

UNDERSTANDING SENSEMAKING IN ORGANISATIONAL CHANGE:

A COGNITIVE MAPPING APPROACH

By

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ABSTRACT

In this thesis I argue for consideration of a precursive level of sensemaking that influences how individuals think about and respond to organisational change. In asking 'how' knowledgeable agents understand an altered environment, I adopt a holistic view of organisational and cognitive sensemaking literatures, to produce a sensemaking template identifying four key relational influences: equilibration, intentionality, temporal context, and knowledge structures. The sensemaking template is used to inform the design of an interpretive single case study in a local authority, working to meet an increasing local demand for services against a backdrop of austerity budgets and decreasing resources. I employ cognitive mapping to identify previously tacit knowledge structures used by research participants to make sense of self-selected episodes of change in the organisation. In arguing that organisational change emerges through the enactment of cognitive agency, I use empirical data to expound on a previously invisible sensemaking process that is complex and nuanced. Understanding how organisational change is cognitively processed can lead to discussions about how we can stimulate complex frames of reference to better respond to the demands of organisational change.

Key words: Organisational Change, Sensemaking, Mapping, Cognition, Knowledge Structures

In memory of:

Una Murphy

1960 –1962

Always loved, always remembered

Paul Keogh

1961 -2014

A life lived joyfully, with just the right level of rebellion

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1 INTRODUCTION

'Catching reality in flight' (Pettigrew 2002:21)

1.1 Research Focus

The purpose of this study is to identify and describe how individuals think about and react to organisational change, to understand better why responses are highly individual, and to argue for consideration and recognition of a precursive sensemaking process. In this thesis, I will argue that before any organisational change process is adopted, there is a need to recognise how cognitive agency influences reaction and response to change. My study focuses on individual responses to planned change in a local authority setting. It is timely in investigating and better understanding the process of sensemaking as the public sector continues to transmute through new partnerships and alliances, joint operations and contracting out of services.

The role of the public sector worker is changing in a challenging way. Needham et al's work (2014) identifies roles that reflect among other things, a capacity for storytelling, networking, and navigation, and building new organisational systems. Lowndes et al (2013:545) highlight the need "to 'see the gaps and links' and to combine creativity and risk-taking with a capacity to build trusting relationships". Hartley and Benington identify sensemaking and framing of issues and ideas as a means through which leaders influence and interpret their contexts (2011:5). This trend towards a reflexive and cognitive

consideration of organisational change situates agency at the centre of such an approach.

Hanna Arendt, the political theorist, situated 'thinking' at the centre of creating action:

Thinking would then be the being that in man is freed to be action. Thinking is here neither speculation nor contemplation nor "cogitation." It is rather the complete concentration or the absolute waking, that through which and in which all other "faculties" concentrate themselves (1958:170).

Each of these perspectives orients towards a cognitive consideration of individuals engaged in organisational change and lead to a reappraisal of the concept of change. In this thesis, I differentiate between organisational change and a broader conceptualisation. I consider the former to consist of the policies, strategies and processes used in the organisation to effect planned change, predominantly favouring a 'top-down' approach.

From a conceptual perspective, change is recognised in the thesis as an abstract concept. It does not exist as an entity in its own right, but is signified in the relationship between the individual and her environment. It is manifested as a cognitive appreciation of alterations to the individual's environment, where such alterations are unique to each person. As such, it is both a relational and structural concept. Change is relational because the concept has to be understood as part of cognitive structure or framework, enabling the individual to make sense of what is taking place. For an individual, the 'environment' may relate to identity, security, familiarity, a sense of place. These elements are cognitively connected to the concept of environment to form a cognitive structure. When any one of the elements is perceived to have altered, change is considered to have occurred. Therefore, change is expressed as a level of dissonance between internal expectations and external experiences.

Change is also messy (Law 2004). It is messy, in the sense that interactions which create change require post-hoc rationalisation or sensemaking in an appropriate relational context. These interactions are sometimes tacit, non-rational and complex. Change is messy because in challenging internal expectations of how the environment operates, it creates states of 'unsteadiness' or disconnection and disorder. Change is a messy relationship between individuals sharing the effects of environmental change, but who may be constrained by different frames of understanding, and who work to differing ideologies or objectives. Beyond this are the habits, intentions, knowledge and capacities of actors influencing individual responses and reactions to change.

Change is constituted through agency. Agency may act to create something different, or to retain elements of the environment in order to create a sense of security through maintaining routines and habitual practices (Giddens 1986:60). Agency may also create "unintended, unwanted and unpredicted outcomes" (Tower and Ternès 2015). This study examines the sensemaking shifts individuals reference in determining their engagement with change, enacted through cognitive agency. In pursuing a cognitive research study, using a sensemaking framework, I argue in favour of Lowndes and McCaughie's view that "how agents think is as important as what they think, in addressing current challenges" (2013:545). Using a single case study of a local authority, I employ cognitive mapping to identify individual understanding and approaches to organisational change. By constructing representations of knowledge structures individuals use to make sense of their experiences of change, I look to identifying and describing a precursive cognitive change process. Within the change process, cognitive agency is identified. I argue there needs to be a greater

appreciation of cognitive agency and its role in addressing the demands of organisational change and public sector leadership. Understanding how organisational change is cognitively processed can lead to discussions about how we can stimulate complex frames of reference to better respond to the demands of organisational change.

In my opening paragraph I spoke about the transmutative nature of public sector change and I used this word specifically to express a focus on the micro-process of organisational change: an evolutionary process commencing with individual shifts in internal knowledge structures that mark the emergent process of transformational change. Focused on reactions and changes to substance, transmutation more aptly reflects the cognitive shifts that individuals experience during episodes of change, than the concept of transformation with its structural connotations.

In examining the cognitive orientations (Balogun and Johnson 2004) of knowledgeable agents, I work from an abductive perspective to resolve a puzzle (Schwartz-Shea and Yanow 2011:27). Why do some individuals show resistance to change initiatives and others embrace it as opportunity? How do individuals identify what is within their capability and capacity to change? Why do reactions to change remain consistent in some and context dependant in others? What is open to alteration and what remains incontestably immovable? The sensemaking literatures in Chapter two identify the process of sensemaking as the “springboard to action” (Weick, Sutcliffe and Obstfeld 2005:409). Sensemaking is frequently described as a process (Pirolli and Card 1999, Weick 2005, Maitlis and Christianson 2014), yet sensemaking itself is defined in a fragmented manner (Brown et al 2015) with processes

referred to in a general sense. This study sets out to identify and explain the cognitive sensemaking process as enacted in an organisational change landscape, where the individual acts as the interface between internal understanding and the external environment in experiencing reaction and response.

In this study I posit the existence and influence of a precursive level of organisational change, enacted before change strategies are organisationally witnessed, adopted and implemented. This cognitive level of change is influential in better understanding organisational change. I will argue there is a cognitive change process enacted in sensemaking, which has previously been unidentified in a cohesive way. It consists of four elements in a state of continual transition: equilibration, intentionality, temporal contexts and individual knowledge structures. These elements situate the individual in altered environments and influence a human need to continually balance internal expectations with felt experiences. The study focuses on the “deep structures” of cognitive frameworks (Bartunek and Moch 1994:24), “black holes” in the design of organisational change (Balogun and Johnson 2004:546) and the “boundary conditions” that constrain action (Weick 1995:176).

The environment is located in the mind of the actor and is imposed by him on experience in order to make that experience more meaningful. It seldom dawns on organizational theorists to look for environments inside the heads rather than outside of them (Weick 1997:273).

Identifying what drives and influences the agential capacity to “act otherwise” (Giddens 1976:75) is necessary if the new public sector worker and her relationship with the

organisation are to be understood as a means of enacting leadership and influence. The study examines the search for meaning pursued by knowledgeable agents, a term originally introduced by Giddens (1984:199) and adapted in this study to reflect a cognitive perspective.

1.2 Background to the Research Study

My research design encompassed a single case study of a local authority in the Midlands region of England. Using a sensemaking approach in an interpretive, qualitative study, I examined the cognitive processes used by knowledgeable agents to make sense of organisational change. These previously tacit processes were identified through a cognitive mapping method. The term “Knowledgeable agent” was used by Giddens (1984:3, 9, 45) as an encompassing perspective describing the reflexive and cognitive ability of all individuals to act and know why they are acting. In arguing there are different levels and types of agency, I have focused on the singular, differentiated knowledgeable agent, who is enabled to act through her knowledge of structures and resources (Giddens 1976:161). In considering this enabling facet of agency, I assume an agential disconnection with the environment that identifies the possibility or need for change, and a level of knowledge that deems action to be possible.

In searching for these agential enactments of discursive knowledge and ability (rather than the “simply done” acts of practical consciousness) (Giddens 1986:7), I used a number of key informants to identify individuals whom they considered were influential in creating

change. I completed my empirical research in 2012/2013, when local public services were heavily engaged in dealing with the national and localised aftermath of the global recession in 2008 (Davies et al 2010, Hastings et al 2013).

The collapse of housing values, the implosion of credit architecture and falls in energy prices created ever widening chasms between production and consumption (Morgan 2013). At a local level, the strictures of austerity budgets created competing tensions between increased demands for welfare services, a “rash of new initiatives” directed towards local government, as well as reduced budgets and resources (Lowndes and Pratchett 2012:21). Against this background of a dawning understanding of globalisation and its effects, the uncertainty in entering a new local government terrain, and an inability to gauge whether the downturn had bottomed out created a climate of uncertainty and competing demands (Martinez et al 2009). The need to sustain local economic development to offset the threat of increasing unemployment and further social distress found local authorities addressing growing demands for services but with reduced resources. There was a need to think differently about delivery of services and what services defined the public service identity. Leadership orientated to an external focus on defining boundaries with external partners, developing relationships with business and encouraging community engagement (Hartley and Benington 2011, Local Government Governance Review 2013).

Efficiencies were being created in service and resource budgets across local government but the margins for flexibility were becoming increasingly tighter (Crawford and Phillips

2012). Managing the impact of budget deficits sat alongside the imperative to work differently within and outside of the organisation (Lowndes and Pratchett 2012).

From within the local authority case study throughout the period of study, there were stories of how change affected individual members of staff, local residents, teams and the organisation as a whole. As redundancies were introduced, networks became fragmented and leadership was focused on the operational demands of managing a contracting organisation, and the strategic imperative of creating a vision for economic recovery. In these three excerpts from interviews with research participants, each provide a different perspective of organisational change as it was viewed, understood and experienced in the eye of the storm. First, there is a macro perspective, where change is considered to be initiated at a national or society level.

Factors feeding into the rationalisation process are push and pull factors. Push is the central government dictats in terms of financial constraints and cost cutting being imposed on local government. The pull factors are the continual change society is engaged in and is always going on, some may argue [and] the increasing burden of expectation from society on what local and central government should be doing and delivering.

Knowledgeable agent RA Interview November 2012

The second quotation considers what effect change has on the local community and local government.

