher contained.

This model is entitled Research as a Process of Inquiry. That is, it is a methodological model for inquiring into real world situations that: allows the researcher paradigmatic freedom (the researcher can apply whatever methods, methodologies, thinking patterns, mind states etc that you desire), allows you to be part of a continual learning spiral, allows the researcher to be a participant in the process of research inquiry given that the researcher is the applicant of this model,
allows for the use of any research method or methodology inside the inquiry process and also gives itself to manipulation if that is needed. This means that the paradigm interplay strategy for the research can be used if that approach is desired. In this research an approach that allowed for this flexibility was needed. Furthermore, using relevant schools of thought from the Interpretive Paradigm and relevant schools of thought from the Radical Humanist paradigm, meant that the interplay strategy could be effectively enacted with this model. Not only this, but at any time the research model and the process used to engage ideas into reality becomes explicit and the process is better understood, can be captured, made explicit, evaluated and communicated.

There is also no mention in the model of change in the real world but the researcher takes it as given, if the researcher wants to. In this particular research situation the researcher was hired to perform change in an organization and was conducting research. In this research the model above helped the process and was used in observation and participation. The using of the paradigm interplay resulted in understanding and change, to the extent that both can be measured. Further, the thesis discusses in the cases how a change in understanding actually produced change that was measurable and tangible. These kinds of results were only made feasible through the use of the above model

Returning again to the overall process captured in the FMA concept. The process of continual engagement and reflection led to a continuous process of learning about three key things. In the vernacular of the model the researcher was continuously learning about the Methodology of the research, the Framework of Ideas, and the area of concern. To Checkland this model is:

“Elements relevant to any piece of research…”

(Checkland, 1998, p.23)

To Ledington et al. (2001) the FMA concept is this also but:
“This enactment of FMA creates a learning cycle that yields learning about each element.”
(Ledington et. al, 2001, p.4)

However, as was discovered in field research, elaboration is required and the process needs to be made more explicit. Each section of the concept contains a set of processes, prior to creation and subsequent application. For example, F in FMA contains a process of theory creation in which a framework of ideas is born. M contains the processes of applying this to the real world. A is a real world area of concern – or the area where the ideas are going to be injected/engaged. Each one of these individual processes are not recognised in the texts available. They are assumed. It seems obvious that whatever is desired to be researched, must be thought of as worthy of research at some point, hence the Framework of ideas being formed. This is what separates this research from typical grounded theory. There are a set of ideas that formed into an F and real world investigation took place.

The second model gives a methodological process to this which FMA does not. This is why the two models complement each other and why the researcher chose to use both in the research, one as foundational guide the other as a process guide. One describes the overall process, the second seems to elaborate and give a description of the assumed continual spiral of learning. An example of this can be found in the research into dementia patients.

The framework of ideas (or a framework of ideas that forms a worldview) was that ‘dementia patients’ life can be improved through valued relationships and peaceful surroundings. This was applied into the (A) Area of concern, through a research (M) methodology. The day to day grind with dementia patients involved continual engagement of (D) with (I) which lead to learning about his (A) and (F) and (V). However, as mentioned, there was a process that led up to an initial F being formed. A more detailed look reveals that at some point a framework of ideas was born, through a process of creation. This is outside the realm of this thesis and therefore will not be discussed further.
There are problems with the research as a process of inquiry model in that it does not make explicit the way in which data is collected, nor does it mention what happens to learning when it is attained. The following section will discuss these issues and introduce the situations for the research project.

4.5 Research Situations

This section will briefly introduce the areas of field research (1, 2 and 3). Each field study situation will be introduced and presented. After this the specific data collection methods will be introduced.

4.6 Situation One International Gospel Centre

International Gospel Centre (henceforth IGC) is an aid firm, designed for emergency support of individual children on a daily basis. They have aid centres in Uganda, Philippines, Zambia and more recently India. IGC also have many operations including an emergency relief program (AGAPE program), a house building program in the Philippines, a women’s shelter in India, Missions programs and hospital restoration programs to name just a few. The operation concentrated on here is the provision of food to sponsored children. Much like the World Vision program for feeding starving children, IGC relies on individuals to sponsor and support children on an emergency relief basis. This means in essence that the children are sponsored with enough food just to survive on a daily basis. If a sponsor decides to give more support, such as house building support then the child will receive a house.

Moreover, if a sponsor wants to buy presents or a Christmas dinner for the child then the child will receive those things and the sponsor will receive notification. The sponsor would also receive bi-yearly updates on the child’s progress and living conditions as well as a hand written letter from the child expressing some form of gratitude. Accommodating both child and sponsor is the focus of this portion of IGC. The whole of IGC is far too broad and vast for the context of this research. The four areas focused on by the research during the time at IGC are: managing technology at IGC, creating a new database from old records, creating a
'management system’ and training and development. The original project was management of technology. The project here involved examining the use of technology against the concept of viability. The database project (Case 2) is a compilation of sponsorship data (sponsors data, child data) that was causing bad customer relations and needed re-thinking. The ‘management system’ (Case 3) an ideal, was to be an international web based Information System for the distribution of this and other types of data. Training and developing (computer based training) staff was undertaken as case 4. This forms the four situations the researcher was involved in and this spanned the course of 18 months.

4.7 Situation Two: Aged Care

The work for this portion of the research was in observational mode. The company involved is not discussed as it is the individualistic interpretation of applying ideas to reality that is the focus. Indeed it is this interpretation that is drawn upon when presenting this case. Therefore, neither the company nor the facility is mentioned, but the main facilitator of the engagement concept in this situation is mentioned. This person is henceforth referred to as Mr X and he is an aged care worker.

The main body of this person’s work is concerned with the care of Alzheimer patients. For the last two years he has been learning how to care for Alzheimer patients after first completing the mandatory requirements at a TAFE level. He has also been part of a committee for discussing how to care for the Alzheimer patient and is currently employed in a Alzheimer care facility in Brisbane, Australia.

After many interviews and personal conversations with Mr X it quickly became apparent that he was engaging his ideas purposefully in reality (as a framework) then reflecting and learning from the outcome. For example, the approach he used to dress the Alzheimer suffer was very different even from his training.

Mr X himself has discussed with the researcher that his personal treatment of the patients was something that stemmed from learning in the field rather than academic research. However, as mentioned at the beginning of this thesis, the two, theory and practice continually create each other (Checkland and Holwell, 1998, p12).
4.8 Data Management Issues

Given the two situations above, the first yielding: Technology Management, IS Design and Development, Database Design and Development and Training and Development; and the second yielding a mode of work totally unrelated to any of these; it is important now to discuss the processes of managing data. As mentioned the FMA concept (Chapter 4), was used but how the various elements of this research were managed and incorporated into the whole thesis has not yet been presented.

Traditionally IS research separates into two fields, that of the quantitative data and that of qualitative data (Baskerville and Wood-Harper, 1998, p.90).

“Qualitative research methods were developed in the social sciences to enable researchers to study social and cultural phenomena. Examples of qualitative methods are action research, case study research and ethnography. Qualitative data sources include observation and participant observation (fieldwork), interviews and questionnaires, documents and texts, and the researcher’s impressions and reactions”.

(Myers 2000, p1).

This research is all about studying a social process without the quantitative methods of surveys “…laboratory experiments, formal methods (e.g. econometrics) and numerical methods such as mathematical modelling” (ibid).

Qualitative research requires management and supervision like any other piece of research. This is because qualitative data emerges and capturing that data, taking it from data to knowledge, (Checkland and Holwell, 1998, pp.90-1) is important to manage and supervise, Mainly because the process needs rigour and validity (Baskerville and Wood-Harper, 1998, p92). This research carried an established (F) which has already been mentioned. However, as time went on and the field
research continued the (F) grew. Until the research seem to have sufficient results to publish and the supervisory parties were satisfied, with the (F) the field research continued. When the (F) was sufficiently established enough for the preparation of a Masters by research, a contribution to knowledge could be visualised. This meant creating a communication that effectively presented the captured knowledge and presented it in a meaningful and relevant way.

4.8.1 Data Analysis Techniques

Data in this case was collected in two main ways. Firstly this research used the interview technique which is represented in appendix A. By using interviews the researcher via paper and pen and recorded what the researcher deemed relevant to the subject. This process happened through key meetings (lunches, formal meetings and informal meetings) upon which the researcher kept notes recording everything in a progressive journal. From these recollections the researcher made explicit notes detailing what was said and who said it, to the last letter. Not only this but the researcher then showed the material to the participant who then approved the comments for publication. Once the data was captured via the above mentioned means the researcher proceeded to analyse the data for interesting and relevant material and proceeded to burn the rest. The researcher found relevance from the material which can be found in the results and data analysis sections of each case.
4.9 Summary

This chapter introduced the research methodology and the associated processes that go along with this. Further, this chapter sought to expound in detail what research methodology was used in the field research and how data was collected from this research. The paradigm and use of paradigm interplay was briefly discussed and how the research was managed was also discussed. The following chapters will examine how the theoretical framework was put into practice. The examination of the cases in the chapters that follow include: an introduction to the research situation, how the ideas were engaged, what was gained in terms of evidence and learning from the engaging of the ideas (called results in the chapters), followed by an analysis of the results. Each section concludes with a summary.
5.0 Technology Management at IGC: Case One

5.1 Introduction

This, and the ensuing chapters will present the case studies that form the core of the research and show how the theoretical framework was engaged into real world situations. This chapter will demonstrate how the engagement theory was put into practice. For the sake of clarity each case will be presented separately and the application of the engagement concept will be discussed. However each case varies in application and for this purpose the various schools of thought will only be briefly introduced. The use of the Engagement concept in the field will be presented via the following case studies: Technology Management, Database Design and Development, Information Systems Design and Development, Training and Development and Social Work. The basic format for each case will be: Introduction to Perceived Problem Situation, Formulating the Framework of Ideas, Applying the Framework to the Perceived Problem Situation, Results, Analysis and Further Evidence and Summary. Each subsequent case will also present a section that examines, according to data collected from informal interviews, how each situation has been or has not been improved through the use of the engagement concept. The first case is technology management at the International Gospel Centre (henceforth IGC).

5.2 Case One: Technology Management

Views on how to manage technology range from the functionalist to the extremely radical. Ian Angell (2000) for example represents the ‘Information Age’ as the new barbarian manifesto. This radically humanist position (see Angell (1997)) relies solely on the assumption that information workers and knowledge workers represent an oppressive force in modern society. Moreover, that technology workers are the new ‘elite’ and the machine will eventually rule the man, not man ruling the machine. This position is the extreme radical position taken up by very few. The majority only see technology as adding value (texts in this paradigm are too numerous to mention but for example see Rochester (1996), Watson (1999) and
Corbett et al. (2000)). However, a growing body of literature like Angell (1997, 2000) are beginning to question exactly what technology can do to a business. Dellecave Jr (1996) suggests that technology can put business at risk in terms of its information, meaning that actual information that a company possesses can be put at risk by the insecure nature of technology. Some have argued that technology has actually driven social change (Angell 2000) and humans must adhere to this change if they are to survive the ‘information age’. This argument is based around the idea that technology is a social force that is driving us to some kind of change. This theory is known as technological determinism (McLuhan and Fiore, 1967, Kimble and Mcloughlin, 1995). According to the (http://pespmc1.vub.ac.be/ASC/Techno_deter.html) the web directory on Cybernetics and Systems, technological determinism is “The belief that technology develops …by its own laws, that it realizes its own potential, limited only by the material resources available, and must therefore be regarded as an autonomous system controlling and ultimately permeating all other subsystems of society”.

Those who become apart of the growing nature of the automaton called ‘Technology’, agree that technology is questionably beneficially. However, at the other end is Angell (2000) telling us that technology as a force enslaves humans. The most balanced view to approaching technological determinism is simply knowing that it is a force in society and when recognising it, IS practitioners should be able to remedy the situation.

The case here presents a mode of technological determinism and how the use of the engagement concept led to a less determinist framework. When the researcher first went to IGC they were in a terrible situation and unable to use or control their technology. The case will now present the use of the engagement concept in the processes of managing technology at IGC.
5.2.1 Perceived Problem Situation at IGC and Case Background

International Gospel Centre (IGC) is a multi-national aid organization that provides support to third world countries like Uganda, the Philippines and Zambia. IGC’s primary mission is supply aid on two levels firstly ‘spiritual’ aid in the sense of missions based activities; secondly support in terms of emergency sustenance. Managing director John Beard who oversees the running of operational systems for the entire organization runs the company and oversees all international aid distribution centres. John Beard also appoints key field directors that run the activities in the field. Further to this John is the face of the company and performs key marketing activities as well.

MD John Beard had a problem that had already cost the company in excess of $2500, which to a non-profit organization like IGC, is a small fortune. To put it in the MD’s words, it’s ‘taking money from the mouths of children’. The problem was that the computers had stopped working for whatever reason. After several informal interviews (see appendix A for a brief discussion on informal interviews), with the MD, the complex nature of the problem situation began to emerge. Three things stuck out as interesting and possibly relevant. First, every time there was a technology problem an expert was called. This may seem irrelevant but when the experts were called, they could be seen as a catalyst in the process of creating a technological determinist environment.

Second, the MD knew nothing about his technology or what it did. He did know what he wanted and his IT wasn’t doing it. Last, the technological framework at IGC was based around determinism. Meaning that technology was viewed as only good and not potentially harmful. This became evident after several initial interviews revealed to the researcher things like, “we called the guy in and he told us it was a broken CPU, he sprayed some stuff on something in the computer then left”. Further, “We have spent upwards of $2500 on computer problems over the course of the last several months.” As mentioned in the first point, the experts had stimulated this idea. The problem was that IGC had a lot of technology that
apparently wasn’t viable as the case will demonstrate. When discovering these issues it became important to establish a framework of ideas.

### 5.2.2 Creating the Framework of Ideas

Formulating a framework of ideas to tackle this problem meant declaring what it was that was aimed to be achieved. This meant a re-examination of literature, of management models and theories if this was going to handle this problem with any degree of success. The only model that was known by the researcher at this point in time was the viable systems model as expressed in Beer (1979), Beer (1994) and Espejo (1989). Moreover, the model’s key idea is one of maintaining viable ‘systems’ or systems that are self-sustaining. This idea is relevant for this case especially when considering the expensive nature of modern technology. However, there was one idea that seemed relevant in Beer’s model and that was the notion of viability. The notion being anything that desires to manage something must be able to control it or regulate it (Ashby 1956). Further-more if something as complex as IT cannot be managed it will not be able to be controlled.

For IGC to become technologically viable, according to the theory, technology had to be viable. Meaning that it had to be managed, controlled, regulated and somewhat successful in implementation and used. In basic terms then, the model for engagement would look like this:
In trying to understand the concept of viability it was decided that a standard of viability was set, if only in my mind at first. Determining if the technology fitted the viability mould meant evaluating existing technology through three main elements. Firstly, strategy – does the technology fit the business strategy for technology (Reardon et al., 1999, p.752)? Secondly, usefulness – does the technology do what it’s supposed to do? Thirdly, management – is the technology being managed effectively. This formed the viability mould and was an effective way of evaluating the use of technology at IGC. The engagement process in this case must be extended to allow for engaging IGC’s MD in the idea of technological viability at his organization. The MD was used because he is responsible for the technology diffusion within his organization. The inner engagement means getting people to understand the ideas you present and facilitating their engagement in those ideas in order to stimulate discourse about those ideas. It wasn’t enough for the researcher to show up and say to the MD that your technology isn’t viable. The researcher had to engage him in the idea of technological viability according to three above mentioned criteria. The inner engagement is below:
Figure 18 - The inner Engagement process for Technology Management

The engagement process above is one where ideas are engaged with wholesale intent of facilitating discourse (communication) about the problem situation. There is more discussion of this in the results section. Before discussing the results though it is important to consider the process as a whole. The whole idea was to investigate and understand IGC’s use of technology and to see if it was viable. The driving force became this notion of engaging ideas of viability against the MD’s perceptions of his current situation. The inner engagement was the process of discourse that made this possible. Without it, the research would have just been presenting the ideas. The ideas became engaged with John and something very interesting emerged from this engagement. However, before discussing this, a discussion of the model of the whole process is needed as a context.
This model is perhaps best understood from the lens of comparison. Not the comparison activity but the social nature of the comparison act itself. Firstly, the ideas (in exchange for a conceptual model) represents a theory some person has about the world. This theory can be engaged into a situation of concern and if the idea or model is engaged with, discourse will ensure and begin a process of negotiation and renegotiation of the social world. In other words, ideas and discourse about ideas that are about a problem situation can lead to a improvement
of the situation if discourse is the maintained and facilitated. This process is one whole engagement of ideas and the area. However, E2 helped to facilitate the process of E1 but without E1 there would be no E2. The overall process then was to engage the ideas of technological viability and IGC’s technological management. The process was kicked along by the engagement of the participant MD with those ideas. The learning from this will now be critiqued and examined in the following results section.

5.3 Analysis and Further Evidence

In order to understand the magnitude of the change at IGC it is important to analyse, according to some of the data; exactly what the original situation was like in comparison with the new situation. This will help to understand the effect of the engagement concept and allow it to be better assessed. After the initial meeting with MD John Beard it became quite obvious what kind of situation they were in. John had admitted to spending, “$2500 plus dollars” on outside consultants who had tried to fix problems at IGC. The problems themselves had stalled operations at IGC’s corporate office, so much so, that IGC’s downtime had become so frequent, it was almost a daily ritual.

“I had got to the stage where I could see no way out but prayer! I can remember saying to myself that I had done all the right things, got experts in, to see the situation and I had trusted them”. The research site then definitely contained some kind of ill-defined problem situation. IGC had attempted to solve this ill-defined problem situation by allowing IT experts/consultants to come in and analyse the situation. As mentioned in the cases, the technology wasn’t really the problem, it was how it was technology was being managed. “At the time I really could see no problem, I really just thought that for some reason we needed computers.” Further, “I didn’t realise that we could understand the technology and manage it.” At the beginning of the case, the MD had stated how much he knew about his technology. “I had no idea what was wrong or how it could be fixed.”

After the initial facilitated engagement the MD had begun to reflect a little on the use of technology in the business. Comments in interviews began to reveal a certain
level of disdain for local IT practitioners. “They are worse than lawyers – they are sharks”. This comment from the MD was not made with apology or regard for the interviewer and hence seemed to be a comment based from a long list of bad experiences. Discourse about viable self sustaining systems in IGC eventually led to a shift in perception. Firstly, latter comments were of a different nature, “IGC have now began to shift tact – we are now not only building systems that will sustain and grow themselves...IGC are now aiming to use technology for strategy and hopefully to gain an advantage through online sponsorship program.” Also, “We want to build a complete management system that helps us to manage our operations from here in Australia. The reason for this is quite simple, we want to use our technology and not have our technology use us.” Whilst these comments are interesting, a comparison of two earlier comments here should suffice to show the improvement made through the use of Engagement and discourse.