How can we keep the plates spinning with fewer people to spin the[m]...residents aspirations are more needy and clear: ... they need more support from local government. They need us now more than ever to protect their interests and we're probably under more stress than ever before ourselves

Knowledgeable agent PH Interview December 2012

The final excerpt sets change within the context of personal experience and reaction.

I think I do the job very well despite the fact it keeps changing. I will always respond (I think that's personal pride). I'm not easily going to get past that feeling of resentment and feeling hard done to... without leaving the organisation... It's a slightly schizophrenic kind of world. I feel as though I'm doing the best I can, but it's despite the organisation and the way change has been handled or impacted on me.

Knowledgeable agent FI Interview November 2012

Each deals with the uncertainty of change, but from contrasting knowledge structures: mapping out the rationale, identifying the local impact and finally identifying the emotional experiences of working through a changing work environment.

In her reflections on public policy during this period of austerity, Newman identifies the disruptions taking place in service delivery, reframing of the policy process, looking beyond current structural and institutional boundaries to how new scripts and methods might be developed (2012: 2). This study will show similar activity was occurring at a cognitive level as knowledgeable agents sought to make sense of the local and national changes taking place, to identify their role and contribution and to formulate options for subsequent action.

In ascribing a performance metaphor to the reconfiguration of policy at this time, Newman identified a range of different activities taking place at a macro, national perspective:

Performances may be spontaneous (a practice made up to deal with a tricky situation or new challenge) or rehearsed (developed through dialogue with others or perhaps shaped by a director). They may follow a script (the policy text) but may offer new interpretations and translations, or may abandon the script altogether (2012:4)

This study will show how scripts, new interpretations, are also used but at a micro, cognitive level as a precursor to action. The study argues such cognitive responses are not “spontaneous” but are formed as the result of a sophisticated, complex, variform and evolving interaction by the individual with her environment across a temporal span. My findings reveal a process of cognitive agency linking individual experience and knowledge to the generation of reactions and responses to organisational change in a socially constructed reality. The process reflects individual knowledge structures, temporal contexts, intentionality and how individual understanding of change creates different levels of cognitive equilibrium.

1.3 Structure of the Thesis

The thesis consists of eleven chapters in two sections. The first considers theoretical and methodological aspects and the second is empirical findings and define the contributions to current knowledge.

Chapter 1 provides the background to the research study. I explain why the question is important and the implications for the public sector and local government. In Chapter 2, I argue a sensemaking lens is an appropriate means of studying the process of individual sensemaking and enacted cognitive agency. I acknowledge the challenges in drawing together sensemaking approaches from different disciplines but justify the need to do so by looking at sensemaking in the round. Using macro, meso and micro foci, I show how each of the disciplines has a part to play in informing an overarching consideration of sensemaking. In this chapter I consider sensemaking as an effective way to search for answers as to *how* individuals see the world, how they create plausible arguments in constructing their knowledge structures, and how they identify what is important from the continuous flow of data that surrounds us all.

In Chapter 3, I seek to identify how cognitive agency is presented from literatures that consider rational and emergent agency, artificial and decentred agency. I conclude there is a lack of appreciation for the role and influence of cognitive agency in organisational change, and research is required to more fully examine the precursive cognitive stage of organisational change. I argue individuals exhibiting and enacting agency are those who engage most in sensemaking. Explaining how the different literatures treat and understand agency in an organisational context, provides the basis for my assertion that an overarching term is required to capture the differing facets of agency identified in the literatures as they inform our understanding of cognitive agency. I adapt the term “knowledgeable agents” (Giddens 1984:199) as an appropriate means of understanding how sensemaking is applied during periods of organisational change. Understanding and defining the knowledgeable

agent as an acknowledgement of the rational change agent, the situated agent, and cognitive science's understanding of cognitive agency, is the focus of the final section in this chapter. In concluding the chapter I generate questions about how such individuals can be located in the case study environment.

In Chapter 4, I present and explain the sensemaking template as a culmination of current sensemaking and agency literatures on cognitive agency. I explain each of the elements and my justifications for the adaptations I make to the template before operationalising the research. In the research context, disequilibrium and identity are more descriptive states than active ones so I explain how I narrow the focus of the template to the sub-processes of equilibration and intentionality. With knowledge structures and a consideration of temporal contexts, these four elements provide the foundation of the sensemaking template

I have structured Chapters 5, 6 and 7 to present the rationale and a detailed explanation of the analytical framework, research design and research methods I selected to use to operationalise previously tacit considerations of change from a cognitive perspective. I use the sensemaking template I designed, as the basis of the study.

In Chapters 8, 9, and 10, I present empirical findings on application and refining of the sensemaking template. The findings were generated from the cognitive maps and interview data of 27 knowledgeable agents in a single case study of a local authority in the Midlands region of England. In these chapters I seek to provide detailed explanations of enacted cognitive agency as they inform the sensemaking process. The complexities and inter-

relationships of human, environmental and temporal dimensions are identified as influencing reaction and response to organisational change at a micro-level.

Chapter 11 is the concluding chapter and I respond to the original research question of how individuals respond to change, and what influences the unique nature of each person's responses and reactions. I present my contributions to current knowledge in terms of analytical, theoretical, methodological and empirical perspectives. I acknowledge the limitations of the project before identifying possible areas of further research.

SECTION ONE

In separating the thesis into two distinct sections, I have created what I consider is a natural break between the theoretical and conceptual considerations of cognitive agency, and the empirical findings. The theoretical and empirical sections are each consolidated in sensemaking models. The theoretical considerations culminate in the development of a sensemaking template, and the empirical sections present my understanding of enacted cognitive agency in the cognitive sensemaking process. This research is broadly framed as a “black box” study, generally considered to be studies of systems described only in terms of inputs and outputs (Winner 2005:365). Planned organisational change is a process defined by its inputs: change models and theories that influence the design and implementation of change according to different definitions or conceptualisation of change. The outputs are the desired objectives and aims, measured according to how closely they achieve original intentions and visions. This study aims to open the black box and identify how individuals move from the original stimulus of planned change creating an altered environment, to the outcome: cognitively derived options for responding or reacting to that change. I argue in the box is a sensemaking template.

The sensemaking template identifies four key elements I argue have a significant role to play in influencing individual reactions and responses to altered environments. Those elements are equilibration, intentionality, temporal contexts and knowledge structures. The sensemaking template goes through some iteration as I evaluate sensemaking and agency literatures, identify gaps, and focus on operationalising the research study. To make explicit

previously tacit knowledge, I used cognitive mapping as innovative method and as part of the design and methods section (Chapters 5, 6, and 7), I explain how it was implemented.

In section two, I argue for the sensemaking template to now be recognised as a process, having been empirically applied. Once again, I look at each of the process elements in turn, explaining how they illustrate the presence of cognitive agency, as knowledgeable agents represent their search for meaning in self-selected episodes of change. In this section I also develop knowledge structures taxonomy to categorise the diverse methods used by knowledgeable agents to search for meaning, clarifying what it means for themselves and for others. In the concluding chapter, I address how the research questions have been answered, and situate the research in current understanding of organisational change.

2 REACTION, RESPONSE AND SENSEMAKING

Sensemaking is central to how people understand change, where expectation and experience are at odds (Weick 1995). It is considered an “enormously influential perspective” (Brown, Colville and Pye 2015:2), and in organisations, it “lies at the very heart of organizing” (Maitlis and Christianson 2014:60). Change creates reaction as individuals cognitively seek to evaluate its implications in what they do and how they see themselves. A sensemaking perspective offers a means of exploring how individuals construct and enact their understanding of the ‘realities’ they inhabit as multiple identities (Maitlis and Christianson 2014), and therefore how they react and respond to change.

Sensemaking is useful in understanding the “small-scale, local...processes by which people make sense in ways which, ultimately, are found to have profound consequences” (Brown et al 2015: 273). More specifically, human action is based on individual perception and interpretation of experiences and information (Rabinow and Sullivan 1979). Sensemaking is bound up with action (Weick 1995), so in studying organisational change it is necessary to identify how individuals make sense of what is taking place. Yet sensemaking is also a diverse, fragmented and contested field (Brown *et al* 2015), where there is no unifying definition, and where organisational and cognitive sensemaking approaches have little resonance between them.

In this chapter, I focus on identifying relevant sensemaking perspectives, exploring common ground and differences in order to produce an analytical template for my empirical research. Like Brown *et al* (2015:269-270), I use macro, meso and micro categories as a

means of categorising the diverse and fragmented literatures and each of the three perspectives is important in providing an appreciation of the individual sensemaker. Sensemaking is a social activity with individual interpretation of reality. This study demands recognition of the bounded rationality of the organisational context (macro), individual perspective (meso) and the internal processes of evaluating and adapting to changed circumstances (micro).

It is important to adopt a holistic approach because to understand human action, one has to understand perception, context, and identity as influencing factors. In his seminal work on change models, Lewin stressed the mutual interdependence of different aspects of individual existence that influenced behaviour (1951:240) including the effects of the external environment on individual psychological perspectives (1947). Lewin's application of psychological theory to workplace contexts created the foundation for the development of the organisational development (OD) field of study focusing on the behavioural aspects of organisational change (Schein 1996).

Lewin provided both the means of implementing organisational change, through his development of change models (Lewin 1947), and the agential capacity to implement them in the form of the change agent. His planned change model is regularly cited as an effective operating model for change in organisations, although it has been criticised for being irrelevant in times of dynamic change (Kanter et al 1992, Dawson 1994). As an example of the three step procedure, Lewin explained how a psychologist might examine a marriage to predict its progress and argued that by examining the psychological or subjective

perspectives of husband and wife, actual behaviour could be predicted (1947:10-12). Drawing on Lewin's argument, each of the levels of sensemaking analysis is important in understanding the link between perception and action, and between the individual and the environment, which Lewin described as the structure of "life spaces" (1947:12).

The chapter is structured as follows. In the first section, I explain what sensemaking is, and how the field is fractured. In the second section, I explore organising as a process of sensemaking. The individual act of sensemaking is explored in section three and examines how individual reactions to change are understood. At this level, the importance of knowledge structures are introduced as the means by which understanding, meaning and knowledge are created and organised (Poole, Gioia and Gray 1989). Section four explores the cognitive structure of sensemaking: how individual micro-processing accommodates or assimilates data and experiences, within knowledge structures.

I conclude by demonstrating how these different approaches can be drawn together to begin to appreciate a more holistic view of sensemaking. I contend within the process of sensemaking (Weick 1995:13), meaning is constructed subjectively. Consequently, understanding how individuals cope with change or interruption is to understand sensemaking (Weick 1995:5). Process is also used extensively to describe the action of sensemaking, but there is no clear explanation of how the process is defined specifically.

2.1 The Challenge of a Sensemaking Approach to Research

What is known about sensemaking processes situated in the black box (Winner 2005) between awareness of change and reaction? I consider there are three approaches to sensemaking revealing how individuals engage with change: macro, meso and micro. Macro approaches examine the major tenets and approaches in sensemaking, identifying the debates and themes occupying sensemaking researchers in broad terms (Brown, Colville and Pye 2015), and within particular specialist areas such as Maitlis and Sonenshein's review of sensemaking in the arena of crisis and turbulent conditions (2010). In this study I define meso perspectives as focusing on the individual sensemaker, and the micro level considers sensemaking at a cognitive level.