Firstly, “We prayed for God to help us with our technology. I [MD] had become so frustrated that I had said to God, ‘What have I done wrong, I have rang the experts I have done the right thing but nothing works – what can I do?’” Clearly the above is frustration – putting aside the ‘expert’ connotations of the researcher/analyst what this initial quote is saying is that the situation was hopeless. The earlier quote backs this up, “I had got to the stage where I could see no way out but prayer! I can remember saying to myself that I had done all the right things, got experts in, to see the situation and I had trusted them”. The new situation was not the result of the expert/analyst but a simple process of social negotiation and renegotiation took place through the medium of purposeful discourse. The MD again verifies this, “[The researcher] decided to talk with us about our technology and how we are using it – technical issues can be resolved with a bit of thinking and communication. Communication is the centre of business and it should not be any different for IT.” Further another director was quoted as saying, “IT is just a tool to think and use. IT can be useful but if it is not placed in the business properly – then IT is not that good.” The notions of viability became evident after a few engagement cycles and the progress forward was a direct result of the engagement of ideas and situation.
5.4 Results from Case one

In IGC’s terms the results are fairly obvious and actually quite astounding. When the research first started the technological management element, John had prayed because he was so desperate for his technology to work! Having said this, it became important to him to be involved in the process, even if he didn’t understand what was going on. He just wanted an improvement to what was a very frustrating situation. The first use of the engagement model yielded fairly interesting results as change in the real world followed the investigation process. Vickers (1965) argued that people would change the real world, if their appreciation of it changed, as mentioned in chapter 3. In SSM terms the worldview John used to evaluate his technology management strategy, was poverty stricken. Mainly because it came from a poor appreciation of his technology, that appreciation being derived from ‘experts’. This became evident when the inner engagement process began.

When using the tri-level viability mould it became obvious that the MD/Participant had left the majority of his technology management to outsourced experts who had subsequently not been familiar with IGC. In the researcher and the participant’s discussions during the inner engagement process, it was found that John knew nothing about his technology and had simply trusted the experts for advice. The experts had told John to upgrade almost every time and in one particular case charged an $80 call out fee and left without giving John any advice as to what the technological problems were. Every time that a PC broke down or wouldn’t work, the answer had become it’s time to upgrade. IGC had become a victim of Technological Determinism.

Another example of this is when a particular PC died. It was obviously the time to replace it. Instead of evaluating the new purchase according to viability, IGC had acted out of determinism and spent $2500 on a new PC when there were two perfectly good unused PC’s upstairs. This was a constant occurrence at IGC and was ‘taking money out of the mouths of children’ as the MD had stated.

The engagement process at IGC yielded two major changes. Firstly, they changed how they perceived technology use at their organization. For example, The
MD/Participant does not run out and buy a new PC whenever another one breaks. He evaluates it according to viability, the ideas we engaged with in our discourse together. The last PC to die was the PC used for accounting and other important functions at IGC. Instead of buying a new one, an old PC was reassembled from a plethora of parts IGC had in their possession! This worked quite well and this PC is still in use today. It has now been shipped out to Sweden and is now a part of IGC in Sweden. This saved $2500 for IGC. Another example of this is that recently an old Macintosh computer housed a database that was out of date and needed reconstruction due to various organisational changes at IGC. The first suggestion was to house the database in a new PC. Upon examining this idea against the viability mould the researcher and the participant found that an existing PC could safely house the database. This saved $2500. The real world changes here though came from changes in perceptions. It shows that IGC’s technology manager, the MD, was understanding how to deal with managing technology according to various principles that he had learnt from outside consultants. These consultants carried with them an internalised determinist framework that John and others had learnt from, so in a negative way determinism had been transferred from one person to the next. Through the inner engagement process of taking ideas into reality and talking about those ideas, change followed. However, it didn’t just follow, it eventuated. It eventuated from a persistent engagement of ideas and situation on both levels. Each engagement was planned and enacted with the MD and in each case a different outcome led to a change in perception. This change in perception in turn led to a change that is both tangible and measurable in the real world.

It was effectively realised at this point that this was a type of conceptual modelling. The reason for this is that Checkland and Scholes (1990) argue that conceptual modelling is just a means to an end, which they argue (p.23) is to have a debate about change. The model forms a framework of ideas that can be used to help stimulate debate that could lead to change. The conceptual models are just a creation of a particular framework of ideas and are somehow relevant that the analyst deems relevant to stimulating a debate about possible change. The conceptual model in this case was a theory that all technology should be viable. An idea derived from Beer’s (1979) notion of viability. Further, by engaging these ideas with people in the situation perceptions about the situations were questioned.
and talked about. This process of continually engaging ideas into reality, with people in reality, proved effective in understanding how technology was both perceived and managed at IGC.

That is after the ideas were put into practice, the ideas and the situation (technology management) became what was discussed. In traditional SSM, the conceptual models are presented and ideally facilitate the process of negotiation and renegotiation with the social world (Checkland, 1981, p284). However, it was found that this process can be replicated without the models. Putting the ideas about technological viability up against the situation (outer engagement), whilst maintaining discourse with the MD about the situation (inner engagement); led to him apparently questioning his own perceptions about the situation. Evidence seems to suggest that this approach has not only changed IGC’s technology management policy but has also saved money. The Analysis and Further Evidence section will examine these issues in greater depth.

What was extracted from this experience was that the models are only a means to an end; which is: “…to have a well structured debate about a problematical situation in order to decide how to improve it” (Checkland and Scholes, 1990, pp.42-3). The ideas of viability were engaged with the technological management policy at IGC, through a process of human discourse about the situation. This discourse seemed to cause John to rethink his strategy and in turn seemed to change his perception of the situation. This perceived change led to a change that can be measured in the real world. One way to assess this is through the ideas present in the form of the Appreciative Systems ideas.

It is now important to focus on Vickers’ idea of appreciation. Humans appreciate the world through their standards of value and fact, (Vickers, 1965, p31) but what happens when someone or some event causes one to appreciate their world differently. Vickers argued that our standards change and we judge something differently than we did before. Furthermore, our new judgments will lead to actions in the real world (Checkland and Casar, 1986, p5). At IGC they judged their technology according to determinism. Through the engaging of ideas into the situation and by engaging people in the situation with those ideas through human
discourse, IGC now judge their technology differently. In turn this has led to actions based on this appreciation of their reality, which so far appears to be positive (in as much as it is saving money).

5.4.2 New Situation

“We are very happy”. After the initial analysis it was found that the technology at IGC was managing the business and not vice versa. The technology component was out of control, so much so, that IGC had become locked in a state Technological Determinism (as mentioned in the case). “We really had no idea what the experts were doing or even what they had done, the problem didn’t get any better”. After starting the engagement approach, IGC was genuinely shocked with the researcher “The way in which Luke [the researcher] asked questions and took our ideas seriously was something we had not expected. It was a shock. He sat down with us and talked with us and we exchanged ideas in an honest and clear way.” The core idea in this situation was to improve how the technology was managed. “We haven’t touched our computers at all since Luke [the researcher] made a few changes a little over 18 months ago. The only reason we would want to upgrade…would be to allow for IGC to make forward steps with their technology.” About management of technology: “…the technology now fits into what we do, rather than us adapting to what the technology wants and we now are in control and it’s obvious.” Also: “I understand know that we must manage this [technology] as much as we would manage the Philippines operations”.

In the first situation IGC had admitted to not knowing what was going on. So much so that they “had no idea what was wrong”. After a long period of the researcher being immersed into the situation the situation began to improve. However, it was the deliberate engagement of ideas with the MD and the situation that led to this change. An interesting side note is the people at IGC still have no idea what SSM is. The ideas contained in the process of comparison, the ideas of engagement, stand on their own as relevant and purposeful. Not only this, but this case shows that knowledge can be transferred and applied through the engagement approach. A
greater discussion on this matter will be in the Suggestions for Future Research section at the end of the thesis.

5.4 Summary

In summary then they are four major learning points. Firstly, the main lesson learnt was that the engagement model indeed has two levels. The first level in this case was the idea of viability engaged with the area of concern, namely IGC’s technology management. The second level was engaging the ideas of viability with the technology manager, the MD. In this case it became important to understand that ideas and situations will undoubtedly contain people who will perceive the situation a certain way. In this case the inner engagement was continually showing the MD the ideas of viability in each situation. This became a way of structuring purposeful and meaningful debate about the situation continually. In other words, the inner engagement became a way to facilitate discussion about the perceived problem situation. A discussion that eventually led to action and action that led to change. However, in this case change also happened on two levels. Firstly, on an appreciative level. That is, the MD would take the ideas on board and his perception of the situation would change. Secondly, on a real world level. At some point, the changed perception of a situation would enact change in the real world. For example, in this case the MD began to see all his technology in terms of viability whereas before he possessed a determinist framework for perceiving his technology. In the real world then technological purchases and innovations were measured against viability which created a less determinist environment. Further, existing computers were done away with and less ineffective technology was left lying around.

In the next case the learning gained here was applied to a database development and design case. However, due to the size of the project the approach would have to be slightly magnified. This meant that the case itself would be a series of engagements of differing ideas and situations, where as in this case is was one main framework of ideas and one main situation.
6.0 Case Two: Using the Engagement Concept to Create a Database

6.1 Introduction

In the previous case it had been realised that a database was needed to replace the existing one. In terms of viability, it was not really feasible to replace the existing PC, it was more viable to have a database created. The researcher was hired to create the database over a period of six months and at the time of writing its evolution is still ongoing.

6.2 Perceived Problem Situation

IGC has an interesting policy on how to take care of their sponsors. They follow up the child’s progress and provide reports back to the sponsors about their health, living conditions, schooling, family, and also send letters from the children to the sponsors. The MD calls this taking care of sponsors. Each sponsor receives a welcome pack, which would contain a photograph, and some information about the child. To support this process there is the child database. The database is a collection of records that contain data about all the children, sponsored or otherwise in IGC’s program of child support. This database is the heart of the program and without it no sponsor would be able to receive feedback, mainly because the feedback comes from the field and into the database.

As well as this, the database can be used for legal issues (GST related tax issues), is portable (it is sent to the communities IGC is involved in on a regular basis) and is also helpful in evaluating their effectiveness. Probably the most burning issue, for the new database, was a problem associated with the technology that the database was hosted on. For example, frequently sponsors ring up to see how their child is doing only to wait for ten minutes while the machine retrieves the records. This wait was causing dissatisfaction and generally was quite annoying to staff.
The MD saw this as an opportunity to create a new database that was more functional and portable. One of the biggest problems with the last database was that is wasn’t portable. It was stuck in the office and if records were required in an overseas branch printouts had to be sent or faxed. In turn this is an expensive exercise when considering the costs associated with postal and communication charges on an international level. Having said this, IGC is currently expanding into new territory and the MD decided it was time to make a newer more efficient database that served the needs of IGC better.

The perceived problem situation contained, thus far, the simple need for a newer more adaptive database that: could be emailed to international offices and used overseas, was updateable, transferred the old records to the new records, met sponsor needs (discussed above), could become part of a management system (described in the next case study), could also at some point be evaluated and naturally evolve. When considering all these needs it became apparent that a simple engagement approach would not suffice. To properly monitor the progress of the database some kind of navigation device would be needed.

6.2.2 Creating the Framework of Ideas

The model used here is a combination of two approaches. Before describing this more accurately, is it important to explain the ideal of using these two approaches. It has to be said from the outset though that the model is is simply a guide and a way of evaluating progress through something called database creation. It is not relevant to elaborate here the theories of creating databases or creating information systems, but simply to show the combination of the engagement approach to database design and development. This may seem like mindless repetition but it is very important that it be understood that this process is not necessarily a linear one or even one that can be easily made explicit. It is a mode of thinking that exists as an implicit guide to creating and maintaining a database. It is also a combination of various methods and methodologies as becomes evident when reading the case. These will all be expounded on as the model is presented. The following section will explain the theoretical approach that was used for creating a systems framework in this case.
Liu (2000) and Stamper (1973) have argued the case for semiotic analysis in database development and design. Without going into the theory of that particular doctrine it is important to note that these two form one of the very few approaches to using social constructivist ideologies in database development and design (DDD). Multiview (Avison and Fitzgerald, 1995) is another. What lies at the heart of these approaches is the interpretive and critical framework for understanding social reality. One particular doctrine of this social reality is the idea that humans attribute meaning to the world through symbolic interaction (Stamper, 1973). That is, we interact with the world through the abstract concepts we have derived from the world.

Examples of this can be seen when considering how we abstractly name the symbols that surround us: a tree, grass, leaves, light switch, computers, databases, organizations. The world is apparently ‘real’ but we adapt our understanding of the world through our conceptual understanding (Burrell and Morgan, 1979, p.31-33 call this intersubjectively shared meanings) of it and how we interact with these concepts. Checkland argued that we derive our understanding from the concepts learnt through experience (Checkland and Scholes, 1990, p23). Taking this a step further, a database can be interpreted as nothing but a collection of symbols that represent something abstract.

This theory rejects structural absolutism because it argues that each person will interpret a particular sign in a particular way. This is suggested by the Interpretive Paradigm in the matrix presented in chapter two. However, the database will mean many things to many people and creating a database according to various interpretations of it is probably the most interpretive way to create a database.

This process for database creation is nothing new (Stamper, 1973; Liu 2000; for two examples; also see Hirschheim et al (1995) for examples). It is however, underdeveloped. Very few examples, with the exception of the above mentioned, actually try to create a database based on interpretive principles and radical humanist principles (Liu (2000)). Creating a database according to perceptions is even harder to find.
These principles seem weighty, almost too weighty. However, when putting the idea of the subjectively interpreted sign or sign token (Liu, 2000)) against the fact that we all have varying perceptions and worldviews in the place where we work, then it doesn’t seem so irrelevant. When building this database it was discovered that each party that will use the database has a varying worldview of what it is that IGC does. So how do they interpret the purposefulness of the database then, determined, by this worldview?

The engagement concept relies on the doctrine of social constructivism; therefore this seemed like an excellent way to facilitate the creation of this database. As the case will make apparent, the nature of socially creating a database through debate and discourse means continually engaging ideas and situation. Therefore a simple creation of one framework of ideas is not sufficient, the (F) has to be changed as the progress changes. The following section also draws heavily on interpretive thinking, and very much on established methodologies inherent in soft systems thinking. Namely those of the social reality implied by SSM, the nature of which is to provide a learning system to provide change, as mentioned in chapters 2 and 3. The interpretive approach was chosen because it takes as given that social reality is socially constructed by humans continually (Checkland, 1999, A34), meaning humans through their symbolic interaction with the world (Boland, 1979, p.262) create meaning and communication. The next section will present the framework for database creation.
5.2.2.1 A Framework for Database Creation

The model below is a guide for database creation. At each stage a new form of engagement would occur. This will become clearer further on in this section.

![Diagram of the process of database creation](image)

**Figure 20 - The process of database creation for this case**

This is the basic processes of the five stage process (how they link together – the arrows and what they mean - together will be explain further on in this section), based on the Database Development Life Cycle (henceforth DDLC) below (which is simply an adaptation of the traditional Systems Development Life Cycle (SDLC) mentioned in the next section), that was used in this case. Below is the seven stage model of the DDLC:
1) Project Planning
2) Requirements Gathering
3) Database Design
4) Database Construction
5) Database implementation
6) Database usage
7) Database evolution

(Adapted from Watson, 1999)

Figure 23 represents the model used and is based on the DDLC methodology above. Each phase of the DDLC was used as a milestone but was carefully reviewed as the project progressed. For the sake of this case milestones were reached through the use of perpetual engagements at each phase (please refer to figure 23) of the projects development. The following is a brief account of that process.

Stage 1

This phase is really about two key things. Firstly, an analysis is performed to see if a database is really required. If it is really required (not just something that’s a poorly conceived idea or worse) then the phase above can begin in earnest. Secondly, the purpose of this second stage is to lay a foundation for the social construction of technology. That is, this second important point is to analyse and understand the social environment that the database is going into. If it is going into a social systems then it needs to suited to that environment. Especially if the social system that the system is going into is already working in a good decentralised way.

Once it is deemed that parties are relevant to the situation the engagement process begins. The analyst/facilitator will approach relevant parties and discuss potential requirements with them in a process of engagement. This means interviews, discussions or possibly a trip to the local bar, essentially whatever it takes to understand the social system that is going to host the database. During these
sessions of requirements gathering an analyst has to extract the requirements from the requiree. This is because they hold them in their brain and will use the database. The success of the database depends on those who require something from it. If it can’t deliver their requirements then it fails.

These two (or more) people then interact with each other through discussions and conversations talking about the what’s and how’s of the database. The analyst records these as potential ‘requirements’. The analyst then has to extract the requirements through human discourse. This process, is a different type of engagement, below:
The engagement above seeks to gather requirements from individual users by involving them in the process of requirements gathering. Instead of the expert intervention of traditional models, the once above seeks to take (F) put into (A) and extract requirements from (A) through an individualised process at (E2). E2 in the above model is really about engaging the users in the process of database creation and helping them to create an image of what they want, and help them again to
express that image. The engagement process above seeks to analyse requirements and the social system from a relevant user perspective.

This process leads to requirements being gathered. Simply because interviews with requirees will lead to requirements being extracted or won’t lead to requirements being extracted. This is where the analyst’s skill to extract requirements begins. By whatever means necessary, weather it is discourse, interviews, the aforementioned trip to the pub or even lunch; gathering requirements becomes the main focus of this early phase. After talking with relevant parties, the potential requirements list will be complete and stage 2 can begin.

Stage 2

The initial requirements hopefully derived from stage 1 will now be collated. These requirements though may not all be feasible or culturally desirable. This model below presents a mode for determining requirements according to the engagement principle:
This phase is exactly the same as the first but in this instance the analyst revisits each user and shows them the requirements again to see if it matches their perception of the database. Hopefully what will emerge from this discussion is a refinement of the requirements. This is most likely the hottest (meaning socially volatile) section of the process. One group will have one set of needs and the other will have one set of needs both of which are relevant but might conflict. The debate might become heated or even worse violent! On the flipside the people in the situation could work perfectly together or the process could fail miserably. How the
potential requirements are extracted for users is up to the analyst. Personally it was found relevant to discuss requirements individually. This led to a more coherent way of refining requirements and talking about requirements with people, engaging the potential requirements with them in rational conversation. When the requirements reach a stage that is feasible and accommodation on what is required has been attained between all concerned parties, a design process can begin.

Stage 3

Stage 3 begins the design process. It is best at this stage to get key actors to come up with a design, perhaps even a prototype because they hold the requirements. This goes beyond client-led design as it is almost entirely client design (except for the theoretical ideas of relational design etc.) At this stage the analyst might like to interject with more rigorous modelling process, such as Object Oriented Modelling (Avison and Fitzgerald, 1995, p.195), Data flow diagrams, using a systems development template (Tudor and Tudor, 1995, p.138 and Weaver et al (1998)) or use some other method of modelling if so desired. The point of using the DDLC in this case was to give structure and navigation to a process from the foundational values of engagement. It doesn’t matter what is built on this foundation, as long as it is done through the values and philosophy of engagement. However, a strict design process such as the ones mentioned, aren’t necessarily required as this case will show. The case will show how in this case the client(s) came up with the design and the analyst facilitated the process.
Stage 4

After the parties involved are satisfied with design, testing, implementation and then eventually usage can begin. This stage takes as given that a physical database will be programmed and created, hopefully by skilled personnel. This process may mean new requirements, further design elements, even a trip back to stage 1. It could also mean that the project needs to measured in terms of its possible future and re-evaluated if the design isn’t adequate enough. Iteration is essential here because testing and implementation are bound to show up design faults, which could be fixed at any point but are more costly fix after implementation. However, testing and implementation can be seen as the same thing, considering that something will be judged by how it performs in the usage phase. Moreover, testing could be seen as an early phase of implementation but maybe only partial implementation. Possibly testing the core functions of the database and in post-implementation (usage) picking up errors, then correcting them. This coupled with an extensive prototyping phase might improve current models. As an industry programmer told the researcher, all software is one test away from a crash.

Stage 5

Evaluation and evolution are simple processes of reflection and action. Firstly, reflection between what the database design was and what the finished product turns out to be is the evaluation process. Examining the database in terms of success depends on the perceptions of the users as they will ultimately judge the system that they have to use in everyday life. Secondly, evolution means addressing any possible changes to the database for future rebuilds or any possible improvements that were missed in previous stages. When a database reaches this stage it is beyond simple improvements and is looking for bigger improvements that might require more programming. This framework below, displayed earlier, now needs refinement in light of the previous discussions.
At each stage an independent process is going on. At stage one a social analysis of the key actors, the situation and context, the processes that the ‘system’ will support and other related social issues are extracted for discussion. Stage one, will naturally lead to a formulation of questions as to what a ‘system’ will be required to perform in order to support the human activity in context. This assumption is based on the premise that analysis will lead to data being collected, about the situation, that can be considered to be relevant. It is incredibility important at this stage that the actors who are going to use the database be interviewed. Once again, this is to ensure, that they are made a part of the process in accordance with the basic principles of the engagement principle as discussed in Chapter three. Social analysis can be carried out via any means but it is essential that key actors are involved so that the action or human activity that is being supported by a ‘system’, in it’s relevant social context, makes sense to those who are in the situation. SSADM 4+ (Weaver et al. (1995)) still fails to properly address issues like this as do the vast majority of systems development methodologies. For a greater discussion on the failure of systems...
methodologies to accommodate people in industry please refer to Avison and Fitzgerald (1995), Work (1997), Angell (1997) to name just a few.

This forms the approach used by this research. The cases will now present how the framework was applied to perceived ‘reality’.

6.2.3 Applying the Framework

Stage one began with an analysis of the existing human activity systems at IGC, which might be relevant to the database usage. For this case, stages 1-4 of SSM was applied to begin with. Amongst the groups analysed four major worldviews, relevant to the need for a database, began to emerge.

These worldviews (or expressions) are: (1) IGC breaks poverty, (2) IGC is a missions organisation, (3) IGC is an emergency relief organization, (4) IGC is missions based aid organisation. These worldviews were common amongst all the social systems analysed but differed in importance in each environment. The analysis was undertaken with four groups in mind: IGC head office, sponsors, missionaries and volunteers in the field. (1) belonged to volunteers in the field, (2) belonged to missionaries, (3) belonged to head office and (4) belonged to sponsors. Each view was relevant and the engagement process had to be enacted to find out why.
Each relevant party was contacted at some point. This proved difficult in the social analysis (some of the users were in the Philippines for example) but after some time became possible. Nevertheless, all were contacted at some point. What was surprising out of this was the extreme difference in the worldviews held by the four main groups. The worldviews held by IGC’s four main groups were all about what IGC did as a company. They all were related to the database because people in the situation seemed to evaluate their own jobs according to these perceptions. If

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2 Please refer to the earlier figure and explanation for a detailed exegesis on what this means
they required something of the database then, it would come through these perceptions and as Vickers (1965) argued how they interpreted the database would lead to action.

These perceptions were indeed about what IGC did as a whole, but they effected how the present database was used. Each group needed some ‘data’ from this database so using it to provide ‘information’ to these various groups meant doing so in accordance with what they needed from it. The database then became the platform for an Information System, delivering relevant information to interested parties. It was not a simple collection of facts that made the database relevant. What made it relevant was how it was perceived to be important in direct correlation to IGC’s activities. For example a sponsor needs constant feedback about their child, otherwise they perceive IGC as inefficient as a whole, when IGC has many activities other than child sponsorship. Another example is that of the management team at IGC. They perceive a database to be relevant because it stores crucial data about the organisation. However, it also acts as a platform to deliver ‘information’ to field workers and completely different ‘information’ to the sponsors.

Stamper (1997) argues that a ‘system’ is not relevant except to the people who are using it because they perceive it be to relevant. Therefore, this approach attempts to use the perceptions of the parties that see the database as relevant to build it. The assumption is: that if it is relevant from the start of development process then surely it will still be relevant in implementation. This is important because the ‘system’ is supposed to support the activities of humans in a real world context. If humans don’t see the point or haven’t seen the point from the start, neither will they see the point in the end. Surely, the point of the ‘system’ is to support human activity. Humans are not robots nor are they dogs. A human will not find something relevant unless they are engaged in something and show it their interest as argued in previous chapters. It is for this reason that it is important to not just deliver a technically sound ‘system’ but a system that actors see as relevant and purposeful.

The following list are four perceptions, that were deemed relevant earlier in this section. Here though why they are relevant will be discussed. As mentioned these
were acquired through interviews and investigation during Stage 1 in IGC. For the sake of clarity these perceptions are labelled according to the four different expressions mentioned earlier on page 115.

Perception (1): is relevant because trouble had emerged with so-called ‘visionaries’ who saw no purpose in lengthy data collection (as IGC had experienced over years of frustration) although they would participate in partial data collection when it suited them. Discussions with this group had called for a sheet that took less than two minutes to fill out. The sheet would need to contain spaces where volunteers could fill out data about the children they see on a regular basis.

Perception (2): is relevant for the same reason but for the missionaries. Certain types of data had to be collected to be given to the sponsors for them to keep sponsoring. It was IGC’s experience that inadequate feedback led to problems with sponsors which led to less money. For example, some sponsors need to see certain ‘religious’ data about their child at least periodically. Sponsors need to feel as if the money they spend is being put to good use. They need regular feedback as to the health and welfare of their sponsor child. If they don’t get it they can become discouraged with the program and somewhat disillusioned. This is harmful to both sponsors and IGC. The database would have to be able to provide regular updates on child welfare which is needed to come from missionaries. Missionaries provide a service of feeding children as well as ministering to them spiritually. They required that this data be in the database to raise ‘awareness’ and to record the relevant information as it was required.

Perception (3): A perception of IGC exists that creates a form of data collection related to personal data, to show how children are surviving but only just. This appeals to the more humanitarian side of the work. For example, people like to know whether their child is dead or near death or extremely well. People in head office needed a facility for measuring a child’s status due to sponsors needs. Sponsors need to know if their child is healthy for example. If a child dies, the database needs to be able to record that death. This would help IGC to estimate the rate of death and to keep sponsors informed if their child dies.
Perception (4) This one is relevant because it is a culmination of all three plus it adds the concept of aid. This concept of aid extends to IGC’s activities with medical supplies, food, clothing etc. Sponsors’ requirements spread over all three of these worldviews plus sponsors, as mentioned, desired adequate feedback on a regular basis. Other requirements, not mentioned here, had been collected at this stage, they were subsequently found to be not relevant and won’t be discussed. Hence the next engagement, Stage 2 - refining the requirements, could begin.
This process of refinement is rigorous because it takes the potential requirements and engages them into the relevant social system. This means long interviews, accommodation on conflicting issues etc. At IGC none of this appeared to be a problem. Everyone was prepared to accommodate within acceptable areas of agreement. This led to a succinct list of requirements. The design process that subsequently followed only contained three people: the researcher, the MD John Beard and the person who would manage the information flows going to and from the database to the various interested parties.

3 Please refer to the earlier discussion on the phase for a greater exegesis on this model.
, but it was according the following list of summary of refined requirements which could really be seen to be a list of high level objectives (the requirements were much more expansive than this and would have taken up a lot more space).

Here is final list of requirements:

- It has to be simple enough for perception group one to use,
- It has to contain data about living conditions,
- It has to contain sponsor data,
- It has to have a follow up feature for sponsor requirements,
- It has to contain religious data,
- It must contain a list of sponsored and unsponsored children, it must be easy to use and understand and come with documentation.

After this long requirements refining process the design process could begin.

The next stage that logically follows is design (stage 3). It should be noted that the design process was conducted over a long period and required several iterations between the previous stages and the design stages. This was because at the design stage, the researcher and the participant would initiate human discourse to drive design. Meaning that the design of the database, was driven by a process of discussion. These discussions yielded ideas and these ideas began the design process. For example, Hirschheim et al argue that the design process, in interpretive design, is based on the meanings of evolutionary change (Hirschheim et al, 1995). It can be argued that creating the database should be a social process of creation and recreation whereby the database evolves and is useful. This process means iteration from design to requirements on a regular basis, which finally presented a list of seven defensible requirements. The design phase was the engaging of requirements with the people in the situation for purposes of design. This meant that the E1 was taking the requirements that are defined, into the situation, and using the requirements to structure a debate about ideas for design. The requirements then would be discussed in terms of design and an effective template for design would ideally emerge.
Figure 26 - Engaging ideas extracted from requirements to stimulate discourse about design

This engagement process was one of taking the established requirements and engaging them with users to see if a design (not the physical design the logical design) would emerged. Moreover, this diagram suggests that each engagement was again individualised and aimed at matching requirements with the logical design. Unfortunately, as mentioned only two parties (the researcher and the MD) were interested in the design process. The researcher and the participant sat down and began to discuss the issues relating to the requirements and began the process of
design. The rest of the stages are relatively technical and although iterative do not draw on any new engagement models.

Design began, was driven by and ended with human communication. Based on the principles of rational and purposeful debate a design process emerged. This will be analysed further in the results section. The process though was one of negotiation and renegotiation, where the researcher and the MD (no other parties expressed interest in the design process) engaged ideas for design together and came up with a prototype to be programmed. Eventually the researcher and the participant had a complete prototype that emerged from these sessions of discourse. The next stage was testing, implementation and usage.

Once there was a socially acceptable design (according to the requirements), implementation began. This phase includes: writing, testing the core functional components, reflection (and iterations if required) and then physical implementation, perhaps even a return to the above engagement model for the design of the database. This process involved taking the ‘satisfactory’ design and putting a technical physical touch to the design. At this stage the engagement involves no human interaction until it is implemented. When it is implemented people begin to interact with the database and issues relating to evolution and evaluation begin to arise.

The final stage allows users to discuss any problems they have in usage and to freely talk about the success or failure of the database. It allows users to evaluate the project by reflecting on the process and discussing with the facilitator any problems that arise. When evaluating the project users can comment on any problems with design and any errors in the program. It also is a stage that can lay the foundation for any sweeping changes to be implemented at some future point in time. This is called the evolution phase. When the database reaches this stage it has undergone a complete construction inside a human network, with human discourse as the medium of design. The results of this at IGC will now be discussed.
6.3 Analysis and Further Evidence

As with the previous case, further analysis and evidence will be drawn from the data, to assess this approach.

6.3.1 The Original Situation

As mentioned earlier the case for MD John Beard needing a database was apparent due to delays with the present mode of operation. One of the other directors had said that “the delays were causing sponsors to get upset. It’s embarrassing, they want to know about their sponsor child and you have to wait ten minutes before you get an answer. The questions that these people have need to be answered, it’s part of what we do here at IGC.” Further, “Our current system is not working properly, it’s too slow and our operations need something that will help us when we begin to expand…” The MD had noticed this situation and subsequently the long design process began. In order to improve customer relations and to support their own goals and processes better, the database had to be improved.

6.3.2 The Improved Situation

IGC have sped up customer response time from ten minutes to 30 seconds! “It was impossible to know when a sponsor was going to ring and what type of information they wanted. The problem became waiting for ten minutes for the old system to boot up and be ready. It was unusable. The new way is on one machine that is also used for MYOB [accounting software]. The database sits there all day ready for action because it exists in the same area as a function that is used all the time. When sponsors ring for information I no longer have to try and draw out the call. I can answer the call immediately”. Also: “We are extremely happy with the database…it does exactly what we hoped it would”. On the process of design (both iterative and non-linear as mentioned in the case) MD John Beard said “it was unusual but I could communicate what I wanted…” and “the database is the end result of our vision.” The length of the process didn’t seem to bother IGC as much. “The project took time but it has been effective thus far…”. The situation now, “The database has gone overseas and is being used in the Philippines, “one director
has said, “there have been technical faults with incorrect settings etc but these are the only complaints. There hasn’t been any complaints about the database design or function.” In closing it is important to note the process of discourse and communication and what the MD thought about the process in comparison to previous experiences. “I have never experienced a situation where we sat down and exchanged ideas. In my experience it’s a situation where the database maker would come in and make something and we would have to adapt. This situation meant the database was adapted to us, unusual but more effective I think. I have never looked at the systems of IGC in pictures! [referring to the worldviews that make the database relevant as mentioned in the above case] This was helpful though. I ended up giving a design [as a physical drawing or rich picture] to Luke [the researcher] in the end, this came from our ideas and became a platform for what the database is today.”

6.3.4 Results

This case had many very interesting results. Firstly it created an atmosphere where the design emerged rather than the design being created. The analyst became something of a catalyst that sparks off certain processes rather than the situation with the traditional model which seeks experts to come in and engineer a system. In this case the process seemed to create an interpretive way of creating a database. Simply because the database becomes a social construct in a social environment. Moreover, the database is created through human discourse. The DDLC cycle, though iterative and non-linear served as a navigation map to a foreseeable end process. People could see the end and the analyst/modeller could see the end and even how the group would get there was all foreseeable. This helped through the gruelling and rigorous hours of design creation and even helped with those who questioned the process. Most people if they asked understood the process. Being able to show a justifiable end to those in the situation creates a mode whereby a type of result can be envisioned, adapted to and understood.

The main drawbacks of this approach are clearly evident in practice but not so evident in theory. For example, it is a long process. On paper it looks short and
easy, as do the simplified engagement models. This means that it can be easily misunderstood, so much so that people begin to question the process one-quarter of the way in. The approach is fairly light on resources but is heavy on time. This means that people have to spend time in informal interviews and time in reflection as well as the other mentioned testing issues in practice. Some bosses may not like this ‘time burglary’ but it is a necessary part of the process.

Despite the long process some interesting things have emerged. The database now performs the functions and supports the processes it was originally meant to. Further, “…because of the database we now can give information to sponsors quickly where as before it could take up to ten minutes”. More importantly though, that database seems to be exactly what the people at IGC wanted. The third member of the database uses it frequently, “It’s very good and is what I wanted. It does what we want.” Whilst there are things that emerge that need improvement from time to time, the people at IGC have said in one of the informal interviews that they are very happy with database. “…[the researcher] used to question me about what I wanted and in the end I got what I need from it, there really aren’t any problems except the usual ‘technical’ problems associated with this kind of project.”

The reason for this lies in the approach’s ability to ferret out what people need and use them to help create it. The approach does this by facilitating debate and discourse about the database along the way. People then can talk about what they need and debate and negotiate requirements along the way. Therefore, the process of creating the database is not done by experts but done by the people in the situation. At IGC every step of the process was socially created. This surprised people as they were used to IS projects being run by ‘experts’ who tend to deliver something that is somewhat unusable. In IGC’s case the database is what they wanted.

The database has been expanded and used without my interference on several occasions. For example, when starting the process the researcher was told to allow for one country of operation, that of the Philippines. The database has now expanded without my input from what was originally required to include three other countries. Further, the database continues to be debated about in terms of what is
required and new additions are constantly discussed. The process of engagement that exists in this approach then has been left behind or in knowledge management terms - the knowledge that the researcher possesses has been transferred to them.

### 6.4 Summary

The main learning point from this case is that conventional approaches (like the DDLC and SDLC) do not involve people in their attempt to create databases. The evidence for this exists in notions like the DDLC or the SDLC that seem to focus entirely on the ‘system’ rather than the people who create the system through perceptions of it. Moreover, these approaches appear to be rooted in functionalism and assume that anything can be engineered rather than created. If any approach to creating anything like a database is to be successful, then those who wish it to be successful must be involved. Simply put, a database is a collection of something that is meaningful and supports a process in the workplace environment. If the people who are going to use it don’t understand it or why it’s there then it will be useless, but if through discourse, like in this case, they help to create it, then surely they will eventually get what they want.

However, the conventional approaches has some advantages inasmuch as it is simple. This approach is gruelling, long and time consuming. The conventional approach is simple, much easier to understand and takes less to facilitate. The sheer length of this approach and effort required would dissuade many people from using it but on the flipside of this IGC are extremely happy with their database. It should be mentioned that the conventional approach had failed them inasmuch as their previous database didn’t really do the job properly. Firstly, the database wasn’t what they wanted – inasmuch as it didn’t deliver what they required. Secondly, it didn’t properly support the processes that it was required to support.

In summary, the case yielded many lessons for the use of the engagement concept. Firstly, to use this approach requires iteration, specification (technical issues) and agreeing with it's underlying values. Secondly, systems development
methodologies can be built on to the end of engagement but they must also agree with the foundational philosophy of engagement or tailored to agree. Thirdly, engagement is more of a philosophy that underpins purposeful activity as well as an actual activity in itself. The model here was underpinned by the philosophy of engagement at each stage. Engagement then, in a philosophical sense, has a set of values that form its own paradigm. This paradigm can then be adapted to various situations for the sake of purposeful activity. Using Engagement as a mode of thinking when attacking systems development is one interesting area but it is a case for future research that Engagement could be used over many areas with interesting possibilities.
7.0 Case Three: ISD Project

This chapter focuses on an idea that the MD at IGC had for creating a global information system, via the internet, that would encompass the international offshoots for IGC. The situation at IGC that led to this idea was that financial and other activities (especially activities that IGC’s corporate body required to be carried out for basic operations) were being undertaken at foreign locations but weren’t being managed properly. Whilst there is no real way to manage such processes from abroad, the idea was to manage as many as possible online. The rest of this chapter discusses the nature of the project according to its design and non-completion due to external factors. The analysis component is different to those previous chapters in that this chapter seeks to focus it’s analysis on the original situation only, considering there is no “improved” situation to speak of. The next section discusses the fundamentals of the project

7.1 Perceived Problem Situation

MD John Beard had decided that he needed a global information system to support the complex nature of business practices between the international offices of IGC in the Philippines (it should be noted that at some point the system would also be adapted to IGC’s Ugandan and Zambian operations as well). This idea meant being able to carry out some operations online and being able to manage those operations online. Not only this, but he wanted it done cheaply and on the Internet. He wanted an all encompassing accounting and management system that would be able to handle and support complicated accounting functions on a daily basis as well as a system that would be able to track sponsorship follow ups (the process of returning information to sponsors about their children). From the outset this project was massive, but nevertheless required. It would need a big effort and slight alteration of the database creation methodology, used in the previous case, due to its size. However, altering the approach wouldn’t account for trying to capture various worldview’s that would include: Filipinos, Swedes, Americans, Brits, New Zealanders, Australians, Singaporeans, Indonesians, Malaysians and Africans. From the outset the project was on a tight budget and reproducing the same scale of methodology for it was going to be extremely difficult.
7.1.2 Creating a framework of Ideas

This project failed and the reasons for this are many. However, the following is an attempt to discuss the beginning of the project and how it initially looked promising. No actual framework of ideas was built but the process did begin and finish somewhere between understanding the problem situation and formulating the framework of ideas. However, before continuing with how the project was created it is important to extract how the researcher and the participant engaged ideas to come up with a design. The process is incomplete so extracting it as a process model is not possible. However, what follows is a basic account of the progress made and a fairly detailed analysis of the project.
The model above is similar to figure 26 in chapter six. However, what differs here is that the process of human communication is the method of requirements gathering. This is not a process model as such but rather a rich description of what the researcher and the participant went through time and again. That is, the researcher and the participant met for informal discussions, discussed the requirements and the design began to emerge. After several sessions of purposeful discourse about design, the participant had a good idea of what he wanted and drew up a representation of what he wanted. This is where the programmers decided to let the researcher and the participant down. During the project phase, they had promised that they would interact with us and work with us but eventually as time and budget constraints became stretched. After contacting them several times via the telephone it became evident that they weren’t interested.