The macro or organisational perspective of sensemaking is influenced by Weick (1993, 1995) and he speaks to the demands and challenges of public policy: recognising the efforts needed to achieve outcomes and accountability, and the move towards 'generic' structures: where organisational members can substitute for each other as a means of optimising scarce resources (Weick 1995:170), a challenge that is still as relevant in the case study organisation. However, his views are over-privileged in organisational studies (O'Leary and Chia 2007, Ancona 2011) and there are other approaches that can also contribute to our knowledge, by their application and perspective. At the meso level, dialogical sensemaking (Dervin 1983) focuses on individual sensemaking as opposed to Weick's collective perspective. Meso sensemaking studies have explored sensemaking in filling gaps in knowledge (Dervin 1983), middle manager sensemaking (Balogun et al 2004, Mantere 2008,

Caldwell 2009 and Rouleau et al 2011), and the more recent work of Lynam and Fletcher (2015) examining individual perspectives on climate change. The micro-cognitive perspective shifts our appreciation and understanding of the search for meaning to a cognitive exploration of knowledge structures (Pirolli and Card 1999, Klein et al 2006). Examples of micro approaches include research to construct a sensemaking model to optimise human interaction with analytical systems (Perry et al 2009), and Combe and Carrington's recent study of leaders' cognitive consensus and dissonance during an organisational crisis (2015).

Sensemaking is a fuzzy concept; there are different definitions and different assumptions upon which it is based and each sensemaking discipline orientates towards its own community, discourses and interests. The primary objective of this chapter is to identify what different sensemaking approaches contribute to our understanding of how meaning is enacted. Dervin and Naumer attest to the difficulties of such a task:

Penetrating to the meanings deeply anchored within each of the different sense-making discourse communities takes time-consuming study. Deeply held assumptions are often unstated ... focusing primarily on interpretive differences between sense-makers. Others emphasize ontology, focusing more on the different sense-making requirements of elusive and changing situations. Some focus at the micro level, some macro, and some both. All do a little bit of all these although sometimes only implicitly (2009:28).

There is no single definition of sensemaking to satisfy the three approaches, as demonstrated in Maitlis and Christianson's review and identification of sensemaking definitions (2014: 63-65), but there is an overarching predisposition to considering its applications as the way in which individuals "seek plausibly to understand ambiguous,

equivocal or confusing issues or events” (Brown et al 2015). There is no collective view from authors or disciplines of what sensemaking is. For Weick, it is a perspective, “a frame of minds about frames of mind” continually examining perceptual misalignments between expectation and experience (1995: xii). Snowden’s sensemaking framework (2005) is applied as a tool for decision making in navigating complex environments, and Dervin’s Sense-Making (sic) also recognises the individual navigating through complex and chaotic environments, and foregrounds a methodological approach to studying sensemaking (1983). Cognitive scientists in the Human-Computer Interaction (HCI) discipline, present sensemaking as models of cognitive enactment, that explain how individuals search for meaning in their interactions with the environment (Hoffman et al 2013, Pirolli and Card 2005).

Definition and even spelling of the term sensemaking differs across the disciplines. Weick (1988), Pirolli *et al* (1999), Klein *et al* (2006 a, 2006b) use the term ‘sensemaking’ to denote exploration of the ways in which information and knowledge is processed in order to achieve meaning. Dervin (1983) uses the term ‘Sense-Making’ (sic) to denote her meta-theoretical consideration and methodological approach to acquiring meaning through bridging gaps in information, and Snowden adopts the term ‘sense-making’ (2005). This thesis uses the term ‘sensemaking’ as an overarching and inclusive term.

The discourses and temporal perspective of sensemaking are contested in the different approaches. Organisational sensemakers follow Weick’s lead in using the term sensemaking (Weber and Glynn 2006, Bartunek *et al* 2006 Ancona 2011,) to describe an ongoing process.

Devotees of Dervin adopt sense-making as distinct and bracketed processes (Savolainen 2006, Kurtz and Snowden 2003). Perspectives oscillate across the temporal spectrum. Weick (1995:29) argued all sensemaking is retrospective, including “future perfect thinking” (future projections are made sense of retrospectively). Klein *et al*'s anticipatory sensemaking studied the processes involved in preparing for future events and reacting to trends as a means of preparing for the future (2007). Gephart *et al* (2010) and Kaplan and Orlikowski (2013) preference a more holistic consideration of the temporal nature of sensemaking: current experiences and data are shaped by the past, the current context and visions of the future. Cognitive, HCI approaches to sensemaking adopt an episodic view of sensemaking where each sensemaking episode is defined on a task basis by distinct start and finish time frames (Klein and Baxter 2006) or as loops (Klein et al 2006b).

In the sensemaking disciplines, the relationship between time and space is a key contextual concept used to explain how sensemaking works in past, present and future dimensions. Weick views sensemaking as a retrospective construction of meaning. We can only understand what we are doing, after it has occurred and we reflect on it (1995:24). Dervin considers we are bound by “time-space” (1983) and therefore what we can see and experience at any given time is constrained by our location within this temporal continuum. Within a specific point in that continuum, there is a past, and a future as well as a present dimension, and each influence how current events and experiences are perceived. Klein *et al* (2007) recognise the past as having an influence on the future through anticipatory thinking. In this instance, sensemakers seek to generate options about the future to reduce levels of

ambiguity. To do this, they look for cues, patterns, evidence of how what is happening now, can play out in the future, and provide options to deal with it (Klein et al 2007).

In cognitive science and artificial intelligence literatures, context is expressed as situatedness, whereby environmental stimuli inform agential action (Lindblom and Ziempeke 2003). Situatedness means individuals are embedded and act within a social context. Vygotsky (1978) argued social interaction and connection to a socio-cultural setting was one of the keystones of cognitive development and Bevir and Rhodes (2006) set agency within a situated context, concluding that social context influences agency and contains it. Agential beliefs are shaped by social context but tempered by the conscious local reasoning agents adopt in making choices (Bevir and Rhodes 2006:9). In the thesis, and particularly in the sensemaking template, I have used the term 'temporal context' to represent cognitive agency as being constrained by both socio-cultural and temporal or space-time demarcations. It reflects the language and conceptualisation of the temporal nature of sensemaking and our understanding of the constraints and boundaries of institutional settings.

Although there are differences in sensemaking approaches, audiences and methods of research practice, there are similarities to be drawn in broader terms. All acknowledge the temporal nature of sensemaking and the influence of context whether at a social level (Weick 1995, Snowden 2005, Dervin 1983), or cognitively, in selecting knowledge structures for decision making (Klein *et al* 1989, Zsombok *et al* 1997). Finally, the disciplines collectively reference sensemaking as interpretive; based on individual mental models that shape and

model identity (Weick 1995, Dervin 1999, Kurtz and Snowden 2003, Klein *et al* 2006a, Russell and Pirolli 2009). These different perspectives influence how sensemaking is orientated, and therefore influence research design and interpretation in looking for acts of sensemaking. In the next three sections, I examine sensemaking at the macro, meso and micro level to explore how they inform the connection between perception and action.

2.2 Sensemaking at the Macro Level

In the context of this study, a macro sensemaking perspective sits at the organisational level, where organisational members react to dislocation and dissonance by searching for cues to make sense of the environment, which is constitutive of, and also constrained by their perception (Weick *et al* 2005, Maitlis 2005). Organisational sensemaking is influenced by the seminal work of organisational psychologist Karl Weick (1995), which opened up an expansive literature and discipline. Sensemaking is considered as an organisational process (Carter and Colville 2002, Sonenshein 2007), as well as an influence on decision making in strategic change (Gioia and Thomas 1996), and the development and dissemination of knowledge (Vygotsky 1978, Hartley and Rashman 2002).

Developing his ideas in examining crisis situations (Weick 1988, 1993), one of Weick's most notable contributions is his identification of seven properties of sensemaking, making it distinct from interpretation, attribution, and specifically from understanding (1995:18-61).

The properties are:

- *Social*: meaning is constructed as part of social interaction. Meaning cannot be construed independently of others: it is refined, articulated, challenged, and expressed in a social context. However that does not mean individual ideas and meaning are sublimated to a sense of shared understanding. Meaning is influenced, expressed and shaped through shared experiences, where individual meaning resonates with ideas and view of other experiencing the same context or experience.
- *Identity*: Sensemaking is an individual action, but the individual is constituted of different identities defined within specific social contexts. Sensemaking is dependent on the perception of self an individual adopts at any given time. “Depending on who I am, my definition of what is ‘out there’ will also change” (Weick 1995:20). These multiple identities may include an organisational, cultural or group identity.
- *Retrospective*: sensemaking occurs after the action has taken place. Sensemaking ‘in the moment’ is, according to Weick, still retrospective, even by a second. From this perspective, there are two levels through which time is experienced. The first level is felt through the continuous experience of being with all the sensory feelings and data streams in which the individual is immersed as a human being. Weick calls this ‘duration’. The second level is the way in which we bracket experiences in time: as memories, events, dates, where awareness breaks up the continual flow into meaningful ‘bites’. Those bites become such, through ‘sensemaking’, where an element of data or experience is identified as significant.
- *Focused on and by extracted cues*: cues establish points of reference to familiarity or to disruption. They contribute to plausible arguments and to things that are

unexpected or at variance with expectations. Cues are contextually situated and socially constructed. They are filtered out of duration and then classified according to projects, identity, plausibility, particular knowledge structures, as sense is made of them.

- *Ongoing*: Duration is ongoing, and made meaningful by bracketing of parts of it into memories, events or experiences. Dervin also refers to a sense of continuation, by situating individuals on a time-space continuum (1983) where gaps in knowledge perform the bracketing to which Weick refers. However, Weick compartmentalises the individual more specifically into organisational “projects” (1995:43). By projects, he means particular perspectives that influence and inform what people look for. A project may be an ideology, a need for purpose, an aspiration. The way individuals relate to these projects is vested in the triggers activated after they experience a sense of disequilibrium.
- *Driven by plausibility rather than accuracy*: Weick begins with a declaration that accuracy is nice but not necessary, whereas a plausible argument is necessary for events and experiences to make sense. Plausibility sits with “coherence, reasonableness, creation, invention and instrumentality” (Weick 1995:57). Plausibility is a creative process. It foregrounds certain cues and enhances them, adopts a subjective rather than objective focus and translates observations through individual knowledge structures. It is probably here that there is the greatest capacity for creativity, which is what Weick considers sensemaking to be.

- *Enactive of sensible environments*: Weick explains this as a relational aspect of sensemaking and as part of the act of bracketing, and he brings together a number of important considerations: bracketing pulls elements out of the continual duration of existence and gives them a socially constructed identity. The continuous flow of data is broken down into meaningful “packets” of knowledge (Klein et al 2006), episodes, memories or experiences. Once created, the individual is aware of the entity. This knowledge is used as a focus for searching for, and finding others of the same. The more sophisticated or complex the level of skill in noticing, the more complex the entity noticed. Weick called this “requisite variety” (Weick 1995: 34, Snowden 2012) whereby the higher the level of sensemaking, there is a greater recognition of the complexity of the situated environment.