Given the nature of non-profit organizations to be under funded and under skilled, it was no surprise that the programmers were volunteers. However, one cannot complain when volunteers don’t do what they say they will do. This is an issue outside the realm of this thesis but is worthy of discussion here. IGC’s purpose, albeit to ‘break poverty’ in the words of their vision statement, is still to operate as a
business. It is therefore a real issue for them to cover their costs given the mediocre nature of the finances available to IGC. Therefore, it is the nature of the business to lack finances, due to the fact that they are a non-profit aid organisation in an environment that doesn’t exactly swamp them with money. It creates issues that result in outcomes similar to the way this case turned out. So when the programmers never returned the researcher and the participant’s calls, the researcher and the participant assumed they didn’t want the project anymore. Another issue, that of IGC trying to get into India also came along. Considering this had been on the agenda for 20 years, it took priority and much needed time/funding. The project was thus cancelled (more on this matter in the analysis section which will also deal with issue of project failure in this case). Before the analysis section is introduced further explanation is required of the problem situation in order to understand the nature of this project further.

One successful outcome was learning about how to create an IS design through discourse. This is a relatively cutting edge approach to IS design. However, where does this leave IGC. As mentioned in chapter 2 if learning is the only ideal to aspire to, then are we being truthful to the businesses and organizations we operate in. The chief problem was that the programmers were outside the design process. This was a crucial error on my behalf. The lesson learnt from the database for some reason had been forgotten by the time the IS project was in the design phase, that lesson being that this is a social process involving people in all of the phases of the creation of the IS. The programmers didn’t share the vision, the purpose of what was going to be achieved or didn’t get the researcher and the participant’s design and passed on volunteering their much needed skills. Any discourse then has to purposefully engaged with those in the process at every stage. If they are to share the vision of what is trying to be achieved then they have to be a part of the process at some point.
7.1.3 **Analysis**

This project sheds more light on the engagement concept at a much deeper level. For example, the researcher learnt in this case that managers, of all sorts, engage ideas continuously within issues that they are faced a daily basis. The issue really in this project was one of a changing of perception as to the relevance of the ‘management system’ in comparison to venturing into India which the manager deemed more important. In essence the project didn’t fail, the manager in question simply gave priority and limited funds to another project, simply because the appreciative setting held by the manager told him that India deserved all of his attention. The conjecture here is that the process of engagement is a daily one and that managers have to engage with issues of ‘management’ on a daily basis. In every day life as managers, people engage with a range of issues and each issue takes up a certain capacity. This is a sense making activity that has managers engaging ideas and situation on a daily basis. Further, every manager would have an ‘engagement capacity’ that allows them to engage with prioritised issues that they feel are relevant.

In this case the management system was not as relevant as the need to enter India, which was a twenty year agenda. Rather than accepting this project as a failure, it is important to note that the engagement capacity of MD John Beard was taken up by his focus on India. It cannot be fair to the volunteers that they get the blame because more volunteers can always be found. Further, the programmers or the researcher cannot be held accountable in this regard because India became the focus or the ‘engagement capacity’. The MD had chosen to engage with this issue rather than the management system.

To conclude this section a short analysis of some comments from the MD and how he perceived the case will be discussed. Firstly the MD has never seen the project as a failure of the engagement concept or a failure on behalf on the researcher but has stated that the case was hindered by other factors that deserved immediate attention. “We [IGC] have been trying to get into India for 20 years. When the final opportunity came, we decided to follow that…everything else was put on the shelf.” About the programmers, “…essentially we have to be courteous to
volunteers…”, and “I gave them what we did from the design and they said that its more than they usually get and it should not be a problem, they haven’t contacted us since.” On the project, “It is still a good idea and when IGC has proper funds and staff it we begin again.” For now though, the project is closed.

7.1.4 Summary

Despite the fact that this case didn’t complete, a very important and interesting lesson has been learnt. What stemmed from this case was that the idea of engagement, called ‘comparison’ in SSM, is not just given to this idea of consultancy based approaches. The concept of engagement lends itself to everyday use by managers or consultancy (case two). However, the SSM-consultancy approach is well-developed yet the approach of using SSM, or more specifically the engagement concept that is in SSM, as an everyday management approach is sparsely covered (Ledington and Ledington 2001 discuss this further). It could be argued then that the engagement approach could have two strands, firstly a consultancy strand and secondly as an approach to ‘management’. The consultancy strand is the outside interventionist approach that almost everyone is familiar with. This second approach though is a way of taking the principles that exist in the engagement concept and passing them on for use in everyday ‘management’ situations.

It is for this reason that the next case seeks to impart the principles of the engagement concept as an everyday tool for sense making and understanding. This case is a training and development approach that was used in two research situations – in IGC and with a person outside IGC. The first case is a deliberate attempt to impart to the trainee the ability to learn and develop autonomously. In the second case, an unwilling participant was trained to a certain level with interesting results despite their proclamation of not wanting to learn. When developing this case this proved difficult but as the case shows it was a successful outcome.
8.0 Training and Development

8.1 Introduction

This chapter will present the cases and results in Training and Development. As mentioned previously these cases were designed to impart a way of ‘managing’ situations. In this section two cases are covered. Both use the idea of engaging ideas and situation as an approach to managing situations in the real world, albeit technical situations. Beyond this though, the technical knowledge is irrelevant. It is the transfer of knowledge that is focused on, transferring not just the technical skills required to learn what is desired, but an approach that transfers learning and sense making capabilities for the everyday world. The first case covers the training and development issues at IGC. In the chapter, each case is presented then analysed, examined for further evidence, then summarised before moving onto the next case.

8.2 Training and Development at IGC and Outside IGC

To be effective, a trainer needs some kind of process model (Smith and Delahaye, 1987, p.3) and there are right and wrong ways to go about employee training (Samuelson, 1990, p.203), not to mention the fact that training improves the performance of the employee (Clark, 1994, pp.85-6). These things are debatable at best but none of them describe the process of training. Training can be articulated as a process where knowledge is transferred from one person to another, with the use of some kind of training methodology.

“If trainees are actively involved in the learning process (instead of listening passively) they will learn more effectively and become self-motivated” (Smith and Delahaye, 1987, p.13). However, it could be argued that an effective trainer is not there to simply train but to teach the trainees how to learn about something for themselves and how to engage their own ideas in situations on a regular basis once the trainer is gone. Further, the ideal in this case is not to ‘train’ as such but to impart a ‘system’ for sense making as discussed in the last case. When it comes to technical training, computer technology changes so rapidly that any trainee has to be able to learn and adapt to new technological environments. It was for this reason
that it was decided that these two training and development cases would impart the values of the ‘engagement’ concept as an approach to problem solving, albeit for technical/computer based problems. The two cases are really attempts to transfer the idea of interpretively managing a situation no matter what it’s context. The process itself is nothing that hasn’t been covered before but is simply a way of showing how this approach can be used in everyday management situations. The following two cases will show the process that was used for this.

8.2.1 Perceived Problem Situation

Almost every encounter with MD John Beard led to some kind of training and development situation. The first example was when a computer was being fixed. Having learned about computers over many years the researcher had become equipped with something called knowledge. As Checkland and Holwell suggested knowledge is a longer and more meaningful structures of facts (Checkland and Holwell, 1998, pp90-1) as opposed to a simple fact (data, ibid). The researcher could then, at least in theory, come up with a way to transfer this knowledge using the ideas mentioned above involving engagement. This basic model would look something like this:
The main purpose of this process is to take the ideas from the head of the trainer and place them in the head of the participant! Moreover, the participant should have the knowledge of the trainer by the end of their sessions (not complete knowledge but at least basic knowledge). The inner engagement then becomes the skill of the trainer to impart the ideas, or present the ideas to the trainee. The trainee then has to engage and learn about the ideas by putting them into practice. This denotes action that is post E2. Therefore, another cycle of engagement exists outside of the regular style of engagement. For example, a person who engages with ideas at E2 in a training process (discussed further) applies these ideas and hence enacts their own type of engagement. So then the process of engagement for the trainer is almost to sell the ideas and encourage the participants to apply this knowledge. The trainer then has to become adept at making the ideas available.

The methodology used for this process is similar action learning. However, it is a little more extensive than this as the chapter will show. “Action Learning is not easy to describe, mainly because it is based on a particular experiential process.” (Smith and Delahaye, 1987, p.237) The candidates for action learning need to be in an unfamiliar situation (ibid, p.238) and need to have something like a facilitator to take them through the learning process.
With the MD at IGC, the methodology for transferring my knowledge to the MD was action learning. It was never made explicit, however his learning is evident. When first introduced to IGC, the researcher was mainly in charge of rudimentary technology issues, such as hard drive failure, monitor failure and other related issues. This is where this mode of action learning began to emerge. The MD had spent countless days trying to understand his computer troubles and had given up in frustration. However, when the researcher appeared with experientially learnt knowledge about computer problems (derived from previous experience) the learning process for both the researcher and the MD had begun.

A good example of this in use in a particular case is where the researcher had found, through three months of investigation (based on technical skills learnt at university) that a particular computer component was faulty. The MD had for some reason wanted to learn about diagnosing computer problems and had watched the whole time whilst the researcher was trying to find the problem. The MD became so interested, that this interest, engaged him in the situation. He had learnt and months later began looking for errors in much the same manner. This process is an example of an engagement process with the above mentioned extra cycle. For example, the engagement was my own, but the ideas and process presented helped to engage the participant in the situation. Further, they enacted their own engagement process after this and subsequently learnt.

This approach, which is probably why it was such a lengthy process, involved a plain English description of all that was going on whilst errors are being diagnosed. At each level of diagnosis the researcher would tell the participant the mechanics of the PC and what he was trying to find, whilst always letting him know that the researcher wasn’t sure if this was the problem. This is in stark contrast to previous IT people who had, without proper analysis diagnosed the error. Sometimes even over the phone!

The conjecture being made here is that human beings who are willing to learn, will learn if knowledge is made available to them through a process of facilitation or engagement as in this case. On the flipside though, the MD did not want to learn
what he didn’t want to learn. For example, despite the fact that knowledge was made available through clear communication and demonstration, John still only learnt what he was engaged in. When the technical side became too difficult to explain in clear English, the researcher had to work to make it explicable; something that today’s IT people just don’t do! The methodology then for transferring knowledge came through a process of human communication as evidence previous cases.

However, the second case in this section will show that even those who are determined not to learn can learn through this process. The next case will present a form of training and development similar to the one above. This one though talks about an extended informal program of training at IGC. The model then is too simple to be explained in any real terms. To express it better both the dual engagement process and the trainee’s engagement cycle need to be clearly explained.

8.2.2 Creating a Framework of Ideas

This section will attempt to present the model of engagement that was used in each case. When formulating a framework of ideas in this case it became important to work on extra issues to form the E2 level of engagement as will be discussed in the results section. The engagement process here is entirely dependent on the trainee’s ability to engage with ideas at E2 as will become evident from these cases. Firstly, there is the engagement of the F which is a training methodology with someone who needs to be trained in a specific area, A. The inner engagement (E2) then engages people in a training process that is designed, according to the training methodology presented here, to impart a system for learning (an actual engagement in itself). If a trainer is to be successful, they need to be able to impart enough knowledge to a trainee to keep them learning long after the trainer is gone.

Having F as a training methodology to impart learning, and A as the people in an area that want to be trained, the inner engagement can be discussed. This becomes an engagement of the people in the area with the ideas in the training methodology,
the outcomes of which should be a trainee that can now either train others or train themselves.

Figure 29 a - An extended model of Figure 31

The trainee, once they engage with the ideas presented via the trainer’s making the knowledge available, will be motivated (or not) to apply the ideas to a particular situation in order to learn. Below:
The trainee takes the ideas they have become engaged in at E2, the process of learning for example, and engages these ideas with the situation and learns. A trainer has to stand back at this point because the participant has to engage and reflect for themselves, learning about both the area of concern and the system they are using in their attempt to learn. The main assumption made in this case is that people should be better equipped to learn and train after some time exposed to the training methodology. However, as the results show it is a little more than a training methodology. Before discussing this though a brief excursion into how the methodology was applied over two cases: firstly MD John Beard and secondly an unrelated person to IGC who had asked for my help.

8.2.3 **Apply the Framework of Ideas: Case One**

For an 8 month period, the researcher had purposefully employed the training methodology at IGC. This is a very simple process, based on two principles: action; and reflection. Action to be undertaken by the participant and reflection to be done by the participant as discussed in the previous section.
MD John Beard, had made it clear after the first case that he needed more training. Therefore whenever he had the time the researcher would enact the above process of engagement in different situations at IGC. The cycle began by tackling one area of interest to John, for example how to use the internet. The actual physical process involved the researcher and John sitting at a computer with John in control. In the case of internet training, a relevant area would be found for example and the researcher would not show the MD how to use it. The MD had to figure it out for himself. The researcher would allow the MD to ask questions that he wanted, provided that he didn’t ask questions like “how do you do it?”

A good illustration from the internet example, is when John asked the researcher how to send emails. John was made to do the process after he had seen it happen or become interested enough in it, to be motivated to try it. After this, he attempted to use email by putting the ideas he had seen into practice. The researcher had to guide the MD through the process initially by telling him that he was either on the right track or on the wrong track. The process became for him: act (with subtle guidance from the researcher), learn, reflect on the learning, act again. This became a cycle and eventually the need for a trainer dissipated, as the results will show.

Case Two: The application of the ideas to a man who doesn’t want to learn

A willingness to learn in any situation seems to be crucial, however one case of applying this training and development concept outside of IGC yielded interesting results, these being that a man who had declared that he was far too old to learn and had expressed a desire not to learn, actually did learn. Further, he had declared often that he had no interest or even a twinkling of motivation to study anything and was content to focus his attention on other matters.

In this case the researcher was simply told to “fix the bloody computer” and “I don’t want to learn”. This may seem harsh but the researcher followed these strict guidelines of making knowledge available if it was wanted. However, this time the researcher had to do so implicitly. That is, the researcher had to make the knowledge available by creating an engagement between this ‘unteachable’ person
and the knowledge. In other words, the above model was almost flipped around because he wasn’t interested in learning, so it almost had to be made interesting enough to learn.

The engagement came from him watching what was happening during technical diagnosis and more specifically how the researcher was fixing his computer. It may sound simple enough, but the idea had to be sold through making how I fixed the computer both simple and interesting. The engagement was created not simply through the knowledge being made available but by using a technique that had been learned by the researcher in creative writing. The best example is the example of famous author Stephen King. Arguably the most popular author of his generation, King has created a name for himself by simply being good at attempting a kind of engagement. The way in which he is able to relate to so many on such a grand scale is a testimony to his ability to engage people in his work.

Likewise a good film will engage the viewer, inasmuch as it captures us for 90 minutes or so. Both types of media are subjective and granted some will not engage with the material but it is the nature of humans that we choose what we want to make judgments about (Vickers 1965). Whether it be: sport, reading, Christianity, movies, life, death, tragedy, error, confidence, family, children, relationships; we all choose what we want to engage in. Sometimes we don’t seem to choose it and it seems to choose us. So then extracting this kind of engagement mode out of the books and movies, had to be undertaken.

The engagement created by authors relies very heavily on personal experience and interesting characters. By creating an engagement between the characters, stories, events in the literature and our own personalities the authors ‘suck us in’ for want of a better phrase, into their works. The reader becomes interested in the various misadventures and realities created for them by skilful authors, yet the reader did nothing to facilitate this process other than decide they want to read. The researcher, then, as a facilitator, had to engage this un-teachable person in their problems somehow.
This is where theory is more than a little sparse. Getting people engaged in a process of learning takes a little more than Holb’s experiential learning cycle (Collins and McLaughlin, 1997, p134). This requires a certain level of showmanship to get people interested in learning about something. In this case it was difficult. After trying more traditional ways of trying to teach this person, for example the previous case, I tried to create an engagement based on interest. The model doesn’t change much but the skill of applying it does. This means the analyst has to, much like Stephen King, try to involve the trainee in the process and hope that this situation would help to create an engagement. It did work but it took a long time. In this case the researcher showed this person how learning was possible. By creating an interest in learning, the participant was able to learn because in a way the ideas had been sold to him. By creating an interest or indeed an engagement between this person and their problems a desire to learn about them was created.

8.2.4 Analysis and Further Evidence

As opposed to the versions of this section in previous chapters, this version will compare something slightly different. The reason for this is quite obvious after a brief examination of the cases. Firstly, the cases are seeking to impart the engagement concepts through a training program. Secondly, this differs from the previous cases that have sought to improve problem situations. Therefore, these cases will be analysed according to personal remarks as to the knowledge gained and the process of how the knowledge was gained.

Case One

The first case was MD John Beard as the first participant in the initial attempt to migrate the engagement concept from the researcher. In the beginning, “When Luke [the researcher] began to teach us about computers I knew absolutely nothing about them”. About the process, “…it’s not safe! But we find that we are calling Luke [the researcher] less and less because we have learnt about our systems and don’t really need his input anymore”. More about the process, “…difficult, even embarrassing at first but with time, discipline and a little persistence…there is learning to be had.” What seems to be more interesting about this is that the
researcher is no longer required. It seems as though, out living the usefulness of one’s capacity in any given organisational context is at first satisfying. Yet upon reflection is not as good as it first seemed!

However, an interesting point to note is that this process has a big fault in that it relies too much on an assumed ‘engagement’. If the participants fail to engage with the ideas at E2, then E3 will not naturally progress. For example in a recent interview with the participant he stated that, “I tend to learn more methodically rather than by experience.” This issue formed a barrier to engagement during the course of some training because the process became a little too experience-based for the participant. Further, the participant needed something like a methodical guide (similar to the SDLC). The researcher had to accommodate the learning style of the participant in order to overcome this barrier. In any future research into engagement it has to be said that factors like these must be addressed. Whilst some people appreciate the trepidation required for experiential learning, some prefer an engagement with a methodical guide as well.

**Case Two**

In the course of this program the participant of this project was required to go overseas and was unavailable for any further contact. Only one quote was obtained from this person and it further adds grounding to the account: “You must be doing something right, I don’t call you as often anymore.”

**8.2.4.1 Analysis**

Some other data may support the assertions made above. The participant is now not contacting the researcher at all and has become adept at his own technical research. “I now have the means and ends to research what I need. I can now contact people and understand at least half the time what my computer is doing.” Further, “I am not sure whether it was [the researcher] or whether it was my own learning but [the researcher] somehow made a way for me to learn and take what I knew on and on”.

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8.2.5 Results

The results in these cases will be discussed in order, firstly IGC. What was discovered in this case was that the participant had a desire to learn, much like what been had experienced by the researcher when the project started. The desire to learn and understand in John’s case created a way for him to learn, in as much as he was motivated. His motivation got him through the hard times when learning seemed difficult. However, this learning mode is nothing new, it is simply the engagement of a training approach to a person who wants to be trained, the engaging of that person in the training ideas so they can learn for themselves in the future.

It can be assumed from this case that ideas were presented and E3 followed naturally as a progression of learning itself. The participant has also said, “the way in which Luke [researcher] teaches is subtle. Half the time it’s not like he is actually doing anything.” Further, “The ideas I had learnt from him, I learnt myself by following the logic of what he was doing when he did it. Then I would attempt to do it myself.” The ideas of imparting ideas to facilitate debate, essentially the core of SSM had been presented to the MD in this E2 ideal. These ideas have been presented to the participant and he had learned about them and developed his own learning in such a way that he now engaged his ideas in practice on a regular basis.

Checkland and Scholes (1990) had suggested engagement as being the way in which we interpret the world, that is, through the concepts that were learnt through experience in the world. John had learnt by applying his ideas to reality that he would not only learn but he would continue to do so even when the researcher wasn’t there. Having stated this, it is also important for a mentor to guide someone through this process. The mentor is not guiding the trainee through a process of training but teaching them how to learn experientially.

The second case yielded a learning point that was alluded to in the case, this idea being that even those who don’t want to learn can learn. For example, in this case, the man in question, did not want to learn. The researcher had to employ a little marketing and get him involved in the process. Initially, this un-teachable person was reluctant but after a short time he was able to learn and this meant he took over
fixing his computer. What happened here was the selling of the concept of engaging ideas and situation, but the engagement ideal in this case was to get this person interested in their problem. The main point here is that learning may not start straight away but the desire to learn, that is within all humans, can be facilitated at any point.

8.3 Summary

In summary then, by transferring knowledge from the researcher to the participant and the man in case two, the researcher imparted a way for them to learn experientially. However, based on the conjecture that management is engaging with a range of issues, making decisions about those issues and taking action on those issues, further analysis is required in this case. If all that was done was imparting an approach to learning then that would be a good outcome for both the trainer and the trainee. As mentioned the researcher now perceives IGC staff as applying ideas and concepts to their problems (albeit computer based problems) by engaging their ideas with the situations they are faced with. It seems as though the approach does a little more than help them to help. Evidence from these cases seems to suggest that it has helped them to manage their own development, in terms of using and mastering their technology. The major learning point from this case then is that the approach of engaging ideas and situation is a management tool. This became evident when considering the fact that the trainees now can ‘manage’ their respective situations a bit better than they could. The trainer, eventually became redundant because they had learned how to manage.

The next case partially addresses this issue of ‘management’ by delving into the world of Mr X, an aged care worker. Mr X’s case shows how the engagement of ideas in situations helps to manage and improve situations of real world concern. Further, evidence from this case suggests that this approach is both a ‘system’ for learning and a ‘system’ for management of all types of situations in all types of industries. The case will discuss this further.
9.0 The Engagement Concept used to make sense of Activity

9.1 Introduction

This section notes the end of applying the engagement concept in practice. This final section uses the engagement concept to make sense of the aged care activities of Mr X. The point of this case is to further examine the concept of engagement and to evaluate it in an entirely different context. The reason for this case was to further explore this idea of engagement and to apply it in its most basic form. In this case the engagement idea was used as a framework of interpretation used purposefully to understand the nature of a particular activity in the social world. It should be noted here that this case was observed over a long period rather than from a short interview. This meant that a good understanding of the process involved in this complicated case could be effectively extracted for the purposes of analysis. Therefore the case here is purely analysis based observation.

9.2 Mr X

Mr X works with the elderly in a Brisbane aged care facility specifically designed for those with Alzheimer's disease, the specific treatment of which is an on-going source of debate (Kitwood, 1997) and research. This is the concern of Mr X's research. Collecting data for this case was done through a six month process of repeated interviewing. The interviewing process began with a phone conversation about the engagement concept and similar to the database case, informal interviewing began. It should be noted at this point that this type of interviewing process is extremely effective, in as much as the data gathered is extremely rich. Appendix A, as mentioned, shows the type of informal interviewing used as it discusses this method as opposed to formal questionnaires. However, in the analysis section several examples of the questions asked will be presented.

From these lengthy informal interviews (approximately 20 informal sessions) rich amounts of data are recorded and stored on computer. After gathering this data, the data was then compared to the basic engagement model below:
This process of comparison (better expressed as engagement) teased out the fact that
Mr X created a model similar to the engagement model for practice with no formal
training or education. This will now be discussed in greater detail.

9.2.1 Data that Emerged from Interviews

X first mentioned that he found certain ideas interesting, namely ideas suggested in
Kitwood (1997) that suggest a sufferer of Alzheimer’s disease can have their
suffering eased and indeed show signs of recovery if their physical environment is
changed. Secondly, that traditional processes and procedures for communicating
with Alzheimer patients are simply not effective. X also mentioned that he thought
that communicating with Alzheimer patients is a necessary part of core practice that
is not properly dealt with by Alzheimer training literature. The majority of training
seems to be focused on procedures (such as bathing, cleaning, lifting) and deals
very broadly with issues like communicating with sufferers of Alzheimer’s patients.
In the words of another aged care worker who was also informally interviewed, the
training is very broad and not very specific. Workers can elect to do some extra training but it is at their own expense.

One exercise that helps aged care workers to understand Alzheimer patients is a demonstrative action learning exercise. This exercise has the workers wrap up their sunglasses in cling wrap and allow themselves to get dizzy by having someone spin them around. The workers are then led by the hand down a set of steps all the time disoriented and confused as to where they are. This exercise helps to create an understanding of what it feels like to be a sufferer of Alzheimer’s but it fails to show people how to communicate effectively with them.

X had watched as others had attempted to communicate with the patients on a regular basis and failed miserably. He was succeeding at communicating with them and didn’t really understand why. He wasn’t following procedures or following guidelines, he was employing his own set of ideas (an (F)) about communicating with the patients that he had learnt experientially. These ideas essentially were formed from reading the alternative theory on Alzheimer care found in Kitwood (1997). However, at some point X had thought these ideas were interesting. In other words he became engaged in these ideas and thought them to be more relevant to his situation then the standard care approach that his workplace approves. Moreover, the ideas he found in Kitwood (1997) were not only relevant to him but he had judged them so. His new model though, of how to care for dementia patients developed in association with what he expected from it. That is, the engagement of ideas with the situation in his context was not purely to learn, it was also to actually improve a situation that he believed to be poorly managed. Therefore, it can be argued that X was expecting that his differing approach to care would hopefully make some kind of important difference.

This case is different from previous cases in that the researcher was not really explicitly trying to improve areas of concern. The researcher had been concerned with ‘situations’ of all kinds that needed improvement but had not specifically singled out what was desired or expected from these ‘situations’. The researcher was only interested in learning about engagement and its application but in this case
X was interested in the application of the ideas as opposed to the application of a model or approach. It is for this reason that his use of ideas needs further analysis.

Engagement was used in this thesis as the basis for many different areas of concern within SSM. This case follows this pattern as well but the ideas used by X are more important to him than engagement. It is therefore important to understand his relationship with his ideas rather than his relationship with the model. His relationship with the model of engagement is non-existent because he doesn’t use engagement. Engagement is used to make sense of how he applied his ideas, learnt and improved his area of concern. However, an important part of his learning in his situation was the relationship he has with his ideas. Why did he think it relevant to apply them or what did he expect when he did it? To further understand this relationship an analysis of his ideas is required via the EDI framework.

Ledington and Ledington (1999) present the EDI (expectation, desirability and importance) framework for SSM’s comparison stage. In this case it could be used to help understand the nature of X and his relationship to his area of concern. EDI suggests that all situations in SSM where models are compared to a situation are indeed not neutral; but an analyst (or in this case an aged care worker) at some point, has to make judgments about the situation in relation to the models. Another way of articulating this could be that an analyst has a relationship to the purposeful engagement of ideas in situations of human activity, and this relationship can be understood via the EDI framework. For example, in X’s case, although he did not explicitly use SSM he did take theories (presented in Kitwood 1997), adapt his own methodology for application and subsequently apply his framework of ideas. However, before taking these models and applying them he created a judgment of expectation, desirability and importance in his mind in relation to his area of concern.

That is, X had decided at some point that the current level of communication between himself and Alzheimer sufferers was undesirable. In SSM terms, his conceptual model of how these people should be communicated with was not actuated in reality. To make this even simpler, his own framework of ideas, which was created from experience and alternative care theories, led to him to establish the
notion that the framework of ideas presented in the form of training by his employer, was undesirable. Reardon et al. (1999) suggest that EDI is a framework for structuring interpretations. In this case it could be argued that X expected (or believed) a better level of training, finding the present model unacceptable with his own, he gave his framework of ideas the highest level of importance.

This meant he took his own ideas into practice and threw the training book out the window. By doing this he found a method of communicating with Alzheimer patients. In simpler terms, X took his ideas and placed them into a situation, for which he was the catalyst, and learned. As mentioned, the engagement principle is a better way for describing the process of comparison at stage 5 in SSM. It is also a concept in its own right and the ideas inherent in engagement were observed in the work of X (although intrinsically and implicitly) who had absolutely no idea what SSM is. However, understanding how he managed to communicate with the seemingly incommunicable will help to understand the concept of engagement further.

Ironically Alzheimer patients lose their ability to make sense of the world. That is they lose the ability to engage with the world. Much like the training program at X’s workplace suggests, they need a guide to help them through this horrendous situation. X had learnt through two years of working with Alzheimer patients that the only effective way to communicate with these people was to allow them to perceive you in a certain way. Before discussing this further, this section will demonstrate how X came to this revelation.

The formulation of what can be interpreted as his first framework of ideas came from observing patients and a desire to understand how to communicate with them. This desire was sparked from personal interest after beginning to work with these people over five years ago. He found that the methods taught by his workplace didn’t work, but rather found patients getting hostile with him for employing these techniques. Not only this, but he had noticed that patients were extremely aggravated at other staff who employed these methods as well.
In understanding X’s work, the first (F) to be created can be seen as: “how can a person communicate with these people in a better way”. The (S) was his workplace and the people involved were his patients.

F (How can this person communicate with this people)  S (Workplace)

![Engagement Model](image)

Figure 32 - the basic Engagement model used for analysis in this case

The first stop of course was training. The main thrust of the training documentation is done in the form of assignments. One such assignment, which replicates policy at this institution, states that: “The elderly, particularly those suffering with dementia, often experience some sort of memory loss. This is when physical objects may help with memory and aid conversation.”\(^4\) X had seen, as mentioned, this approach failing miserably. Whilst he did use this approach he had found that a better one existed. This can be understood as a learning cycle that he had employed over a five year period, starting with the concepts for communication mentioned in his training manual. This cycle can be generally articulated as the cycle above but more specifically articulated as that below:

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\(^4\) Chantal Lewis, 1999, Assignment Number 6
This articulates the learning cycle employed by X in his workplace. It began with a simple application of ideas on how to communicate with the patients. This at first came from X’s training but after a while he learnt, by employing this cycle, that sufferers of the disease can understand what is said and can be communicated with effectively. For example, X learnt that if he took his training ideal a step further by being purely honest and explanatory during his work with Alzheimer sufferers they would listen. Another example, is of a patient who had caused much troubles for other carers and had come to X to be cared for. It was during this process that X found that by employing his personally learnt model for how to care for Alzheimer
patients that an improvement was noticed. He had purposefully engaged his ideas, learning from them and had an eye to improve the situation all the time. Further, the patient no longer caused trouble or made a fuss but simply listened to what X was explaining and cooperated.

X would explain step by step what a procedure was and how it was going to be performed. When changing the patient (severe Alzheimer patients are physically unable to change themselves) X explained each step in the process. This created a trust for X that was not seen with other carers. This trust created an atmosphere whereby the patient felt secure and at rest. For the workers this meant peace and tranquility.

The second case, the researcher and the participant discussed, involved several iterations around the above cycle. This time though there were some interesting differences. X had read Kitwood (1997) who suggests that dementia patients can improve if their environment is slightly changed. By this he means changing the physical aspects of the environment and creating peaceful surroundings. X was fascinated with this idea and began engaging this idea to his situation. What now becomes obvious is that X was attempting to use his ideas in practice, to engage the patient, with the specific purpose of improving the condition.

At first though, X didn’t notice the improvement suggested in Kitwood (1997) at all. This is where it became apparent to the researcher that everyone who employs this concept has a certain level of expectation and desirability (Ledington and Ledington, 1999, p.1152) as to what level of change they hope to achieve. X had expected to see change from the application of his (F) to the (S). Change didn’t happen though. This didn’t bother X, or his research, and didn’t change his expectations either. Rather, as he discussed in one of the interviews, his interest in the patients kept him going. This eventually led to an improvement in a patient.

The improvement though didn’t come in the form of anything that was expected at first, but over time the symptoms of Alzheimer’s disease regressed in this patient, as Kitwood (1997) argues. X felt it was extremely important to apply these ideas and didn’t stop doing so until results emerged. His expectation of the results drove him
to keep trying even when it seemed he had failed. That is, X’s motivation was
drawn from what he expected to find in his workplace. Capturing this human
element of intentions and motivations is extremely difficult but it is what emerged
from the data nonetheless. This means that in every engagement, people have
expectations, motivations, intentions and desires. Taking this a step further, in SSM
stage 5, people are the driving force of change, not the models. The models as
Checkland and Scholes (1990) suggested are simply a means to an end.

**9.2.1.1 Analysis**

During the production of this case several informal phone interviews were
undertaken. Here is a portion of one of those interview that makes this case a little
clearer to understand.

The Researcher (TR): Please tell me about what it is you do?

X: Well currently I am a full time bus driver with [deleted for legal reasons] but I
used to work as a dementia carer until about eight months ago at [deleted for legal
reasons] on the Westside.

TR: During your time as a dementia carer you mentioned in an earlier interview
that the mental state of the dementia patient your were working with improve as a
result of some minor changes to the environment that the patient was placed in. Can
you expand on this please.

X: Well…I had read a book about dementia care by Tom Kitwood which is not a
book that is training material or um…anything like that. The whole book is really
an anti-medical approach to dementia care based on changing the area in which the
patients live.

TR: What do you mean by ‘changing the area in which patients live?’

X: Um…The best way I can explain is through one patient I had…[name deleted].
He was what we call unreachable. Which means he was completely gone, there was
no reaction to any of the medical treatment so we had decided to try an alternative therapy suggested in the book [A reference to Kitwood (1997). [Kitwood (1997)] is very critical of the institutional way of treating patients and even more critical of the environment they are placed in.

TR: By environment do you mean where they live?

X: Yes and where they spend their time. Anyway we changed [name deleted] room by putting plants in it, played some music we thought he would like and generally we tried to create a pleasant atmosphere for him to live in. What we found over time was that [name deleted] began to respond to us and he seemed to communicate a bit better.

TR: So maybe the disease regressed a little?

X: Yes, he appeared to get better at least whilst that was going – when it eventually stopped – we noticed he went back to way he used to be.

TR: Do you have any more examples?

X: Well [name deleted] was a violent dementia patient and once again I was using the book [Kitwood (1997) quite frequently by this stage and he suggests in their to adapt your caring for each patient.

TR: What do you mean?

X: Um…for each person you are caring for you have to take a little time to work out how they will react, which is hard because they are up and down all the time, but you can do it.

TR: So continuing on with the example…
X: Yes, the patient we had was violent, she had bruised some nurses and so on. As it happened I was the only one who could reach her. The only thing different that tried to reach the patient by explaining what we were doing in a slow calm way.

TR: Was this your idea?

X: No I got it from the book [Kitwood (1997)].

9.2.2 Conclusion

Further analysis of this case reveals that X used no approach, but the engagement concept makes sense of his activity. Firstly, the activity of learning and secondly as helping to understand how X managed his day to day activities as a carer. His learning came from the books and other materials he used for evaluating what he would call ‘dementia’ care. Secondly, he ‘managed’ his situation by engaging his ideas, in the forms of frameworks, into his situation to help him better manage the situation. Moreover, the situation changed so it clearly worked for him. Returning again to the notions of change mentioned in Chapter 3. X had experienced a shift in his appreciative setting when he stumbled across Kitwood (1997). He enacted this change when he purposefully put these ideas into practice. Not only is this a form of management but it is enacted change from a shifting in his appreciative setting. In other words, X desire to manage and understand the situation, led him to books. He used these ideas (with some of his own), applied them to his situation and subsequently changed things in his area of ‘management’.

In summary the interviews with X took place over a period of time and yielded two important notions for the engagement concept. Firstly, the concept of portability, meaning, that it can be applied in various industries, not just Information Systems Development or Database Design Development. This is different to most systems analysis methodologies which primarily have their life in the area of ISD. The use of engagement as a sense-making device in this case provides a platform for engagement to be used in other areas of interest and research other than more traditional business based ones. The case here monitored the activity of a carer and sought to use the engagement concept to make sense of that activity and then to
discuss the results of this. Engagement can be used in sense making therefore and would be helpful in many areas on human interest, not just business related disciplines.

Secondly, the notion of the human to bring motivations, intentions, desires, expectation and importance all emerged from the second case. X’s relationship to his ideas can be understood by using the EDI framework to interpret this relationship. EDI is an effective way of measuring human motivation in that it can help measure what people expect from their (F), what the desire from the situation and what level of importance they place on their ideas. EDI has been typically used to improve ‘Comparison’ in SSM but in this case it was used, as it was in Reardon et al. (1999), to structure interpretations. If engagement is truly useful to understanding human activity, as suggested by this case, then it has to be said that understanding motivation, at least partially, is also relevant. This is because motivation helps to understand why humans do some things and not others. Furthermore, it helps to understand why humans engage in some ideas and not others. This is extremely helpful when attempting to interpret human activity in the complex social world.

The following chapter finally summarises and evaluates the whole research project and presents suggestions for future research.
10.0 Outcomes of the Research

10.1 Introduction

In this chapter the major learning points and research outcomes of this work will be discussed. The first section focuses on the theoretical framework in context and analyses the learning outcomes from the cases. Each case will be briefly discussed in the context of the theoretical framework and the major outcomes summarised. After each case is discussed the complete learning outcomes or what this thesis has achieved will then be discussed. Finally, the thesis will conclude with an overall summary of the findings and an analysis of directions for future research.