There is a subtlety to the concept of enactment described by Weick who states enactment is about action. It is the manifestation of sensemaking and without meaning, action is not possible because it is generated from an internal knowledge structure. Conversely, it is possible to have meaning without action as the lack of action is meaning in itself, as it is a conscious intent to do nothing (Weick 1995).

Weick’s approach to sensemaking cannot be understood without referencing his treatment of ‘organisation’. He presents organisations as constructed at different levels of analysis. Meaning is initially created in interactions between individual actors and bounded rationality is contested in the day-to-day complexities and processes of organising. When ideas, experiences, knowledge are no longer just a local interaction, when they become part

of a more generic and rule based structure, individuals become a resource, an abstraction and “an interchangeable part of the organisation of meaning” (Weick 1995:71) where nuanced meaning is replaced by more generic scripts and typifications. When change makes these typifications irrelevant or meaningless, ‘organisation’ shifts from a generalist level of interaction to a more intersubjective level, where individuals work at creating sense out of the new experiences. This oscillation between levels of meaning has a third layer which he calls ‘extrasubjectivity’ (Weick 1995:72) or ‘institutive’ where meaning is decentred, abstracted and symbolic, separated from individual interpretation by routine and embedded practice.

It would appear in the construction of such decentred knowledge structures; both the role of the individual sensemaker and the capacity to create differentiated responses is diminished. This separation between institutional and individual sensemaking begins to reveal how routines and scripts, repeatedly enacted, can constrain the latter. It requires acts of wilful agency to disrupt such habitualised action, operating once more at the local level of knowledge, and through temporal influences of past tensions between expectations, context and purpose.

Having identified the relationship between individual and organisation, as it affects how the sensemaker is constrained by, and enacts her own organisational structure, the additional aspect of organisational sensemaking lies in its identity as ‘sense-giver’ (Gioia and Chittipeddi 1991). Sensegiving at an organisational level emphasises the process of influencing organisational members to adopt an organisationally privileged perspective. Both

Bartunek *et al* (1991) and Gioia and Chittipeddi (1991) view sensegiving as a means of persuasion and influencing. Bartunek *et al's* research (1991) identified an active reconfiguration of knowledge by the leader in providing sensegiving. Here was a conscious consideration of how messages and communications were to be delivered in what was described as complex processes, involving contested meanings and a gradual increase in understanding by the receivers (Bartunek *et al* 1991). This planned approach to sensegiving was echoed in Gioia *et al's* work (1991) but offering a more inclusive consideration of both sensemaker (in this instance, the president of a company) and sensegiver, identifying shadowing processes of cognition and action (1991: 444). The cognitive process is one of sensemaking with regard to the vision, while the action process encompasses an influencing, sensegiving role focused on organisational commitment.

Another key contributor to sensemaking in organisational settings is Snowden, who developed the Cynefin (pronounced *Kun'ev'in*) sensemaking framework to support managers in decision making (Kurtz and Snowden 2003, Snowden and Boone 2007). As with Weick and Dervin, Snowden stresses the importance of communication as critical to the sensemaking process, particularly in the power of narratives and stories to develop new mental models based on particular complex environments. Snowden (2010) extols the use of storytelling and narrative to explore and generate new approaches to problem solving, expanding constructs and decision-making options. By working from conceptual exploration back to real-world scenarios, sensemaking turning points can be identified (Kurtz and Snowden 2003:468).

The macro level of sensemaking has explained the relationship between the individual and the organisation, with resulting tensions between constraints and shared understanding. It has explained how sensemaking is socially constructed and contextually situated, and how sensegiving is part of the organisational sensemaking cycle. In the next section, I consider the meso level of sensemaking, how the individual sensemaker is understood and presented.

2.3 Sensemaking at the Meso Level

The meso level of sensemaking focuses on the individual, situated sensemaker. Individuals at different levels of a hierarchy have different skills and expertise as the result of learning taken place in different periods (Weick 1995:53). All are working to maintain or create an environment that optimises their interests. Therefore, cognition is not simply an accumulation of knowledge, but knowledge garnered contextually (Clancy 1997).

For Kurtz and Snowden, the need to address “contextual complexity” (2003:464) is an argument they direct towards the cognitive sciences, perhaps alluding to differences in approach between the organisational and cognitive approaches to sensemaking. There are warnings of the dangers of ‘simple’ sensemaking simulations that have not yet addressed three complex contexts: individuals can inhabit more than one identity, they do not have to act according to pre-set rules, and they are not limited to acting on local expectations or patterns (Kurtz and Snowden 2003:465).

Another aspect of context in individual sensemaking is cognitive context, or the focus individuals generate in filtering data and experience to make sense of what is taking place. Such a focus or perspective is necessary for identifying cues and patterns, but inevitably a narrowed perspective blocks out other data. Dervin (1983) presented the idea of “frozen time-space”, in which individuals are locked into schemas, historically rather than contemporarily relevant. The “Invisible Gorilla” experiment is an excellent example of situated focus, blocking out peripheral data to the extent research participants, when asked to concentrate on a counting task in a video of people playing basketball, half of the observers failed to see a gorilla on screen during the activity (Simons and Chabris 1999). (See Appendix 4 for a fuller explanation of the experiment).

Snowden considered the individual sensemaker as someone with choices to make, from multiple possible explanations and options, about what she sees and experiences in order to respond appropriately (2005). Like Weick (1995), Snowden believed “requisite variety”, or diversity of experience and options, was an important factor in how individuals are able to respond to complexity in the environment. Variety derived from diverse activity is required to balance the weighting of explanations. Sensemaking has to provide the space to recognise weak signals (the invisible gorilla) as well as resist the draw of past success (Dervin’s frozen-time approach). To make decisions as to how to respond to planned or emergent change, individuals find meaning in situations according to their knowledge structures, and the more varied these are, the greater the ability of the individual to work through the messiness and complexity to create patterns and cues (Kurtz and Snowden 2003).

In her sense-making research, Dervin (1983) assumes a theoretical position in which an individual's environment is both ordered and chaotic, and knowledge is always incomplete. In order to progress, gaps in knowledge have to be filled by sense-making, which is a situational activity (Dervin 1983). In Dervin's field of Information science, where gaps in knowledge are to be filled, the needs of the information seeker are paramount if knowledge is to be conveyed and if the gap in knowledge is to be bridged successfully. Dervin's situational approach to sensemaking is centred on a sense-making metaphor, an individual process of bridging gaps in knowledge. These gaps form barriers to progress and are encountered as the individual moves through time-space and need to be bridged as part of a continual learning process. Bridging is influenced by personal perspectives and contingent upon unique experiences and knowledge

At times, Weick and Dervin shared similar constructivist perspectives and eventually a belief in the use of 'verbing' to convey a sense of action, emphasizing the link between shifting environment and the search for meaning as a dynamic and continuing interaction between internal knowledge structures and experiences or introduction of new data. . For Dervin, this involves the continuing construction of individual knowledge structures such as ideas, attitudes, narratives, memories and beliefs (Dervin and Frenette 2003:239). Weick's sense of continuity and action lay in "organising": the continuous act of communication in interpreting and sharing individual and collective sensemaking (Weick 1995:75). I use the term 'knowledge structure' throughout the thesis to denote schemas, frames of reference, belief systems, narratives etc.

2.4 Sensemaking at the Micro Level

Having considered how sensemaking informs the search for meaning from an organisational and individual perspective, this section identifies the core processes of sensemaking from a micro-cognitive perspective. Some context to cognitive studies is also required as my focus is on the knowledge generated in a particular period of its early development. The discipline of human-computer interaction (HCI), from which my understanding of cognitive processes is drawn, began to emerge in the 1980's (Card et al 1983) and was established as a discipline in the latter decades of the twentieth century (Y.Rogers 2012). It is focused on understanding and improving the interaction between humans and machines by improving the capabilities of artificial intelligence units e.g. computers and robot agents. As a science, it incorporates artificial intelligence and cognitive psychology, cognitive engineering and cognitive architecture (Pirolli and Russell 2011). Sensemaking is focused on cognitive scientists observing and examining how individuals search for data. Data is used to create cognitive models, to inform the building of artificial agents with sensemaking capacity to optimise human-computer interaction (Pirolli and Card 1999, Klein et al 2006b, Griffiths et al 2010).

When research on artificial systems was first established, work on improving the interfaces between human operators and artificial devices such as computers required knowledge of social and behavioural action in humans. How humans solved problems and interrogated data became critical areas of study in the search to understand how individuals interacted with adaptive artificial systems (Carroll 2001). The cognitive science community

studied human cognitive processes during tasks that could be artificially replicated (Coyle 2013), decision making (Qudrat-Ullah 2006) and information seeking (Pirolli 2007). It is this initial exploration and modelling of cognitive processes that contribute to the micro-processing aspects of sensemaking. Although it is the early research that is pertinent to this research project, HCI research, having established a “coherent set of theories and models” (Pirolli 2009:33), is now generating research focusing on application. Cognitive research is active in applying knowledge and research skills to examining how memory moves across different clusters of memories as part of an information foraging model (Jabr 2012), the development of software encouraging healthy behaviours (Pirolli 2013), and applying verbal recognition software to be used in domestic settings (Fytrakis et al 2015).

At the micro-processing level, the focus is on cognitive adaptation to the environment (Maitlis 2009). Confusingly, in cognitive science this is classed as macro-cognition because it is compared to micro cognitive processes that work in millisecond measurements. The term “macro cognition” was defined by Klein *et al* to include “complex cognitive functions” like identifying problems and decision-making (Klein 2003). Macro-cognition focuses on understanding the cognitive adaptations emerging from complex environments (Militello *et al* 2012) and so, in this research study, is defined as a micro-process. On the assumption sensemaking is created within complex environments (macro) and the individual searches for data to inform solutions and decisions (meso), then enacting a meaningful reaction to altered environments requires complex cognitive functioning (micro).

As meaning emerges from chaos, knowledge structures, cues and context are necessary to the formation of sensemaking and plausible arguments. As such, it is important to understand how these elements interact and connect with each other. In HCI and cognitive science more broadly, model-based research identifies how individuals carry out decision making and problem solving activities. Sensemaking is viewed from a primarily psychological basis, with models being developed to identify the cognitive skills within sensemaking at a task-specific level. The models identify sensemaking as an iterative process (Russell et al 1993, Krizan 1999) of searching for the best fit between data and knowledge structure (Klein et al 2006b, Qu and Furnas 2008), and Pirolli and Card (1999) introduced a foraging metaphor to their theory of how searching was applied. Based on “behavioral ecology” models, Pirolli (2007: viii) explained how individuals search for knowledge using web-based data.

Associated research identified internet search processes like tagging (Dumais et al 2000) and case-based reasoning (Aamodt and Plaza 1994) that helped in understanding cognition. By describing cognitive processes individuals used in searching for data, links were made as to how previous experience influenced current perception and sensemaking. Other studies examined the cognitive processes involved in searching in different environments, (Todd et al 2012) or how episodic memory works, and how the techniques can be used to apply this cognitive skill in improving recall and interface experiences in data search (Ringel *et al* 2003).