10.2 Revisiting the Theoretical Framework

During the thirty year development and subsequent proliferation of SSM, there has been a largely ignored area of its development and this is the notion of ‘comparison’. The comparison stage, in traditional SSM, engaged a systems model called a conceptual model with reality as it is perceived (by someone) with the sole purpose of structuring a debate about change. The debate is to help people negotiate and renegotiate their world through meaningful human discourse (Checkland, 1982). As Ledington and Ledington (1999, 1999, 2001) have noted the comparison issue is troublesome. Further, it seems paradoxical and is indeed the hardest part of SSM to understand. An easier and less paradoxical way to understand the troublesome notion of ‘comparison’ is the concept of engagement.

The process of comparison in SSM presents a conceptual model, or a framework of ideas in a systems model, then uses the model to structure a debate about change. As discussed in Chapters 1 and 3 nothing is really being ‘compared’. A better way of possibly understanding this process, is the engagement of a framework of ideas (in a systems model or not) into a situation of real world concern for the purpose of understanding and changing that situation. In classical SSM terms the comparison would take the conceptual models and compare them with the expressed problem
situation in stage 2. However, as argued in Chapters 1 and 3, the models are only a means to an end which is to have a meaningful debate about change in the situation. The ideas from the conceptual model are then engaged with the expressed problem situation and a debate leading to change ensues.

This suggests that SSM, as an approach to real world situations of concern, seeks to create an engagement between ideas, situations and people. Further, each engagement is designed to structure a debate about change in the situation of concern, through the use of conceptual models. Change in this context is what the process is hoping for but firstly a change in appreciation through discourse as opposed to a well structured seven step strategy for change. Engagement does not manufacture change nor does it focus on change. Engagement focuses on using ideas and debate about those ideas to question the situation in the hope that a change in perception about the situation will lead to action in the situation (Checkland (1982)). The perception change in engagement brings is a shift in what Vickers (1965) called an appreciative setting.

However, a shift in how the world is appreciated leads to a change in action, according to Vickers (Checkland and Casar, (1996)). So engagement is trying to shift the current arrangement people have with their world by getting them to question it and renegotiate it with their fellow humans. In Vickers terms the engagement approach is trying to help change the standards people have by shifting their appreciation of the life-force. Further, if people appreciate the world differently then they will act differently because the assumption is that a change in appreciation will lead to enacted change. Engagement then is slightly different to comparison because comparison seeks to compare the models and situation. The models themselves are seen as the means to the end (Checkland and Scholes, 1990, p.23). Engagement takes the ideas and how they are engaged as the means to the end. Engagement seeks to engage ideas in a social context purposefully for the sake of improvement.
It becomes quite obvious that the process of engaging ideas into situations of concern, is not simply a process of using models. Underneath the comparison ideal in SSM is the notion that debate or purposeful discourse creates the world in which we live. The assumption is from SSM’s point of view based on the interpretive notion of social constructivism. As discussed in Chapter 3, this notion suggests that we construct the world through meanings (shared with our fellow humans) and understandings. SSM then attempts to shift these current arrangements (meanings, understandings, interpretations). The engagement process is this process. An engagement seeks change, through a reconstruction of reality.

The whole basis for SSM relies on the comparison phase. If there was no stage 5 then there would be no debate facilitated and indeed no action leading to change. The engagement ideal, the ideal that seeks to change the situation through an exchange of ideas within a purposeful discourse in the context of human activity, is fundamentally SSM. If SSM was about root definitions, the CATWOE framework, rich pictures, or models then SSM would indeed be prescriptive as Checkland (1999) noted and functionalist as Prevost (1976) argued. However, the heart of the process is far from functionalist. The heart of SSM seeks to engage ideas with people in problem situations – through debate, social construction and reconstruction. Checkland (1982) argued that SSM attempts to help people negotiate and renegotiate their perceptions of the world. In other words, SSM attempts to help people reconstruct their reality to something that is perceived to be an improvement of something that indeed wasn’t. Therefore if you take this out of SSM, SSM would be a collection of methods or tools for systems analysis. These issues will be examined against the current primary literature, coupled with the evidence, in the conclusion of the thesis. Now it is important to reflect on the major lessons learnt about the heart of SSM, so the social reality implied by SSM can be better understood.
10.3 Extracting and Understanding the Lessons Learnt

The following section will extract the lessons learnt from each case and discuss them in the context of the whole research. Each case yielded very specific and interesting findings in the context of the research and each will be discussed at some length.

10.3.1 Technology Management at IGC: Case One

In case one the way in which technology was managed at IGC was examined. Moreover, this case examined and evaluated technology according to ideas derived from Beer’s (1979) Viable Systems Model. More specifically, it was decided that any technology that was to be implemented and used would have to be viable. This meant that the technology would have to do what it was supposed to do and be able to be controlled and managed. The notion of viability meant that each piece of computer equipment needed to be managed effectively and be regulated otherwise it was not viable. The aim of the case was to examine IGC’s technology to see if it was viable. This process began with measuring the concept of viability against the technology that already existed at IGC.

The first major learning point came when understanding how any specific engagement works. Whilst attempting to help the MD understand the notion of technological viability it became evident that each engagement works on two levels: firstly the engagement of ideas with a situation (outer engagement – E1) and the engagement of the people who happen to be in the situation with those ideas (inner engagement – E2). This is in contrast with comparison which assumes that the models will question the situation by a simple paradoxical ‘comparison’. Further, comparison seeks to use models and does not try to engage the people with the ideas presented. The model of engagement not only better represents ‘comparison’ it adds an extra process that ‘comparison’ assumes. The process of engaging ideas with the people in the middle of the situation. This process is assumed by SSM users in comparison but not explicitly explained.
The problem situation at first seemed like a technical case. But after some investigation it was realised that the technology was poorly managed – that is, the technology was managing the MD. This issue was only discovered after an initial investigation of the problem situation.

As described in the fourth chapter, there appears to be a point at which a framework of ideas is created. For the engagement concept to work it has to be created so understanding the process of creating a framework of ideas is important. SSM has always relied on the concept of the ‘relevant system’ to help create a conceptual model or models. In the case presented here, neither root definitions or conceptual models were used. So exactly how was the framework of ideas created? How was the investigation initiated and how was the outcome changed by this investigation? This case opens up these issues but considering that the cases were about understanding the principles at the heart of SSM (the comparison) then it did not appear relevant at the time. However, it seems as though it is relevant now and will be discussed here in detail.

During the initial stages of the research in this case, the researcher possessed knowledge. The idea about viability, the notions extracted from Beer (1979) as well as several others (too numerous to mention) contributed to a particular worldview held by the researcher that technology should be effectively managed by parties involved in the management of it. Therefore the framework of ideas that led to the engagement process came from previous experiences of the social world. However, the learning that ensued from the engaging of these ideas with the problem situation led to a continuous expansion of the framework of ideas. This expansion of the framework of ideas meant the process was iterative and not even close to being linear. The iteration between situation and ideas then is constant, allowing for ideas to be expanded and contracted with the progress of the project. Vickers (1965) suggested that the world is appreciated by humans (please refer to chapter 3 for a greater explanation on this matter) continuously. The engagement of ideas and situations enacts such a process. By using an established framework of ideas or even a basic framework of ideas and interchanging them with the situation continuously, debate with the people in the situation will eventually create a reinterpretation of the situation. Hence, the new interpretation changes what
Vickers calls an “appreciative setting”. The changing of the appreciative setting causes the situation to be interpreted differently, thus the situation changes according to the principles of social construction mentioned in chapter 3 and earlier in this chapter.

In this case, the participant’s behaviour can be explained by the changing of settings from a determinist framework for interpreting technology to a less determinist framework for interpreting technology. This appreciative change led to measurable enacted change. The change at IGC can be measured now by how successfully they manage their technology (and by data from interviews). It is no longer a burden to them. All aspects are now at least under control where as they weren’t before. Creating a framework of ideas then can come from previous experience, come from the traditional SSM way of expressing problem situations in root definitions (creating a framework of ideas in the form of conceptual models) or from pre-established ideas about situations (as was evidenced in this case).

Each engagement though needs to begin with some kind of framework of ideas. This is simply because every engagement situation is an engagement of a framework of ideas and a situation.

The next case is a good example of creating a framework of ideas and extending it through the rigours of the process.

10.3.2 The Database Case

The database case attempted to use the engagement concept, within the well established DDLC (a derived version of the SDLC) as a guide for creating an internationally used database. The idea in this case was to shift from traditional methods of database creation that don’t focus on the social aspect of database development. Traditional methods almost always focus on the ‘system’ with very little reference or thought to the people who will be using this database. In this case a series of engagements took place over five stages to help create a big database for international use.
The case took eight months to complete and took a long time to make any kind of sense. It was in this case that the research began to head in a different direction. For example the main learning point from this case in terms of the engagement concept is that it is simply an approach. An approach to situations of concern (or ill-defined problem contexts – this is a well established standard) and an approach to situations that need something tangible as the output. In this case the tangible output was the database that MD John Beard needed in order to restructure his operations at IGC. Therefore this approach was modified to cater for this request and was also extended to allow for the varied issues associated with database creation process.

However, using ideals and philosophies is nothing new. SSM in itself is the brainchild of Peter Checkland and his associates at the University of Lancaster. Checkland in Chapter 8 of *STSP* (1981) suggests that the analysis of what SSM hoped to achieve in the social world was undertaken after (in italics in his version) 100 plus small project trial and error type uses of SSM. As surely as Marx was influenced by Hegel, surely the way SSM was conducted in the real world was influenced by the philosophy that shaped Peter Checkland (he discusses it at length in Checkland, 1981, pp280-4). SSM then would owe some of it’s development to Peter Checkland and his philosophical interests as well as to the small project type uses that shaped it. Checkland’s own philosophical development during the emergence of SSM would have surely influenced how the model was presented and hence used. It can be said then that philosophies and philosophical approaches underpin SSM – especially ones that desire improvement to ill-defined problem situations.

Checkland’s attempts to make explicit his philosophy of SSM has not been extensive, as noted in Chapter 2. He has however, written a paper (1982) and argued in Checkland (1981) that the philosophy of SSM is both Interpretive and partially Critical. However, the framework he used in understanding his philosophy didn’t actually accommodate his views. Jackson (1982) noticed and has successfully exploited it (2001) as have few others (Rosenhead (1983) and Rose (2000) for example. What Checkland (1981,1982) was trying to articulate as the philosophy of SSM can be best understood by using the Paradigm Interplay Strategy
approach of Schultz and Hatch (1996) for the purposes of analysis (more on this matter in the conclusion). Checkland had argued in (1981) that SSM existed over two paradigms – that of critical and interpretive – as discussed in Chapter 2 of this work. This challenges the Burrell and Morgan (1979) framework because it suggests that the four paradigms have areas that are indeed philosophically compatible. Burrell and Morgan (1979) suggest that these four views are incommensurable. The other cases will help to make this point clearer and more discussion on this matter will be given in the conclusion section.

In summarising the learning from this section the Engagement concept was used to create a ‘system’ or a database in this case. As the foundational element used, engagement facilitated each level of construction by using discourse to shape it and to structure it. It was argued in Chapter 3 that SSM seeks to use engage people and help them, via discourse, to negotiate and renegotiate their perceptions of the world. It can be argued then that the same process of social construction, used in SSM cased problem solving, can be used to facilitate ‘creation’ of technological systems and other such ‘systems’. Using ideas and discourse through a process of engagement, the database became a socially constructed form of ‘technology’ that had meaning in context. Further, the database became something more than an artefact, simply because it meant something to the people that were involved in the creation process.

The next case sought to recreate the process of social construction in Information Systems development. However, the problems associated with this case drew lessons for both the engagement concept and lessons for ‘Project Management’ in general. These will now be discussed.
ISD case

Having learned from the previous case, the researcher had hoped to apply the same process to a web-based information system that supported IGC’s management activities. However, other projects took the limelight and this project was subsequently cancelled. The outcome of the project though was interesting and marked something of a milestone as it changed the direction of the research. So much so that the next case attempted to put into practice the lesson that was learned from this case.

There was one real lesson learned in this case and it has to do with two areas of interest, Engagement and Project Management. This was indeed an engagement project and it required a process of management. However, external factors hindered the case, in that other projects took priority and hence the project didn’t complete. It was discovered in this case that the nature of Project Management is competitive and each project has a differing level of importance to managers. In this case it was argued that each manager has a capacity to engage with projects and issues. Further, whilst performing management activity each person can be regarded as having a capacity to do so.

In other words they have issues that must be prioritised and managed, and they also have to make decisions about these issues on a daily basis. Each manager then has a capacity to engage with these issues and attempt to make sense of them on a daily basis. More specifically each manager would have a framework of ideas, a methodology (whether implied or explicit) or style for managing issues and multiple areas of concern. The manager then has to engage with multiple issues from many areas of concern on a daily basis. Moreover, the manager would only be able to deal with X amount of issues in any given day or timeframe. If this capacity to “engage” with issues results in some issues not receiving attention then it can be said that this particular manager has no more capacity for anything than what they are presently engaging with. Further, a manager would have to select issues that are more relevant, more timely and take care of these issues as they demand it.
For example in this case, MD John Beard was handed an issue that had been pressing for 20 years. The management system also needed his attention but didn’t get it because all of a sudden the resources needed for expansion to this other issue were suddenly available. He chose to engage and give his engagement capacity to this project which, according to his own interpretation, was both more pressing and more important. In other words, he had prioritised this other project (which is still on-going the Management System project). Engagement Capacity can then be understood as the idea that each person who is in management must deal with issues and must learn how to manage them. Further, each manager of any particular situation has a limited capacity to handle issues and must chose which issues to engage in and which not to engage in.

This means that engaging in issues is a regular activity for managers and one that can be exploited if the need arises. The Training and Development case developed from this idea in the sense that the purpose of the case was to attempt to engage the participants in a learning style so they could in essence train themselves. The assumption was that if managers truly do ‘engage’ and have a capacity to do so, then this can be exploited in other areas, such as Training and Development.

10.3.3 Training and Development

In this case the researcher was attempting to impart an approach for sense making and understanding (in the form of the engagement approach) so people could train and develop themselves in future situations of concern. Initially the approach was laborious, intensive, and seemed to be without discipline. However, after a short period of facilitation the project was at least deemed successful in one of the two cases. In the first case, MD John Beard was exposed via demonstration, to how to engage his ideas in situations of concern, albeit technological situations of concern. He was put in front of a computer screen and asked to perform a range of tasks and during this time he was not allowed to ask how to do it. Moreover, he had to learn by engaging his own ideas following the practice of the researcher, which meant that he had to learn the way I was thinking about a situation if he wanted to be successful. The approach involved heated discussions at times but proved
successful in developing a trainee that learned how to overcome technical issues of concern in his environment.

A brief reflection on the case shows this quite clearly – especially when comparing the state of the MD when the program first started. In his own words, “When Luke [the researcher] began to teach us about computers I knew absolutely nothing about them”. By the end he had developed enough skill to handle some problems by himself. However, it is not snake oil or a miracle cure. The approach is a gradual, disciplined one that requires constant application. The same man who improved his computer skills via this approach still doesn’t use it in every technical issue. These issues point to the next case, especially the issues relating to EDI. More on EDI can be found in chapter 9 and in the following section.

Checkland (1999) suggested that SSM was more about teaching a way of thinking about the world as opposed to certain methods for application. This case seems to show this because knowledge was transferred (if only evidenced in case one of this case). Further, transferring a way of thinking about situations, leads to more interesting results if the receiver of the principles applies them to greater, more expansive areas of concern.

In terms of learning points for this thesis there were two main lessons learned from this case. Extending the idea that this approach can be used for daily problems, this case showed that each person made sense of their situation according to knowledge that had been transferred to them and made decisions about their situations. Further, both cases showed that this approach can be used everyday and for smaller issues of concern, namely how to use computers as evidenced in this case. Secondly, this case showed that the approach is transferable as evidenced by the need for a third cycle. That is when the participant engaged with ideas at E2, they enacted their own cycle of engagement at E3. The assumption here is that engagement is teachable as a learning system, something that SSM’s researchers have discussed at length (Ledington and Ledington (1999), Mingers and Taylor, (1992), Checkland and Scholes, (1990), Checkland, (1981) and Naughton, (1979)). As discussed further in the suggestions for future research sections, perhaps a focus
on the notion of engagement is required, if only to help understand the difficult to understand SSM in order to teach it to others.

10.3.4 Aged Care

The primary reason this case was observed was to understand Engagement as a way of making sense of activity. Further, engagement was used in this case to understand how X engaged his ideas into his situation and learned. Mr X had been applying ideas to his situation by engaging them daily in an aged care facility. Over the space of five years he had learned a lot and actually seen improvement in some patients, in particular one patient who showed quite a drastic improvement. This case yielded two major lessons for the engagement concept. Firstly, it added some weight to the idea that the engagement concept is just an approach. More specifically that it is not just constrained to the world of IS, DDD, Business or even IT. It is an approach to situations of real world concern and helps in the social construction of ‘systems’ as mentioned in the database case. This process, discussed at length in the database case, relies on the nature of engagement to structure, design, implement and evolve technology based systems.

Secondly, a more human dimension of the engagement concept was exposed to the researcher. By seeing the motivation of Mr X for his research, in that he was not just superficially interested but appeared to really care for his patients, an extra dimension to the concept emerged. This idea has been raised briefly in Ledington and Ledington (1999 and 2001) but needs further analysis here. Any particular engagement, it seems, needs some kind of motivation to be practically implemented. Further, a motivated person such as Mr X will undoubtedly perceive what he is doing as important, attach a certain level of expectation to what his doing and have desires for the research (ibid call this EDI – expectation, desirability and importance). Soklowski (2000) presents the doctrine of intentionality as part of the philosophy of phenomenology. Each person has intentions that stem from some kind of motivation according to this approach. In Mr X’s research it was noticed that his intention was to change the situation he was in, rather than a simple understanding of what affects Alzheimer sufferers. His intention then changed what
he expected from his research, shaped what he desired from his research and added a certain level of importance to his research.

It could be argued then that each engaging of ideas and situation is presupposed by some kind of intention, motivation, expectation, desirability and importance. In case two the researcher intended to have the people in the company create a database for themselves and have the researcher’s role as someone who was there to guide the process. In case three the researcher intended to pass the ideals of the engagement concept on to people so they could train themselves, for example. Having presented the cases and discussing the learning outcomes it becomes important to briefly discuss the research management process.

10.4 A Note on the Research Management process

Each case presented above was managed by the research management approach as presented in chapter 4. This approach involved engaging ideas in the form of frameworks and the applying of the frameworks to a real world area of concern. Five areas of concern, all mentioned above, were the ones where this approach was used. When understanding the research management approach of this case, the most important thing to discuss here is the nature of what can be learned for the use of the engagement concept in research situations. The insight here is that research situations are the prime example of engaging ideas and situations but are not really any different from the cases presented here. The issue worth noting is that research situations are simply a different type of management situation and require quality guidance throughout the project. Returning again to the idea that management is the engaging of ideas on a daily basis and making decisions on these ideas. Research is not anything different to managing finance or managing information systems, it can be interpretively managed or managed with the more functionalist approaches mentioned in the majority of management literature. Research is simply the name that is given to a process of inquiry; this doesn’t mean that managing it has to be drastically different from managing anything else.
Managing this form of action based research still requires engaging with ideas as they are presented, taking decisions based on those ideas and learning from the experience. This form of research probably differs in one aspect in that those who are new to it, need guidance. After a period of guidance managing research seems to become like managing anything else. The next section will now discuss the lessons learned in relation to the engagement concept and then discuss suggestions for future research.

10.5 Summarising the Outcomes of the Research

This thesis presented six cases that used the engagement concept, a concept that was used here to better understand the social reality implied by SSM; therefore this thesis will now discuss what has been learnt. Each case yielded different lessons and these lessons will now be listed and discussed in order.

Case One: this case yielded the two level model of engagement and the ideas of appreciative change and enacted change. This means that any engagement is an engaging of ideas and situation and the engaging of people with those ideas. The case also showed that in SSM situations change happens on an appreciative level which is then followed by enacted change from this shifting of the appreciative setting. Case one showed how the MD changed his perception of his technology which then changed how he implemented technological changes.

Case Two: this case showed that the idea of engagement is a practice. Moreover, it is an approach that can be used for problem solving or used to create things (taking as given that people create ‘things’ in the social context mentioned in Checkland (1982)) like databases.

Case Three: showed that the concept of engagement is less like the way it has been presented as ‘comparison’ in as much as the principles behind it can be used on an everyday level. For example in this case the notion of ‘engagement capacity’ was discussed, this concept meaning that managers will engage with a variety of issues on a daily basis and make sense and decisions about these issues. The notion of capacity means that every manager would have to prioritise issues that have more
prominence than others. Further each manager needs to manage the projects and issues in relation to importance as to what he or she is aiming to achieve in their activities. The engagement capacity then can be understood as a manager’s ability to engage with relevant and timely issues (usually of strategic nature) and hence they would give their energy to these ‘issues’. Moreover, managers organise their activities and subsequent staff activities around what they deem to be relevant to engage with.

Case Four: In this case the notions of engaging ideas and situation were transferred to the trainees at IGC and outside IGC. People learned from this and were engaging their ideas in situations on a daily basis. This gave more evidence to the idea that the principles of engagement are a way of ‘managing’ issues rather than just large scale problem solving in big organisational contexts.

Case Five: This gave further evidence for the above and introduced a more human perspective of the engagement concept. That of the EDI approach plus that the doctrines of intentionality from phenomenology and the idea of motivation. These ideas suggested that each engagement is intentional, is motivated and carries with it desires, importance and expectations.

In terms of the engagement concept and SSM some major learning points can be identified. Firstly, it was learned through all of the cases that the concept of engagement can be usefully understood as having two levels. The first level is the engaging of ideas in a situation and the second level is the engaging of people in the situation with those ideas. The two level model of engagement below gives a face to this process:
The second major outcome of this research is that SSM or the concept of engagement that is within SSM relies on a shift in perception through the processes of social discourse. In other words for change to be ‘enacted’ is not the focus of SSM. In the social world SSM is attempting to get people to talk about and recreate their situation via human discourse. Change naturally follows this process of social reconstruction because, as discussed in the cases; appreciative change leads to

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**Figure 34 - The twofold model of Engaging Ideas and Situations**
enacted change. SSM relies on this to be effective. In cases 1-4, it was deliberately attempted to recreate this process of social reconstruction via the engagement of ideas and situation. Whilst it could be argued that case 4 didn’t reach autonomy, it can be said that each case showed great insight into the social reality implied by SSM and even further insight into the mysterious and paradoxical notion of comparison.

So after analysing these cases and the subsequent data what is the social reality implied by SSM? This leads to the conclusion of the thesis. That is, what can be drawn from the research as the overall outcomes to be analysed and discussed? The following section will examine the results against the original idea to extract the lessons that can be learned in relation to the social reality implied by SSM.

10.6 Conclusion

This section will conclude the research by first introducing a conclusion of the research, giving an overall concluding summary of the major outcomes and then expanding into suggestions for future research. Firstly, though a brief discussion on the nature of the outcome of the research. After six cases and 18 months in researching the social reality implied by SSM it was found that the original analysis of Checkland (1981) below is still the most accurate when attempting to understand the social reality implied by SSM:
The reason for this is evidenced by the cases. Case one was inquiry into technological determinism then change; Case two the researcher and the participants specifically set out to change the situation at IGC; Case Three the researcher and the participants set out to create a management system; Case Four the researcher attempted to pass on a training and development approach based on the engagement approach with the sole purpose of changing the way they thought; Case Five: X set out to change his workplace environment using an SSM based approach; Case Six: the action research component of this thesis which was based on the engagement concept was interpretive and partially critical. All of these cases have some small change element in their usage of the engagement concept. This of course, leads to suggestion that the social reality implied by SSM is both interpretive and partially radically humanist.

The cases though only show five uses of the engagement process inside SSM and probably do not give enough insight into this vast topic. However, what can be extracted from this thesis is that SSM seeks to engage people in ideas and situations for the purpose of structuring a debate about change. Each case presented a
situation that needed some kind of improvement and applied (or observed the application of the ideas) the idea of engagement to that situation. The improvement that is sought by SSM users is a perception shift that could lead to change. However, some cases will prove that people can change the way they think about something but either not be able to change the situation or not really want to change the situation. This is where the notions presented in Case 5 about EDI and motivations and intention come into focus. SSM is only effective in as much as it can allow for the social world to be reconstructed by discourse and perception change, this doesn’t mean that actual change will occur. There is a link between ‘appreciative change’ and ‘enacted change’ but there is also something called human motivation and intentions that fills the gap between the two. An example of this exists in the training and development cases.

What the case doesn’t tell you is that after the researcher showed him one aspect of the learning he wanted the rest still had to be sold. Despite the fact that his ‘appreciative setting’ had changed and he had acted out of that, the second time round his motivation told him that he wasn’t interested when he quite obviously was! SSM then is helpful in the world of problems and seeks change from the outset but it only seeks a change of perception. It relies on the human factor to do something after the perception is shifted. Checkland (1982) discusses this at length and suggests that SSM can shift the Status Quo in the right environment. However, SSM is not about shifting the Status Quo. It is about facilitating the social process of construction and reconstruction of the world through meaningful discourse and debate. If this process, a process of engaging ideas and situation, improves or changes or gives insight into areas of concern or interests then the user has changed something. Given that interpretive sociology seeks regulation and understanding, according to Burrell and Morgan (1979), SSM is only partially interpretive. However, from the outset SSM is seeking to change they way people interpret the world, much like critical theory does (except that SSM does not have any political indoctrination attached to it like critical theory does). SSM though seeks to engage people in their world, through ideas and uses these ideas to facilitate the process of human creation via human communication. SSM deliberately attempts to change the way people perceive their situation so they can change it. It has to be said then, even if issues like power plays or politics come into it, that SSM should rest
somewhere in the quadrant of subjective change and interpretive paradigm rather than in just the interpretive paradigm. Each use of the engagement concept showed that change was possible but people had to change how they thought about the situation first. This is still an attempt by the concept to facilitate the process of change.

As Checkland (1982) noted though, this is only one way of perceiving what SSM attempts to do. What is difficult to understand and almost impossible to comprehend is why there has been absolutely no further research done into this area. With the exception of the texts mentioned in Chapter 2 (some of which are over 20 years old), no researcher has attempted to tackle what SSM is hoping to achieve in the real world. Essentially SSM has foundations in Critical Theory and Interpretive Sociology, yet this debate ceased. The debate itself could help to further the understanding the nature of SSM in the real world of human activity, if only from a social theory standpoint. However, if this was undertaken at least people could expect that SSM would at least follow some kind of discernable pattern. Further, it could be teachable both to undergraduates and to postgraduates alike. Something that has plagued SSM is it’s inability to be made clearly understood. Davies and Ledington (1991), Wilson (1984:1990) and Patching (1990) are good examples of attempting to teach SSM to a wider audience. However, these texts are simply all there is and that really is an indictment on the makers of SSM’s inability to simplify the core concepts enough to make it accessible to a wider audience. More on this matter in the suggestions for future research section. Another issue is that of the use of SSM’s paradigm interplay.

Schultz and Hatch (1996) suggest that the idea of the four paradigm matrix as first suggested by Burrell and Morgan (1979) is not four solid incommensurable positions worldviews but that there exists areas of exploitation. Nobody at all, that can be found at least by this researcher has sought to expand on this point. This point is crucial in understanding what SSM hopes to achieve. Further discussion on this matter will be undertaken in the following section.

This research has shown quite clearly that SSM makes use of a paradigm interplay, yet there exists absolutely no research, except for this research, that suggests this.
Others (notably Mingers (2000)) suggest that SSM can be combined with other methods, Critical Systems Heuristics (Jackson and Flood (1991) and Jackson (2000)) admit to having taken the interpretive nature of SSM and applying it to situations of that have power imbalances. However, SSM can operate like this if the user wants it to. For example, in case one a particular theory about how technology should be managed was applied to a situation of concern. The subsequent result of applying this framework of ideas led to sustainable change that, in the words of Critical Systems thinkers emancipated the workers from their present state of enslavement. Therefore, SSM’s core, the concept of engagement, operated critically. So what then is the point of using a critical systems approach if SSM can operate this way. Jackson (2001) admitted he took SSM and applied critical theory to create what he suggested was a hybrid. Closer analysis seems to reveal that this approach is nothing more than the principles of SSM expounded to include a specific worldview. What is more troubling is that SSM is still largely misrepresented in this way.

Flood (1999) is a well-known and extremely popular account of the history of the systems approach to management (albeit an extremely brief history) with an eye to critiquing Peter Senge’s systems thinking approach (Senge (1990)). Flood suggests that practitioners like Senge owe a lot to Checkland (1981), Beer (1979) and the others who he borrowed from, allegedly, to create what is now known as the fifth discipline. However, as the saying goes: Thou hypocrite, first cast out the beam out of thine own eye; and then shalt thou see clearly to cast out the mote out of thy brother's eye (Matthew 7:5). Flood not only lifted the principles of SSM, with the help of intellectual partner Jackson, he exploited the critical elements that are in SSM to the extent that his own worldview, became a form of SSM. Further, his own beliefs, rooted in Marxism, extended notions found (according to Checkland (1981), Mingers (1980, 1984)) in SSM. Jackson (2001) obviously believes that paradigms are incommensurable, otherwise Critical Systems Heuristics would be fraudulent! For example, if SSM makes use of a paradigm interplay, as becomes apparent when using it, then SSM must at some point become critical and make use of this grey area that Schultz and Hatch (1996) argue about. In case three, the database case, a deliberate critical approach was taken.
In this case the focus of design was people and people who would directly use (thus create meaning for that object). Not mentioned in the case was the fact that the researcher deliberately took the idea of communicative action, found in SSM (Checkland (1981) pp.280-4)) and extended or exploited this notion. Human discussion and discourse created this database. Further, this discussion took the form of debate (sometimes a little heated) and this became the foundation of the project. Isn’t this rational purposeful conversation? The inquiry process of this database was interpretive as admitted in the case but this process was not. Therefore, the researcher exploited this grey area. Further, the DDLC, a known functionalist approach to creating databases, was used. SSM appears to exploit grey areas all over the place! For example in this case, the functionalist principles of the DDLC were adapted to suit the nature of SSM. This still makes the principles interpretive but drawing from a functionalist gene pool. Likewise when the conversation built the database, critical notions extended from SSM were used (see Habermas (1979) for a detailed explanation of communicative action).

SSM then appears to have a solid interpretive foundation, the only point that theorists appear to agree on, yet this thesis adds a new dimension to this approach. The new shape of SSM will be discussed in the following section. The interpretive foundation of SSM is not something solid and fixed as suggested by Jackson (1982:2000) but is something fluid and flexible. It is possibly not mappable with Burrell and Morgan’s (1979) matrix because in practice it disagrees with the foundational principles presented by Burrell and Morgan. Further in practice it seems to agree with Schultz and Hatch (1996) which suggests that paradigms have grey areas of philosophical agreement that can be exploited. Therefore, SSM takes advantage of this interplay and exploits grey areas as it needs to. Further, it cannot be mapped into Burrell and Morgan’s four paradigm matrix. In conclusion, from this research at least, it appears that SSM escapes, as it has for the last thirty years; any real solid paradigmatical definition. SSM seems to adapt itself to whatever social reality it is presented with by the user and adapts itself to these ideas without compromising itself. Whilst this definition may seem glib and somewhat over simple, further research should be conducted to see if this is the case. In other words, the research presented here is barely scratching the surface of the autopoetic
nature of SSM and further research will need to be done in order to give light to this complicated issue.

The next section will give a concluding summary as to what this thesis was about and the contributions to knowledge that can be made will then be discussed in the suggestions for future research.
11.0 Concluding Summary

This thesis was about understanding the social reality implied by Soft Systems Methodology. In this thesis, the most important activity used in SSM was studied by using the engagement approach as a replacement for comparison. It was decided that using this approach would be less confusing than the comparison paradox (Ledington and Ledington 1999, 2001) and would be useful as a framework for interpreting the social reality implied by SSM. The framework was applied to five situations, four of which explicitly used an action research methodology. The fifth situation applied the framework to make sense of activity in the social world.

However, the major outcomes of this research contribute several important factors to SSM’s development and not just directly into the main topic of this thesis. This can be understood better if the contributions to the area of SSM are listed according to five main areas. These are: (1) The paradigm of SSM – it’s implied social reality (2) management , (3) research situations, (4) ‘systems’ development and the social construction of technology and (5) SSM as problem solving activity. These will now be addressed in order.

(1) The Paradigm of SSM. SSM’s implied social reality can effectively be understood as exploiting what has already been introduced as paradigm interplay strategy. By exploiting the gray areas between paradigms and finding compatible schools of thought, a user of paradigm interplay effectively creates their own paradigm that is both consistent philosophically and does not require different modes of thinking as suggested by multi-methodology approaches (Mingers (2000)). It was argued that the cases showed that SSM uses a paradigm interplay strategy to achieve an engagement because it takes a subjective analysis process and uses that to drive change. The process of engaging an idea, with change as a
declared hoped for outcome, is really a process of critique. Further, it is a process that takes a theory that is deemed relevant and uses humans in the situation (who are engaged at E2 with the ideas) to have discourse about change. If it were interpretive, then the desire for change (incremental or radical) would not be inherent in SSM, as it would desire regulation and understand meaning rather than seeking to improve social situations of concern.

(2) Management. SSM as a sense making device for use in management situations is an area that has only been explored by Ledington and Ledington (2001) and Houghton and Ledington (2002). This contributes the idea of Engagement Capacity to SSM. This was discussed earlier in this chapter and will not be discussed again here. It can contribute to management in that it can help to make sense of project failure and management activity in general. It could also, as a philosophy of Management help to make sense of situations of concern, as it has done for the last thirty years. If the principles of engagement could be taught to students it could possibly become helpful to them when they encounter management issues. For example, prioritising, deciding which issues to pursue and which to not pursue, understanding conflicts, risk management, understanding change, training and development as well as other areas of management too long to list here.

(3) Research Situations. This research contributes a model for research that has not previously been developed. As argued in chapter 4: In this [research as a process of inquiry] model there is three distinct learning cycles going, after the engagement of ideas with the research situation. Firstly, the learning on the first level refers to learning on the overall level of the project. That is, the area of concern and the researchers overall framework of ideas. Secondly, the user of the approach learns about ‘data’ (D) and the implications (I) of their (F). Thirdly, the researcher learns about their paradigm and it’s implication at (V) in the model. However, each process is direct result of applying ideas contained in a framework to an area of concern. The process of research, governed by the overall guide that is
FMA (Checkland and Holwell. 1998, p.11) directly contributes to a growing research strand in using FMA as a research tool. The research as a process of inquiry model extends FMA in that it articulates what FMA generalises. Each case used this process and could provide valuable insight into the research of using FMA as a research tool (Ledington et al (2001), Rose (1997), Rose (2000) and Ledington and Ledington (2001)).

(4) Systems development and the Social Construction of Technology. This thesis contributed to ‘systems’ development in a number of ways. Firstly, it presented and evaluated a process model for systems development. It also gave some evidence to the purposefulness and usefulness of the approach. This is a new area in systems development though because it relies solely on discourse as opposed to current models (SSADM 4+ for example) which rely on technical soundness and technology itself. The approach discussed here could contribute to systems development literature in that it presents an SSM based framework for systems development. Whilst these abound, this is the only approach to use engagement at each stage. This approach also shifts away from the alarming technical nature of systems development that has considerably hindered IS (Work (1997)) and will undoubtedly continue to do so (Angell (1997)).

(5) This research contributes to the original use of SSM in practice and that is the activities of problem solving. Checkland (1981) introduced SSM as a seven stage guide to problem solving based on what he called ‘phenomenological sociology’ and ‘critical theory’. The approach sought to create a theory about a situation in the form of a conceptual systems model and compare the model to the expressed problem situation. The assumption was that the systems models would yield questions which could be used to form a well structured debate. However, the comparison paradox, coupled with the difficult modelling process (Ledington and Donaldson, (1997)), have made SSM’s development overshadowed by easier to understand methods. SSM itself is not a method of application, it can be effectively seen as a process of creating a framework of ideas about a situation, engaging the ideas and engaging the ideas with those people in the situation. The research then contributes two main points of knowledge to SSM’s core activity of problem solving. Firstly, Engagement better represents
comparison and more concretely describes what SSM is attempting to facilitate through the use of the models. That is an engagement of people with ideas is the aim of SSM with the desire to change the situation as the reason why this activity called ‘SSM’ is indeed practiced. This is what makes SSM relevant and why it is still being studied because it is designed to help to understand problems that are ill-defined. Secondly, engagement is an activity in its own right at can be used in other areas of problem solving, such as sense making as noted in the Aged Care case.

Engagement was used to make sense of the activities of a worker in an aged care facility. The worker was interviewed and subsequently his activities were made sense of using engagement. This sense making ability can be said to be helpful in trying to understand the complex nature of human activity. Engagement therefore contributes to interpretive inquiry practices because it adds a way of making sense of seemingly ill-defined situations. This no doubt could also be helpful in areas on research as well as areas of management and thus makes a small contribution to interpretive practice and research.

Having now listed how this research contributes to different areas of knowledge, it is now important to conclude the thesis by discussing what are some relevant areas of research.

11.1 Suggestion for Future Research

This section will discuss ideas for future research that have been derived from the knowledge contributions made by this research. The areas will include: Discourse Driven ‘Systems’ Design, Management, Engagement instead of Comparison in SSM Based Problem Solving, Conceptual Modelling (as part of SSM based problem solving), and the Emerging Shape of SSM (including a discussion on research issues).
11.2.1 **Discourse Driven ‘Systems’ Design**

In cases two and four, a very specific mode of design was applied and this was discourse and debate driven design. These principles were derived from the notions of critical theory that are present within SSM. Further, the notions are central to human communication as theorised by Habermas (1979). The design process will not be discussed here, (please refer to case 4). It should be noted that this approach is undeveloped at present. The closest form of this process is Multiview, (Avison and Fitzgerald, 1995). However, there really is no literature for the model of design presented here.