The cognitive sciences provide insights and models of research missing from organisational and political science research. They provide the tools for examining and

understanding the cognitive mechanics of change that underpin the dynamics of change. Lewin's analysis of a marriage relationship attests to the need for such detail to understand why the events taking place, are taking place in that way (Lewin 1947).

2.5 The Holistic View of Sensemaking

In studying these different sensemaking orientations, it now becomes possible to draw out a working narrative of how each informs a holistic understanding of how individuals react and respond to changes in their environment. Situated in, and consciously aware of the changed environment, the individual draws upon internal and external influences. The internal influences are the cognitive processes that create models of thinking known as knowledge structures. "Knowledge structures" (Walsh 1995, de Jong et al 1996)) select and filter the environmental cues that match with internal expectations of how the world is. The external influences are the social interactions, discursive activities and experiences that reinforce or contest internal knowledge structures. When these cues do not fit, disequilibrium occurs, creating a gap in knowledge with a specific temporal context. 'Disequilibrium' is a term used to describe a state of imbalance requiring assimilation and accommodation of new data (Wadsworth 1996). Assimilation involves integrating new data and experiences into current schema, whereas accommodation is the creation of new knowledge structures to house new data and experiences or to significantly modify current knowledge (Chapman 1988). Disequilibrium acts as a trigger to sensemaking which in turn drives the desire to seek equilibrium. In this thesis, disequilibrium can be described as dislocation, disruption and disturbance.

Disequilibrium and internal expectations are informed and influenced by the individual's situatedness and past experiences. The broader the experience of change, the greater the ability to recognise a match between what is currently known and new data and experiences. By using prior knowledge to generate options for as yet unknown future possibilities, greater cognitive resilience is achieved. Each of the levels of sensemaking, macro (organisation/environment), meso (individual) and micro (cognitive) contributes to the construction of a fuller understanding of sensemaking and is summarised as follows.

Change is identified from environmental cues matched against internal expectations of how the world is (micro-cognitive activity). When dissonance is experienced from an organisational or environmental level (macro), disequilibrium occurs (micro-cognitive) and sensemaking is triggered within a specific temporal context (individual, meso level). Knowledge structures influence how the individual perceives what is taking place and how they filter the continuous stream of data, for specific cues (micro-cognitive). Knowledge structures are founded on past experience and future projections, situationally shaped and drawn upon to create a new state of equilibrium in which the individual maintains control and a sense of self (micro-cognitive, meso, individual). Environment influences knowledge structures which shape meaning. The greater the exposure and successful reflexive resolution to change, the more knowledge structures are formed and adapted, thus providing the variety of options to deal with complexity (organisation/environment).

Conclusion

In examining the sensemaking literatures and approaches, it is clear processes of sensemaking have been more explicitly identified in some areas more than others. The cognitive sciences have identified knowledge structures as they are applied at the micro-cognitive level, frames of reference, while mental models, the use of scripts and stereotypes have also been considered in a more general sense.

I have argued that the term 'process' is frequently used to describe sensemaking but defining what the process is, remains somewhat indeterminate. Sensemaking literatures often use the term process to describe sensemaking without defining specifically what they mean by 'process' (Weick 1995, O'Leary et al 2007, Ancona 2011). Although Russell and Card do identify it as a set of interrelated activities (2010), there is need of a more detailed understanding of the essential elements of process. I based my understanding of what constitutes process from Garvin (2012) and augmented it with more general definitions (Bandor 2007, Nudzor 2009).

Temporal contexts have been identified across the disciplines as an important contextual and processing influence, and disequilibrium is also critical as a sensemaking trigger. What these differing perspectives and literatures do not do, is provide an adequate means of linking the different levels of sensemaking together in a way which explains exactly how sensemaking is enacted at a cognitive level.

In this chapter I have argued sensemaking is an appropriate frame of analysis for understanding how individuals react and respond to change. In drawing together different sensemaking disciplines, I have demonstrated how the different sensemaking disciplines collectively serve to provide a holistic appreciation of how individuals make sense of altered environments. In macro sensemaking, the individual is the manifestation of consensual identity and beliefs in an organisational setting, working collectively to define 'I', 'they', 'we' (Weick 1995:77). From a meso-analytical perspective, there is a sensemaker navigating her way through discordant environments, in the search for knowledge as a means of progression (Snowden 2005). From a cognitive science perspective, the individual is the embodiment of cognitive action and agency, relating to the environment by searching for information, formulating options and making decisions, through clearly defined micro-processes (Klein 1999:13). Thus the individual is at the core of sensemaking across all three levels, and is influenced by, as well as influencing the environment, using personal knowledge structures to identify meaning after experiencing disequilibrium. The sensemaker applies cognitive agency in making sense of the environment.

In chapter 3, I proceed to consider the individual element of the sensemaking template through a focus on agency as the manifestation of reaction and response to organisational change. I argue agents of change act intentionally, and therefore sensemaking is presumed to have occurred in informing such action. I explore how different literatures present an understanding of agency from organisational, situated and cognitive perspectives. According to Caldwell (2003), change agents have an important role to play in the process of sensemaking, middle managers share meaning with other members of the organisation to

influence engagement with change (Rouleau and Balogun 2011), and institutional entrepreneurs build a variety of mental models, use scripts and format new knowledge structures in selling new ideas and approaches (Baron and Ensley 2006). Hence the next chapter examines the meaning of agency in a sensemaking context.

3 IDENTIFYING THE KNOWLEDGEABLE AGENT

Without sensemaking, there can be no action (Weick 1995). Even in considering whether any action is required, there is a need for sensemaking (Feldman 1989 cited in Weick 1995:5). Therefore, by exploring what is known about cognitive action, and the broader understanding of agency, I expect to be able to locate an appreciation or explanation of how sensemaking is enacted. In modelling how tacit knowledge is translated into explicit knowledge, Nonaka and Takeuchi (1995) linked the importance of capturing 'expert' tacit knowledge in achieving a knowledge creating environment. In the same way, it is important to capture how change experts (Chi 2006) make sense of the organisation, to understand what the organisation is from a cognitive perspective, and to be able to make changes to support cognitive agency in creating and implementing change. In the use of the term 'expert', I am presuming an underlying extensive knowledge base, an ability to be able to communicate expertise and an ability to reflect on how expertise can be applied in different circumstances. Hoffman defines the expert as exhibiting "articulated, conceptual, and principled understanding" (Hoffman 1996:83). For this reason I look towards agents of change as experts who can enact a sense of purposiveness, and be able to articulate what they do. Within this context, examining agential literatures acts as a means of locating what is currently known about the cognitive aspects of organisational change.

Agents *of* change and *for* change, however described, are deemed to have a level of reflexivity through which they understand and appreciate their ability and capacity to act. This level of reflexivity is variform in nature. At one level is Giddens' view of the

knowledgeable agent (1984:199) as an encompassing term for all humans who enact a “continuous flow of conduct” (1979:55) through practical and discursive consciousness (1986:41). Practical consciousness is embedded in the routine practices, habits; typified scripts form implicit knowledge structures that individuals are unable to articulate. Agents operating at a level of discursive consciousness are able to provide reasons for their actions. A specific example of this discursive ability is the “cogniting agent” (Hoffman 2014:15), an expert who is able to qualify their expertise as process, application or judgement in a particular domain or task-specific process (2014:265).

Both the level of cognitive knowledge and the discursive ability of agents are key factors in examining sensemaking. It is only through agents being able to express how they make sense of situations, and what knowledge structures they draw on in that sensemaking process, that we can be aware of the intertwining of individual and environment in circumstances of change. Thus, in this chapter I explore the literatures relating to agency, to identify what is currently known about cognitive agency. I concentrate on agency because sensemaking acts as a “springboard to action” (Weick, Sullivan and Obstfeld 2005:409) and agency is the expression of meaningful and consciously constructed action (Bandura 2006).

In this chapter and the remainder of the thesis, I adopt the term ‘knowledgeable agent’ to encompass the agential aspects of sensemaking. Originally employed by Giddens (1984:199), I explain how I use and define it in this study, as the generalist nature of Giddens’ definition is too broad to provide a meaningful explanation of cognitive agency. Like Giddens, I accept agency is present in all human activity, but where he defines agency as operating at or

between practical and discursive levels of consciousness (1986), I consider the knowledgeable agent as encompassing discriminative cognitive agency, whether on the basis of knowledge, reflexivity, context dependency or agential capacity. I look to different perspectives of agency in informing a view of the knowledgeable agent from a cognitive perspective. I examine the sensemaking and cognitive literatures for an appreciation of how cognitive agency is explained and identified, and I look at agency in organisational settings with the purpose of identifying what they add to a broader knowledge of cognitive agency. Finally, I return to the concept of the knowledgeable agent, further defining it as a result of examining the various literatures, and within the context of the sensemaking template.

The chapter has five sections and is structured around a consideration of cognitive agency which is discussed in section three. The reason why a discussion of cognitive agency, as the key component of this chapter and thesis, is located in the middle of the chapter is one of knowledge building. First, in order to full appreciate what cognitive agency is, a broader contextualisation of agency is required before focusing on the specifics of a cognitive perspective. Secondly, in examining agency in an organisational setting, cognitive agency needs to be understood in order to recognise where and when it is introduced in the organisational contextualisation of agency.

In the first section I define what is currently known about the knowledgeable agent and agency in relation to cognition. In section two, I examine a number of different ways in which agency is explored, before examining what is currently known about cognitive agency in section 3. Organisational change agency is examined in section 4, before I return to a

consideration of the knowledgeable agent, and what more can be said about the concept in the light of the different approaches examined.

I conclude that the process of sensemaking in which cognitive agency is enacted, lacks detail and an appreciation of how individual acts of cognitive agency are determined. It offers an opportunity for further empirical study, using a more detailed understanding of the knowledgeable agent as a focus of investigation. This human agent acts as the embodiment of cognitive agency and the study will be designed to make explicit their tacit understanding of organisational change and how they react and respond to altered environments (Bartunek, Lacey and Wood 1992).

3.1 The Knowledgeable Agent

The term “knowledgeable agent” was originally used by Giddens (1984:199) to describe all humans, as we all have reason to know why we act, and we know we have the ability “to act otherwise” (Giddens 1976:25). In other words, we recognise the power we have to act and create change, to alter the environment in the way we choose to act, or not act. For Giddens, the knowledgeable agent is situated in a continuing unfolding of “events-in-the-world” in which she acts or contemplates acting (1976:75). The knowledge Giddens attaches to the human agent consists of knowing the rules on which social life is predicated and constructed, and applying that knowledge when acting. Knowledgeable agents act purposively, know what they are doing and are able to communicate successfully to others (Giddens 1984: 3).

When knowledgeable agents are aware of altered situations, they enact cognitive agency to identify how they will respond to change. What they change and how they change it, is dependent upon their place and perception of the world they inhabit, what Giddens refers to as “reflexive monitoring” (1976:156), the interplay between internal knowledge structures and the environment. Giddens identifies two categories of consciousness. The first operates as “routinization” (1986:60), carried out at a level of practical consciousness (1984:51). These actions are consciously selected but not always voiced, as they require low cognitive agency (Bargh 1994). An important part of practical consciousness is the creation of routines and habits to create a sense of security and to protect and maintain agential identity through institutional continuity. The second level of consciousness presented by Giddens is discursive consciousness, the ability to be able to articulate and communicate one’s actions and the reasons for them (1986:41).

In considering Giddens’s explanation of the knowledgeable agent and the knowledge invested in them, it is possible to identify elements of sensemaking in action. The concept of reflexive monitoring aligns with accommodation and assimilation, reframing in the light of new experiences to situate oneself in a meaningful environment. Cognitive agency is clearly embedded in Giddens’s understanding of the intention to act, a precursor to enacted physical agency. Reasons for particular acts of agency speak to the concept of Intentionality but in a generic way as capacity which is ill-defined (1984:9).

Although a useful term to adopt, as a means of expressing the knowledge agents utilise in informing and deliberating about impending action, there is little in Giddens’s work that

informs the specific nature of enacted cognitive agency. There is therefore, a need to explore what agency means. It requires examination of other literatures to refine the definition, from an inclusive expression of human experience, to one informing our understanding of human cognitive agency as a precursor to socially situated engagement with organisational change.

3.2 Defining Agency

The ability to act is constrained by boundaries that are meaningful within particular contexts, and these are generally referred to as structures. For Giddens, the structures were those created by the habits and rituals of the agents themselves and the structures existed only in that way. They were not physical entities of organisation or institution (Giddens 1984), but the “interplay of habit, imagination and judgement” acting to reproduce and transform (Emirbayer and Mische 1998:970). The way in which the relationship between agent and environment or structure is perceived and expressed, forms the basis of the different approaches to agency being explored in this chapter. How relationships are defined, inform particular views of how agency is enacted, and the tensions between understanding agency as reflexive and autonomous, and also as constrained by the social structures in which agency is enacted, are explored. In this section, I examine how agency is defined from three distinct perspectives. The first sub section considers agency in relation to structure and how it is contested. Secondly, I focus on an interpretive view of agency and finally I discuss how agential autonomy is considered.

3.2.1 Agency and Structure

This debate is highly contested ground, and as Archer argues, this relationship is not simply a technical explanation and perspective but is “the most pressing social problem of the human condition” (1996: xii).

The tensions between agency and structure are illustrated in the opposing arguments about the nature of duality presented by Giddens (1984) and Archer (1996). Giddens argues the relationship between structure and agency is dual in nature; each is mutually constitutive of each other. Structures are not an entity in their own right, but are the rules and habits enabling and constraining agency. They become structure through the enactment of agency across time and space, as knowledgeable agents choose to repeat social practices. Giddens’ abstract conceptualisation of structuration as both the result of agency and an influence on agency, is criticised by Archer as a subsumption of the individual agent into the continuation of stable structures (1982).

Although agreeing with Giddens on the relationship between structure and agency as a dynamic tension, where unintended actions or consequences invoke agency, Archer emphasises the distinctive properties of agency and structure cannot be conflated. Additionally, she considers there is a requirement to separate both entities to research the inter-relationship between them. However, Archer and Giddens do agree on the reflexive aspects of agency and the capacity for freedom to act (Giddens 1991, Archer 2000).

Bhaskar (1989) and Bourdieu (1992) reject Giddens's duality in favour of structure or habitus existing prior to agency. For Bourdieu, the taken-for-grantedness of habitus serves to orientate but not determine agential action, although his view has been criticised in reducing the capacity for agency and change in his emphasis on a regulated environment (Sewell 1992). Like Archer, Bhaskar also argues against Giddens' conflation of agency into structure on the basis agency is constituted of more than structure, as there are what he calls "transcendental" elements of consciousness, beliefs and desires driving agents to achieve their goal of "human emancipation" (Bhaskar 1989:4). Giddens' consideration of agency and choice contested Foucault's decentred approach (1977) and anchored it at the centre of his theory of structuration, as "the seed of change...contributes towards the reproduction of any ordered form of social life" (1993:108). Agency and creation of structure are bound within consciousness and reflexivity (Giddens 1979, 1991) as agents choose to act or not, in influencing structure. The act of choosing, (the "seed"), forms part of an intentional and purposive agential focus. Giddens' intentionality is part of the knowledgeable agent's repertoire of understanding. It is a cognitive appreciation of an act the agent "knows or believes will have a particular quality or outcome". For Giddens, there is a clear separation between intention and "doing" (1984:10).

Intentionality defines the relationship between internal and external worlds. It links consciousness with something specific in the external environment. According to Dennett, intentionality is "*being about*" relational conceptualisation (1983:377 italicised in text). At an individual level, it is an active, motivating, purposeful, internal relationship between different concepts that can be abstract or real (Brentano 1988), whereas collective

intentionality relates to purposive plans of action specifically orientated by group or community, towards a specific goal (Bandura 2001:7). Intentionality is different to Intention. The former is a belief in, or value of something, whereas Intention is about preparing to carry out an act. Intentionality is a network of complex relationships such as desires, beliefs, expectation, recognition and understanding subsumed within a relationship 'about' something with a degree of substantiation. It is a core part of self-identity that generates specific, socially constructed relationships between the individual and her environment. "The task of attempting to express the conceptual space of intentionality in purely physical terms is a dizzying one" (Tallis 2010:13) In the case of the agent adopting strategies and policies, her intentionality may be about a whole range of subjective beliefs and desires etc., but it is only in her cognitive actions and the subsequent outcomes that such meaning can be identified.

Intentionality demands agential action to maintain the relationship between the individual and the environment, or it is lost in the constant flow of change. Whatever it is that defines '*aboutness*' needs to be continually confirmed or adapted to maintain its existence. Archer bases intentionality on concerns about self-worth, performative achievement and physical well-being (2003:120). Agents reflect on and rationalise (provide internal reasons for) the experiences in which they are located and how they affect their identity. According to Archer, this reflexive process constitutes the adaptive interplay between agency and structure, between the internal subjective stance and the external environment (2003:130). The results of such reflexivity are options for action, formed at a cognitive level. It is during this process the possibilities of new ideas and practices, or the

continued reproduction of routines and normative practices are formulated. Formulation is based on internal reasoning, knowledge or belief in an outcome, as a result of such action on identity or environment. Possibility can stretch beyond the boundaries of the concrete world as intentionality generates relationships to things both concrete and abstract.

The tensions in the agency-structure debate are ongoing, yet in considering it in the context of cognitive agency, there is some agreement. There are pre-conditions or circumstances that precede agency: the habitus of the individual reflected in internal knowledge structures (Bourdieu 1984:170), or forces and influences generated through tensions and pressures between competing socially constructed perspectives, not apparent or visible. These are the structures and rules, habits, constructed and maintained by others going before, and now being adopted or rejected by the knowledgeable agent as part of her reflexive understanding of her situation, power, and intentionality to move forward in a specific direction.

3.2.2 An Interpretive Perspective of Agency

In line with a sensemaking approach to organisational change where individual meaning is socially constructed, an interpretive orientation toward agency recognises the relationship between the agent and her environment. The act of agency cannot be discussed in isolation, but as the manifestation of subjective meaning and intent. From an interpretive perspective, agency is situated in a “social context that influences it. Agency is not autonomous – it is situated” (Bevir and Rhodes 2006:472). Beliefs and practices are expressed in specific language, culture and context. This perspective means agential action can only be

understood in the context of the sets of beliefs underpinning and defining the environment that informs and constructs identity. Action, therefore, is an interpretive act of construction. As such, the agent has a set of beliefs, or what Garfinkel called “situational scripts” (1967) that inform her normative expectations or “intentions, dispositions and relationships” (Schank and Abelson 1977:5). These scripts guide or influence the individual actor to construct their world through interpretive acts. Schutz (1970) identified typifications as relevant knowledge structures, socially acquired and dispersed according to need. As a student of phenomenology and philosophy, Schutz considered knowledge as socially contextualised and argued each individual requires different levels of knowledge in order to navigate and interpret their environment (Schutz 1944). Schutz considered knowledge as structures to be incomplete (based on a need to know approach), contradictory (they do not necessarily align with other knowledge structures held by the individual) and “partially clear” (there is a taken-for-granted acceptance of systems and processes that produce what the individual needs and wants) (Schutz 1944:500-501).

These knowledge structures enable the individual to recognise the generalities of a typified world as a means of making sense of it (Wagner 1970:121). Knowledge structures are recognised as generalisations that can be altered or corroborated by experience (Wagner 1970:117). Scripts, or what Giddens refers to as “routinization” (Giddens 1984:60) do not however determine agential action. It is the free choice and autonomy of the agent that enables them to act interpretively, using their knowledge to “act otherwise” (Giddens 1979). A reflexive capacity to identify how and why they are acting is an act of cognitive agency in adopting, adapting or rejecting such generalisations and typifications.

Agents act through an interpretive approach. They interpret meaning through the social discourses they engage in and use to express their ideas and give an account of their reasons for particular actions (Giddens 1979). In adopting and reinforcing the boundaries of social contexts, agents interpret the environment in which they are situated, deciding to what extent they will accept or move away from dominant knowledge structures in how they act (Schutz 1970, Bevir and Rhodes 2006). The individual agent defines her sense of self through the choices she makes, and makes sense of these choices in expressing identity as “mediated by the relationships, situations and cultures in which she...is embedded” (Fine 1993:78).

At this stage, agential knowledge can begin to be articulated as skills of interacting in a social context, reflecting on the relationship between identity and context, and what elements of her sense of self the agent wants to maintain by reproducing routines and rules. Discursive skills are required by the agent to be able to communicate reasons for action. Finally, the agent has to apply cognitive sensemaking skills in filling in the gaps in knowledge about how others respond to events and actions. These cognitive skills include assimilating and accommodating new data and experiences to internal knowledge structures so agents can remain actively engaged in adapting identity and environment, either through change or reinforcing normative practices.

3.2.3 Agential Discretion

In interpretivist approaches, where meaning is socially constructed, agency is considered to be constrained and influenced by the contexts in which it is embedded. Through their knowledge of the environment and reflexively understanding the impact of their options,

agents can act to reinforce or disconnect from such constraints. In artificial intelligence, discretion is described in terms of the autonomous agent: one that can act in its environment without external influence (i.e. a controlling impetus) (Franklin and Graesser 1997). Choice is determined as a closely defined understanding of the environment and therefore choice is calculated within strictly defined parameters.

Bevir and Rhodes' definition of situated agency bridges this dichotomy of terms, recognising the influence of context but arguing autonomy is still possible because of the capability to enact "local reasoning" where autonomy is conceptualised as choice (2006). Frankfurt (1978) suggests different definitions of action ought to be considered in which there is room to accommodate a range of interpretations of autonomy and agency. The range can be identified on a spectrum starting with the automaticity (Bargh 1994) of Giddens' (1984) practical consciousness which represents habit or routine aspects of choice, to purposive, discursive consciousness at an expert level (Hoffman 1996). The agent is able to rationalise in favour of action to achieve a particular outcome.