Bearing this in mind it is now important to understand how future research could effect the development of this approach. Firstly, the approach needs to be examined in other contexts than have been presented here. This essentially means taking the approach into broader bigger contexts to develop the approach and evaluating its use in the field. The approach at this stage also needs some simplification so it can be presented in a smaller way. The model itself is far too complex and large – making it extremely difficult to understand at first sight. The five stage guide laid down, is interesting but at each stage the approach represents a new engagement – thus requiring a model to explain each stage. By most academic standards this is far too complex and to an extent overkill, to say the least. What the model appears to need is simplification and further application in the field. This will only come from further use and practice of the approach in real world situations involving ‘systems’ creation of some kind.

11.2.2 **Management**

In case four an idea surfaced related to engagement capacity. This idea, (please refer to the summary of case four for greater details) gave way to the concept of managing situations according to the principles of engagement, as presented in this thesis. Further, the case showed that each situation and context resulting in thinking about issues on a daily basis.
The most relevant literature in this regard is in the form of Ledington and Ledington (2001) who suggest that SSM needs to move from the consulting mode into a more ‘immersion’ type approach that could be useful in dealing with the sense making activities of management, as mentioned in Case Four. The research conducted by Ledington and Ledington (2001) aims to extend their own research in (1999) for example, and desires to examine SSM as useful in the everyday realm of management. Hence, desiring to see the activities of professionals improved through the use of SSM.

The engagement concept seeks to address these issues, and indeed is a social process (ibid). Further, if the principles of engagement could be taught to managers in everyday situations of concern, this would be of great benefit to academics and business people alike. Future research in this regard needs to focus on the nature of the engagement concept to tackle everyday issues of concern rather than specialised projects of concern. Another text worth examining in this regard is Wilson (2001) whose work seems to suggest that SSM needs to be more rigorous in context and application.

Wilson (2001) suggests that each use of SSM must be structured in such a way that it doesn’t violate rules and regulations laid down by himself, albeit partially, and Peter Checkland (1981). However, this is in absolute contradiction with this research and subsequent research from Checkland and Tsouvalis (1996, 1997), Ledington and Ledington, (1999, 1999, 2001), Houghton and Ledington (2001, 2002), for example. The worldview that SSM is almost methodical in application is ludicrous and to think that SSM can be governed by a set of rules contradicts the paradigm of SSM. Further, rules do not govern the practice of something that is as flexible as SSM because then it becomes inflexible. For example, if SSM is iterative and non-linear as it is so frequently described, why does it need to be governed by rules? Wouldn’t that make the process methodical (instead of methodological) and lead to it being misunderstood?

Wilson (2001) states that SSM cannot effectively work without this type of rigour and the model of SSM is not flawed, it’s the people who use it and how they use it (p.10). The idea that SSM can only be limited to one kind of application is not fair
to users of SSM. Who use it: intrinsically (mode 2, Checkland and Scholes (1990) p.280), to develop research (Baskerville and Wood-Harper, 1998), create ‘systems’, manage supply chain management (Glencoglu et al, (2001)) and several others who have effectively used the principles of SSM to manage everyday situations. It seems to limit SSM then to box it into a simple framework of ‘problem solving’ as Wilson (2001) appears to. Future research needs to develop the ideas of using SSM in the management discipline by examining it’s effectiveness in this regard. Further, the results from this could lead to training programs that follow the example of Ledington and Ledington (2001) by taking an active step towards teaching students the principles of engagement for the purposes of management.

11.2.3 Engagement instead of comparison in SSM based problem solving

Future research into SSM should seek to avoid the use of the comparison notion. Chapter 1 and 3 provide solid reasons why comparison needs to be avoided. In a study conducted by Ledington and Donaldson (1997), it was suggested that comparison was troublesome and most students perceived comparison as some kind of abyss to be entered into cautiously. Further, comparison seems to negate the social purpose of SSM which is to facilitate a debate about change. Checkland (1981) even states that comparison is not a comparison of like with like but is simply a part of a means to end. The end according to Checkland and Scholes (1990) is to have a purposeful and meaningful debate about change. Comparison is not only a poor choice word wise, it is a poor choice conceptually. What happens at this stage of SSM has little or nothing to do with a comparison and the notion is somewhat paradoxical (Ledington and Ledington (2001)). Further, philosophically speaking, the notion of comparison is not consistent with SSM and it’s social reality. This stage seems to slip from the soft side to the hard side which makes it inconsistent because SSM seeks to recreate the social world by negotiation and renegotiation of it (Checkland, (1982)). How then can SSM recreate the world if it suggests there is something that needs comparison? This suggests functionalism and maybe this is what Naughton (1979) was hinting at.

Checkland and Holwell (1998) present a model minus comparison but a quick analysis of the rewording (structured exploration of the problem situation) reveals
that this isn’t a change toward what is supposed to be going on at this stage. This is for two reasons. Firstly, an idea is being used (in the form of a conceptual model) to facilitate a debate about change. If this is being used to spark change then how is it simply ‘exploring’. The term exploring leads to the conclusion that something is being examined for the purposes of understanding rather than a focus on improvement. Secondly, how is using a model, about something that ‘might’ potentially be relevant, structured? The process of selecting relevant systems, as discussed in Davies and Ledington (1991) and again in Checkland and Holwell (1998) is supposed to be subjective. Subjectivity suggests that the approach for selecting relevant systems is up to the analyst, who apparently has some insight. How and in what way is this structured? The process of writing the relevant systems and making subsequent models contain structure, but selecting the relevant systems is anything but structured - it might even be a guess. This is not structured because the whole process is built upon an assumption of an analyst. Yet time and time again, we are told if we want to use SSM we must follow constitutive rules, otherwise we are not using it. The next suggestion will expand on this point.

For future researchers and users of SSM, the focus needs to be sharply aimed at understanding the process of engagement, rather than comparison. Indeed, the core activity of SSM appears to be the process of creating a model to engage people in order to facilitate discourse that ultimately leads to an agreed course of action. How is this a comparative activity? Future research should seek to take the core ideas of SSM and do more work into what is trying to be achieved at this tricky stage of comparison. To say SSM is only learned by doing isn’t good enough anymore, as researchers and teachers would know, the process has to be made with enough theory to begin practice. If only for the sake of beginners who might be interested in SSM or the ideas that underpin SSM, more clarity and distinction needs to be bought to SSM. Presently SSM is far too academic and mysterious to be accessible to the everyday manager of issues. The purpose of engaging ideas and situations may differ from case to case, but the essential foundation of what SSM is trying to do at this stage needs to remain the same. The notion of comparison seems to suggest one style of problem solving that puts one set of ideas (in model form) up against the real world.
However, engagement suggests that people create the social world through discussion and intersubjectively shared meanings. Further, engagement assumes that problems will change when people think about them in a different light to what they are currently thinking about them. More specifically engagement assumes that people will debate issues and consider action when placed into a situation of concern. Engagement seeks change through human participation, to change any kind of situation as well as help managers deal with ill-defined issues and regular issues on a daily basis. For future research, engagement needs to be further examined and should replace ‘Comparison’ and ‘Structured Exploration of Problem Situation Using the Models’ because it effectively tells a better story of what is going on at this stage. Moreover, it allows for many types of applications, not just special project-type consultant based ones. The next section will discuss the most recent text on SSM and why it appears to be a step in the wrong direction.

11.2.4 Conceptual Modelling

Brian Wilson’s book *Soft Systems Methodology: Conceptual Model Building and its Contribution* (2001) is the latest primary text on SSM. This text focuses on Wilson’s model for SSM and seeks to prove the usefulness of conceptual modelling to the point where he suggests that conceptual modelling is the only way to do SSM. The point Wilson makes is that SSM needs rigor to work properly and not using the models takes away from the structure and logic of SSM. Further, he seems to note that Checkland and Tsouvalis (1997) have not got it right when it comes to SSM suggesting that their interpretation of SSM seems to suggest less structure is required. Wilson does not take into account the work of Ledington and Ledington (1999) and their criticisms on Conceptual Modelling nor does he take into account the criticisms of Hirshheim et al. (1995) who suggest that the conceptual modelling process is too simple and possibly functionalist.

Wilson’s previous two books are foundational texts for SSM users so his contribution is not one that is light in any shape or form. He is one of the founding members of the famous Lancaster research project and has sought to research the practice of SSM as well as the theory for many years. However, why is it that SSM must retain these models and why is it that they absolutely must be used? This
argument contains no foundation or relevance considering that SSM appears not to be justified by its modelling process at all. Checkland and Scholes (1990) suggest that it’s simply a means to an end. Therefore aren’t there many more means to the end. The end apparently (ibid) is to have a well structured debate about change. Why is it then that the SSM user must use conceptual models? Why can’t SSM users seek other means to the end?

According to Wilson:

“…the intellectual constructs used within SSM cannot be ‘validated’ by reference to the part of the real world to which they are relevant. Thus, for defensibility, they must be ‘validated’ against something, otherwise they will lead to nothing more valuable than opinion”. (Wilson, 2001, p.xvii)

Unfortunately people called ‘consultants’ are paid for their opinion – a prime example of this is Business Process Reengineering. Another example is SSM. Why? SSM users select systems which they think might be relevant. This can’t be an opinion can it? Despite the fact that SSM users model their opinion into a conceptual model and this indeed is an intellectual construct (it is just their opinion). Whether the model is a construct or not, it’s still an opinion because it came from someone who thought it to be relevant at some point.

Future researchers need to abandon conceptual modelling, for in essence it is a flawed process. Alternative modelling methods (in the form of Decision Variable Partitioning for example) can be found in Ledington and Ledington (1999) but what is more interesting from this paper is their support of Hirschheim et al (1995)’s criticism that conceptual modelling is too simple. Further, Checkland and Tsouvalis (1997) argue that the dividing line in SSM represents a dual form of reality that is actually false. Synthesising these two premises then leads to the conclusion that Conceptual Models, though helpful are still only a means to an end – one that is flawed and one that represents an opinion moulded into an intellectual construct.
Therefore, future research needs to discuss and analyse modelling approaches and what they can bring to SSM and engagement. None of the cases presented here used models or root definitions, they simply sought to use the heart of SSM, engagement and represent its use. However, according to Wilson (2001) this isn’t SSM. Checkland (1999) would agree, but not Checkland and Scholes (1990) who argue that models are only a means to an end. Yet they (ibid) argue in their constitutive rules for the use of models (ibid, pp-280-2)! The work presented in this thesis is apparently not SSM because it doesn’t follow a set of rules. How functionalist to regulate a interpretive/critical based methodology on a set of rules to govern its practice! Yet, this work uses the underlying philosophies of SSM to do what SSM does yet according to primary literature someone has to use ‘models’ to validate their use of SSM. Checkland (1999) (p. A34) argues that for SSM use to be legitimate systems models must be used.

To resolve such a paradox seems impossible yet there has to be something to suggest that SSM is being used. For example, maybe a set of guidelines to what interpretive/critical practice in SSM should be could be useful. Alternatively maybe people should be taught what the principles of what SSM is trying to do in the real world instead of trying to tell everyone must be done in order to use SSM. Whilst the research agrees that SSM needs regulation, it cannot be governed by a set of rules. This is the same type of thinking that rules hard systems and it hasn’t benefited that way of thinking in the slightest.

Future researchers need to move away from this line of thought because it is not necessary to use models to achieve what SSM attempts to achieve. This thesis has shown in five separate cases that it is possible to facilitate a debate about change by using a well constructed framework of ideas, however those ideas are created. In the aged care case, Mr X’s activity was observed by using engagement as a sense making tool. Mr X’s decided to engage those ideas (presented in Kitwood (1997)) into the situation to learn about the ideas and improve that situation. Isn’t this what SSM attempts to do. He wasn’t even using SSM (he has no idea what SSM is!) or explicitly using engagement theory, yet his pattern of activity suggested SSM. Yet he improved his world due to his engagement, though it was not explicitly declared. Checkland (1999) and Wilson (2001) both primary figures in the development of
SSM suggest that this man would not have been using SSM, yet he was following the ideal that is ‘comparison’. There is no logic to the argument that models must be used in the practice of SSM. There is also no foundation, considering that this thesis has shown, quite specifically that there is other means to the end. Moreover, there is also other things that SSM can practically do in the real world.

The next section will focus on this new emerging shape of SSM and give a brief insight as to the nature of contemporary SSM.

11.2.5 The Emerging Shape of SSM

So far in this section it has been argued that SSM users need to shift their focus from comparison to engagement, from using systems models to using ‘other means’ and to consider the nature of SSM and what it’s trying to do in the social world. In order to expand on this logic, a new form for SSM users needs to be examined. As mentioned in the cases no literature exists which describes the way in which SSM uses paradigm interplay in everyday usage. This topic alone needs to be analysed and researched in the future, if only for one reason - to support the fact that SSM is not purely interpretive. This point of view, taken up by contemporary SSM (see Checkland (1999) A34 for an example) seeks to box SSM into the interpretive paradigm, which is possibly a mistake, mainly because SSM seeks to improve situations of concern. In other words, in every use of the methodology SSM is seeking to improve or change situations of concern. Interpretive sociology is only concerned with maintaining the social order and therefore cannot be said to desire change.

SSM wants change but draws on interpretive means to do so. SSM does not agree with the notion of incommensurability because it seeks ‘change’ from an interpretive foundation. If it didn’t then SSM would seek to maintain order and would be absolutely useless to the world of problems. Moreover, SSM seeks change when it becomes available but only from the standpoint of changing perceptions about situations. Checkland (1982) goes into great depth trying to explain how SSM seeks to change worldviews through facilitating a debate about change. Critical Theory seeks to change the social world through the process of
critique. Very similar to SSM, critical theory draws on the same social relativist principles that SSM does but differs in the assumptions about the real world that it makes. SSM makes no assumptions about the political nature of the real world yet critical theory does.

SSM then uses paradigm interplay as it needs to but always seeks improvement to problem situations. This first became evident in the cases during the database case. During each engagement it became evident that the participant and the researcher were looking for ways to improve the process and not necessarily maintain it. There was understanding at first, that the social order at IGC had to be analysed, worldviews collected etc but change was always the order of the day. In case one the researcher realised that IGC’s technology was out of control, so through the use of the engagement concept and the participant, the researcher was able to improve the situation so IGC was in control. Each case saw the principle of engagement, the heart of SSM, seek change but through the interpretive process of engagement. Each case would begin with a perceived problem situation and eventually progress to a place where change would be debated. The essence of debate is communication about something in a relatively structured way, therefore SSM seeks to use debate to bring change.

The emerging shape of SSM needs to be examined in a much greater context. This is because this version of SSM resolves the comparison paradox and finally admits that SSM is trying to improve situations of concern. If these assumptions are to be further evidenced then SSM researchers should use the approach in the real world of social activity, perhaps on systems research or similar projects to the ones that have been presented here. The engagement concept describes, in a clearer more concise way what SSM is attempting to do in the real world. Further, it brings clarity, order and sense to a seemingly paradoxical (Ledington and Ledington, (1999)) area of SSM. The reason that this version of SSM brings clarity is because it simply describes what SSM hopes to do in the social world - engage ideas with it, to facilitate debate in order to bring change. Future researchers of SSM should attempt to understand this concept, coupled with the argument made here about paradigmatic foundations and move forward from this point.
Engaging ideas and situation becomes the focus of SSM instead of the modelling process in this version of SSM. The notion of engagement then is important to SSM because it focuses future users of SSM on the main idea or concept behind SSM which is to improve situations by using the people in those situations. Future research should seek to expound on the bones of this thesis and the work of Ledington and Ledington (1999, 1999, 2001) to create a new powerful future for SSM. Wilson (2001) and Checkland (1999) have played their part in creating SSM. It’s now time for a newer, clearer, more concise worldview, like the concept of engagement, to be taught and therefore used in the real world of human activity. The twofold model of engagement from this thesis and the models presented in Ledington and Ledington (2001), are a start but these ideas need evaluation, analysis and further exegesis. They also need further development in the world of research in order to help establish this approach as the new shape of SSM.
Bibliography


Beer, Stafford (1994) *Beyond Dispute: The Invention of Team Syntegrity*, John Wiley UK


Hirschheim, Rudy (1998) *Beyond the IS outsourcing Bandwagon*, NY USA.


Kitwood, Tom (1997) Dementia Reconsidered, © Tom Kitwood, USA.


Ledington, PWJ and Ledington, J (1999b) *Extending the process of comparison in Soft Systems Methodology*, Operational Research Society, (50) pp1149-1157


Ledington, PWJ and Ledington, J (2001) *Interpretive Inquiry: From Comparison to Engagement in SSM*, Systems in Management (ANZSYS) 7th Annual Conference Proceedings, Edith Cowan University, Western Australia.


Naughton, John (1979) *Functionalism and Systems Research: a comment*, Journal of Applied Systems Analysis, 6, Department of Systems, University of Lancaster.


Popper, K R (1972) *Objective Knowledge*, Oxford University Press, UK.


Appendix A

Informal interviews were conducted via telephone, face to face meetings, or generally just discussions about the problem. Certain ethical considerations such as expressing intent and what you expected from the participant was made explicit. In each case I had no formal questions with me, or even a declared questionnaire. I took with me was a notepad or some form of acceptable recording device and took notes. In this role it became extremely obvious that the notion of facilitation or what Hirschheim et al (1995) would have called the role of the facilitator. That role in each one of these cases was to, get the participant into a stream of discourse. This stream would hopefully allow each individual to open up and begin discussing there problems. It has been my personal experience that formalised questionnaires are never properly filled out due to the busy nature of the modern day individuals. Not only this, but questionnaires seem to be too narrow and some answers almost always need more expressing than is given in the case. When starting these sessions, I would always try to allow the other group to speak more openly about their problem situation.

This would allow that person to discuss freely and openly with me concerns, issues or general problems that they might have. When creating the database, I interviewed two people who had conflicting world views about the use of the database. One person viewed it as means to creating records management at head office, the saw it as an opportunity to create a better model for records management overseas, without changing the current model of records management. Whilst the two world views seemed opposed it was through this process that they were accommodated. Through rational discourse and discussions, these interviews provided a platform to discuss issues like these. The main problem with this approach though, is the fact that data collection is much harder.

Meaning that in each case, when the informal sessions were complete I had to discuss with them what I had personally interpreted from these sessions and ask them for permission to what I could use. This can prove difficult if your sponsors are not willing to let you use some data. Fortunately, my sponsors let me use anything I want provided I didn’t tarnish corporate image. However, if the data from these informal sessions was inflammatory or otherwise it would have to be destroyed on the spot.

These sessions were not done in group situations because that would then be an open discussion, these sessions were informally done with two people, the researcher and the participant. As mentioned there were no formal questions just a serious of what might be called human discourse. That rationalised process of humans communicating with each other about areas of concern. In essence this is what the informal interview process was: Meeting, talking about problems during meetings, reflection on data collection and approval of data collection.