According to Frankfurt (1978), the level of autonomous control is dependent on the level of individual reflexivity applied to generating the action. If certain actions no longer accord with the knowledgeable agent's sense of identity or intentionality, she may act to disassociate from normative practices, or construct alternative options to be enacted. This is done by manipulating or removing certain knowledge structures and/or their associated boundaries to satisfy certain goals or objectives (Barandarian et al 2009).

3.3 Cognitive Agency and Sensemaking

This cognitive interpretation of agency is the most important one in this study, but it had to be contextualised by working through and explaining broader conceptual definitions and interpretations. Cognitive agency is located in the middle of the chapter for a strategic reason. It flags up a different orientation to the research project after this point. So far, I have presented arguments to support and justify how the question about how individuals respond to change should be explored. In cognitive agency, I have reached the nucleus of what I want to examine. It is here I think reaction and response are situated. Once I formulate what is currently known about cognitive agency, I structure the remainder of the chapter to identify to what extent it is considered in the organisational change literatures.

In this section the exploration of cognitive literature examines the individual and how they internalise the challenges and opportunities of change as a means of informing their actions. It provides the closest approach to acknowledging the influence of the individual agent in making sense of, and interpreting the change environment, as well as selecting appropriate agendas to affect change.

Cognitive agency: the mental construction of options for enacting agency or otherwise, distinguishes the knowledge structures pertaining to agency that have been identified in the earlier sections. Self-belief, motivation, reflexivity and intentionality are some of the knowledge structures deemed to influence how agency is enacted. The “transformative capacity” of which Giddens speaks (1984:15), is part of the agent’s strategic planning, and

encompasses “the perceived and the perceivable possibilities of action and their limitations” (Stones 1991:85). Whatever discretion or constraint influences agential action, is reflected in the *intentional* considerations of personal agency (Bandura 2001). In this sense, cognitive agency is defined solely at the level of intent to act, rather than in the acts themselves, and is framed within “the power to originate actions” (Bandura 2001:6). This is the ‘black box’ of agency, where the individual processes knowledge, reflexive understanding and their understanding of the value and contribution of institutional norms and practices to their own aims and desires. This is the preparation and planning for physical acts of agency.

Action is preceded by sensemaking (Weick 1995), and sensemaking forms intentional action, so here the link between agency and sensemaking becomes more apparent. Wittgenstein’s often quoted example of thought preceding action demonstrates how intentionality (and all that influences it) and agency merge together in action: “One does not watch [one’s hand] in astonishment or with interest while writing; does not think ‘what will it write now?’ ” (Wittgenstein 1980:267). In this case, the act of agency expressed in writing is not separated from the conscious consideration of what to write. The pen guided by the hand, is enacted as an expression of cognitive agency that considered the option of writing to be the most appropriate means of achieving Wittgenstein’s objective.

Cognitive agency is enacted when the individual understands she has control over her thoughts, and that subsequent actions can create change (Lewis 1990). Intention to act, linked to a post-hoc rationalisation of the results of past action, can influence the individual’s identification of themselves as an agent (Wegner and Sparrow 2004). This sense of agency

offers the internal corollary to Giddens's external appreciation of the knowledgeable agent as having the capacity to "act otherwise" (1984). The ability to choose to act in a certain way is owned, recognised and intended by the agent. According to Bandura (1993), maintaining and strengthening self-belief is critical to generating purposive action, as are levels of motivation and an awareness of the level of power and control one has over one's environment (1993). In instances where individuals did not always have direct control over events and structures affecting their lives, they would use "proxy agency" (Bandura 2001), or those deemed to have greater influence or knowledge, to act for them. These personal goals and motivations can influence behaviour and the practices adopted by individuals in carrying out their roles. Alignment of internal expectations and external experiences within a change programme generates a positive level of engagement. Where intentionality conflicts with organisational objectives or targets, individual agents may be considered opposed to change.

Such actions indicate a level of cognitive agency in recognising an inability to act and consciously searching out an alternative approach. Here the knowledgeable agent expresses her understanding of her relationship to the environment, what resources she has available and what she wants to achieve before acting purposively in using alternative methods to achieve change or how she engages with the altered environment. Once again, the purposive act of not acting, and using a proxy, is an act of cognitive agency.

In organisational settings, the knowledgeable agents' understanding of their roles within organisations, identified networks of influence important in building engagement through

alliances and coalitions (Hartley, Benington and Binns 1997, Balogun 2003). Rouleau and Balogun identified a mediating role of “distributed conversations” (2007:3). From both studies, there was an indication the knowledge applied to creating change agendas was generated by a cognitive sensemaking process based on practical knowledge (Hartley et al 1997:67). This situated cognitive agency is a culmination of the agent’s awareness of their own role, their knowledge of actions and routines and an understanding of specific organisational contexts.

3.4 Change Agency

I now turn to mainstream considerations of organisational agency to explore in what ways they identify and represent the micro processes of agency in organisational change. Knowledgeable agents legitimise their agential intentions through knowledge, power and self-efficacy (Bandura 1982). They also seek to undermine or circumvent normative conceptions and practices to create new ideas, visions, truths, in spaces Bhabba calls “borderlands” which speak of transition and hybridity (Bhabba 1994). In providing an account of change agency, there must be a reflection of both of these agential perspectives: the ‘insider’ and the ‘outsider’ (Caldwell 2006). I use Caldwell’s classifications of centred and decentred agency (2006) as a way of addressing both planned and emergent change literatures. In considering the centred perspective of change agency, I look to examine the influence of Kurt Lewin’s rationalist approach to change as an intentional process of cognitive restructuring (Schein 1996:65) implemented by expert ‘change agents’ (Schein 1996). I also use a typological lens to succinctly capture particularist treatments of change

agency in planned change settings. Finally I consider the decentred considerations of emergent agency as expressed in the practices of communities and discourses.

3.4.1 The Rationalist Approach –Lewin

The predominant role of the 'change agent' in organisational studies provides a starting point for determining how agency is manifested in an organisational context. It portrays a rationalist perspective of planned change in which the change process is managed by change agents exhibiting organisationally legitimised roles in design, implementation and communication (Tichy 1974, Kanter 1984). In this section, I use the term 'change agent' when it refers to particular discourses and the term 'knowledgeable agent' when the discussion is more generic. I assume change agents and the characteristics from the literature to be subsumed into the overarching term of knowledgeable agent. The rationalist or centred approach to understanding the relationship between the individual and the altered environment presents the concept of change as a planned, directed and managed process, where the behaviour of organisational members can be altered and influenced to support and impact on specific organisational goals (Caldwell 2006:10). A rationalist perspective presents agency as one of expertise and knowledge, influenced and required by intentionality in moving towards a defined end goal or outcome. Each agent is deemed to have the freedom to act voluntarily in achieving such outcomes and to have the capacity and capability to reflect upon what they know and how they act (Caldwell 2006: 23).

The work of psychologist Kurt Lewin has been influential in the development of the rationalist approach to organisational change (Weick and Quinn 1999, Burnes 2004) and the

role of the change agent is attributed to Lewin's research into planned change (1947). His work has been criticised for being too simplistic when change is now more dynamic (Kanter et al 1992, Dawson 1994), yet he has been lauded for explaining the behavioural change process and the role of the change agent (Schein 1986:46). His work is still regularly cited as an effective tool of organisational change (Sutherland 2013). His work underpins Lippitt et al's (1958) and Kotter's (1996) organisational development change models.

At the core of Lewin's behavioural change model was the idea of a "quasi- stationary equilibrium" (Lewin 1951:228), which was not a steady state as sometimes misrepresented, but displaying a *relative stability* needing to be destabilised to adapt to new behaviour (an idea echoed by Weick 1995). The quasi-stationary state fluctuated at different stages of change according to the influences of forces and environment. Once the new state was formed, freezing created a new state of fluid equilibrium. It is erroneous to say there is a return to a static state, as implied in the term 'refreezing', as Lewin never used the term 'refreezing' (1947). Force fields acted against each other to drive or constrain change (Schein 1986). A lot of the work Lewin produced has strands connecting to a sensemaking approach. In his field theory (1951) Lewin described individuals as inhabiting life spaces where change in the present requires the influence of past and future dimensions.

A "topological" representation of cognitive interrelationships (Lewin 1936, 1947:11) within these life spaces identified regions and boundaries to describe cognitive interdependencies. Individuals were in "phase spaces" as they transitioned between states of disequilibrium and levels of "inner resistance" (Lewin 1947:32). I make a link between

Lewin's' concept of inner resistance to the broader consideration of intentionality. Lewin considered the former as a means of overcoming external forces or pressures, and intentionality is an essential shaper of identity, remaining relatively steadfast in changing circumstances.

Lewin's change model has been represented or misrepresented, as appropriate only to organisations operating in fairly stable environments (Kanter et al 1992, Dawson 1994), but Lewin's models were dynamic, recognising change as moving "from the present level to a desired one" (Lewin 1947:32). As Burnes noted, Lewin understood change as a constant but operating to different "rhythms and patterns" (Burnes 2004:981). After unfreezing, there was movement to a new level and freezing in a new quasi-stationary state, not the return to a previous state implied by use of the term 'refreezing' (Kanter et al 1992, Burnes 2004). Lewin's work provides an insight into the psychological/cognitive aspects of agency in change that appears to have been lost in more recent interpretations of his change models, but do emphasise the importance of understanding the interrelationships between internal and external forces, the transitions and phases at various stage of change and the movement towards new states of equilibrium.

3.4.2 The Rationalist Approach-Change Agency

In this section I use two change agent typologies (Tichy 1974, 1975, Ottaway 1983) and a guide to change agents (Havelock and Havelock 1973) to explore how the role of the organisational change expert agent is considered and portrayed, and whether there is any evidence of cognitive considerations in how the role is enacted. These examples are used to

succinctly capture the generic approach toward understanding agency from a rationalist perspective. Change agents adopt specific roles as designers or implementers of programmes (Tichy 1975) constructed to manage or control change within the organisation. The disciplines from which the typologies are drawn focus on the knowledgeable agent as an organisationally recognised and rational individual e.g. master of change (Kanter 1983), supported by processes (Lewin 1947, Kotter 1995), skills (Kanter 1983, Caldwell 2003) and rules (Lewin et al 1959) with extensive advice on what is required of an effective change agent (Couros 2013, Battilana and Casciaro 2013). As with certain other literatures in the thesis, these reviews of change agency are of a certain period when focus was on understanding and appreciating the role and impact of change agents in planned organisational change as a relatively new phenomenon. Current interest in change agents is concentrated more on what change agents do to be effective, rather than defining them (Fuda 2012, Battilana and Casciaro 2013).

The typologies include firstly, identification of the cognitive diagnostics influencing change agent perception of problems within social systems (Tichy 1974, 1975); secondly, Havelock and Havelock's (1973) guide for change agents identifies particular roles within a problem-solving process. Finally, Ottaway's taxonomy (1983) provides a detailed definition and taxonomy of change agents across a rational perspective of change.

Tichy's research on change agents (1974, 1975) focused on their values and change orientations, examining how they conceptualised change as well as their own goals and attitude to change. He identified four different types of change agents, arguing each focuses

on different aspects of change, according to the different internal diagnostic frameworks they enact. Congruence for the change agent and client occurs when the change environment requires the type of diagnostic approach the change agent favours. How each type of change agent perceives the problem or challenge dictates what strategies and tools she uses to influence the environment: “the most important factors which change agents examine during diagnosis tend to be also those things which are worked upon most often to create change in the systems” (Tichy 1975:767). Where levels of incongruence between client and change agent occurred, Tichy considered there would be incongruence in the change solutions applied as well. As with Lewin, disequilibrium occurs when internal values do not match with the external environment.

The final typology considered is Ottaway’s more specific taxonomic classification of change agents (1983). The taxonomy is based on Ottaway’s analysis of thirty five reports on change agents, beginning with Lewin’s work on planned change and encompassing the change agent typologies developed by Tichy (1974), Rogers’ work on innovation and categories of adopters (E. Rogers 1962), and Havelock and Havelock (1973). Ottaway’s review and summary of definitions and research led him to make a number of assumptions in creating the taxonomy: everyone is a change agent at some level and aspect of life, there are various levels of change agency, and a range of different change agency functions are required in any change process, with a specific ordering of the functions required. Ottaway’s purpose in developing the taxonomy was to emphasise the need for adaptability in different change phases and environments rather than a generic prescription (Ottaway and Cooper 1978:16). Ottaway identified three distinct categories of change agent, all of which had

additional sub groupings. These categories were Change Generators, Change Implementers and Change Adopters (1983:378). Clearly phased stages of change in “stable, rationalized, predictable, democratic, social systems” (1983:378) demanded different types of intervention and action at different stages. Like Giddens, Ottaway saw change agency as an inclusive concept, with each type of change agent having an equal value, but there were some individuals who were differentiated because of their ability to focus on a vision, enact or defend it (1983: 385). For Ottaway, cognition was situated generally speaking in three contexts: first, those with vision, the change generators, were identifying issues and turning them “into a felt need” (1983:381). Secondly, for implementers, knowledge of people and the organisation was required (1983:384). Finally, the change adopters had to develop sufficient skill or knowledge for the change to move it towards a level of practical consciousness so it becomes established and maintained (Giddens 1984: xxii). In Ottaway’s work, there is symmetry with Giddens idea of the universal knowledgeable agent but also a requirement for differentiation in skill and ability according to context.

According to the typologies and taxonomy, change agents are influenced variously by their own cognitive frameworks, through organisational priorities, through dominant conceptualisations of change and the match between skills, knowledge and what is required in a particular context. The agents design, plan or implement and adopt sequences of activities based on diagnosis, context and skill, underpinned by a reflexive approach to continuous learning and development.

The typologies and taxonomy were constructed to offer further understanding of the role of the change agent in a Lewinian-influenced, planned change environment. The next section examines agency as it is understood beyond the planned change arena, examining how literatures present agency within emergent change environments.

3.4.3 Decentred Agency

The term 'decentred agency' was used by Caldwell (2005) to denote agency in communities of practice (Wenger 2000, Weick 2001, cited in Caldwell 2005). Enacted through distributed leadership, the emphasis here is on agency embedded in the shared actions and functions of leadership and sensemaking (Spillane 2006). This is agency, emergent in nature, rather than the defined and rational perspectives of the centred approach. Here, agents are adaptive, interactional and self-organising. Agency is distributed across the organisation where "different powerful actors in different contexts will operate in and through different rationalities interpreted according to different rules" (Ray et al cited in Storey 2004:320).

For some writers, decentred agency becomes less about the individual and more of a consideration of agency as it represented in interactions (Wenger and Snyder 2000) whereas others, predominantly poststructuralists, argue agency is represented and determined through discourses of power, thus rejecting a role for human agency. Bevir's unpicking of decentred theory (2010:86) emphasises the role of many individuals acting to construct governance, doing so by creating and acting on meaning drawn from disparate sets of meanings and beliefs, and he reconstitutes human agency as a decision maker in selecting

what actions to take and *what* beliefs to adopt. Bevir and Rhodes (2003:35) acknowledge the complexity of different factors interacting with each other over time; knowledge is fragmented with no single leader and no monopoly over power and control of systems.

As part of the category of decentred agency, the term 'dispersed change agency' has been used by Buchanan et al (2007) and again by Charles and Dawson (2011) in describing change roles among teams, groups and "clusters of competencies", as they engaged with change and with each other. From an artificial agency perspective, Franklin and Graesser would describe this as a "society of agents" (1996:33), pursuing a common goal with emerging group behaviour, and if each agent connects with every other one, it would be classified as "fully connected" (Franklin and Graesser 1996:34). The emphasis and underlying meaning of this collective agency is focused on inter-related, 'fluid and complementary' roles (Buchanan et al 2007) and networks encompassing change action and initiative in a more informal non-hierarchical approach (Gronn as cited in Buchanan et al 2007: 1067). The recognition of this 'dispersed, decentred or distributed' (Buchanan et al 2007:1066) agency goes some way towards Caldwell's (2003:140) exhortation to move away from a universal model of change agency and to recognise and explore "the blurring of boundaries between Organisational Development consultants as internal or external change agents who pursue a 'process' model of consulting, and management consultants focused on mechanistic, project-driven and expert interventions defined by performance measures, has undermined the task of clarifying new multidimensional models of change consulting"

Dispersed agency or communities of practice (Senge 1990) can determine outcomes and also exhibit the idea of resistance as a type of agency, as in Agócs' study of female workers in a pyjama plant, (1997:920) She asserted these "equality agents" (1997:920), like minorities, had to work within the structures and conditions that created and continued to perpetuate their disadvantaged state, as they became labelled as 'chronic convincers' (Martin 1993:29). Spivak's (1988) postcolonial writing argued marginalised subalterns had to adopt roles that would enable them to act and create the space to have their voices heard, before they could further their cause of representation. In her feminist and postcolonial consideration of the 'otherness' of women, Spivak argued subaltern women were an excluded group, both through discursive practices, institutions and literature. They were subsumed as 'other' in a decentred literature sublimating eastern culture to western historical, political and cultural interpretations. In order to be heard, these women had to adopt an alternative cultural identity to create a space for action. This immersion into different cultures or groups in order to emerge with an authentic agentic voice speaks of a high level of cultural knowledge being used to work towards an environment in which the agent eventually has greater control.

Agócs highlighted a number of classifications of institutional resistance knowledgeable agents or "change advocates" may encounter (1997:926). She summarised a view that organisations are unwilling to change when confronted with bottom up or marginalized demands for a different paradigm. Goffman's (1959) ideological agent, expressed in the metaphor of performance, offers an interesting conceptualisation of this idea of multiple identities, using the idea of actors performing roles. There is the 'façade' presentation:

polished and what the audience want to see. Out of view, roles are set aside. This duality of roles implies both hiding and exaggerating of views and perspectives to create a level of authenticity to the selected audience or group (Goffman 1959). This sense of idealising is continued in the consideration of elite actors (Karl 1990), individuals acting as power brokers. As they balance negotiations between opposing groups, they also create favourable conditions for themselves. Again, there are echoes of Goffman's presentation of acceptable authenticity as these elite actors' present idealised solutions, and the same ideas about negotiation and mediation are present in consideration of the roles of policy advocates and brokers manipulating and exploiting opportunities to translate their beliefs into action (Sabatier and Jenkins-Smith 1993). Knowledge and skill is required as they move between factions and the wider community, persuading and negotiating as they translate ideas into broader concepts to be adopted.

These discrete actors are much less visible than, for example, mainstream knowledgeable agents working as they do in the less tangible arena of ideas and interests, rather than processes and rule formatting. The ideational context or policy paradigm (Hall 1993) in which they operate demands a level of understanding of both how ideas can be interpreted and the manner of interpretation that will integrate with normative and societal frames of reference. Their influence in creating change lies in their ability and influence to transmit ideas in ways that satisfies their own and wider interests. Hall's understanding of mediating is a cognitive one wherein the actor's expertise as they work across networks, is an interpretive one: incorporating individual interests into different discourses.

Dispersalist discourses acknowledge agency in a distributed form across organizations. In principle, it is a form of empowerment and 'distributed leadership' designed to create or institutionalize a wider organizational base or network of support for change. This is reinforced by the idea that large-scale organizational changes are simply too complex and high-risk for a few individuals to lead or direct, even when there is a strong sense of vision and direction. Dispersed agency is identified through concepts of distributed leadership and communities of practice, featuring systemic self-organization and collective agency. In actor-network theory, agency is enacted through networks where there are no dominant forces or individuals, and agency is dispersed. The identity of the agent exists only as part of a network and not as individual, and as such the network is "reducible neither to an actor alone nor to a network" (Callon 1987:93).

The autonomy and individual choice of the knowledgeable agent was at the centre of Giddens's understanding of agency (1976) at an individual level, but where does autonomy lie in decentred agency. Foucault rejected the concept of intentional human agency in favour of a decentred discourse of power and knowledge (1971). His consideration of expert knowledge dismissed the individual contribution: "I should like to know whether the subjects responsible for scientific discourse are not determined in their situation, their function, their perceptive capacity and their practical possibilities by conditions that dominate and even overwhelm them" (Foucault 1971:xiv). The individual was devoid of intentionality, and identity was determined by constantly changing discursive constructions (Gergen 1999), becoming a vessel for discourses of power and knowledge and with a complete rejection of any sense of autonomy (Bevir 1999, Caldwell 2006).

In the wider consideration of decentred agency, autonomy is present and fluid among groups and within situated leadership. Distributed leadership offers perspectives that range from “no-one in charge” (Buchanan et al 2007) to a process of situated leadership where skills and knowledge match the environmental need. In communities of practice a shared sense of identity, power and belonging is offered through a collective understanding of community purpose (Wenger 2000). Within their individual memberships of such communities, some will submit to a collective acceptance of procedure and practice, while others exert agency by examining the conditions and circumstances in which they operate. In critically examining whether a community continues to satisfy their own desires and possibilities, they engage in discourses that sustain agency as they subvert, configure or negotiate changes (Butler 1997:2).

3.5 The Knowledgeable Agent revisited

Giddens’s understanding of the knowledgeable agent reflected his view that all humans are knowledgeable because they know why they act (Giddens 1984). I adopt Frankfurt’s view of autonomy (1978) as different levels of knowledge and agency at work in the organisation. The basic characteristics are shared by all, but some will evidence more nuanced and sophisticated applications. Having the capacity to transform and initiate change are aspects that cannot be easily or convincingly examined methodologically in this thesis. There are however, other actions that can be observed, reported or explained and these are the ones I concentrate on here. It is possible to explore how knowledgeable agents operate in networks, how they negotiate and influence in communities of practice or through role-

designated change agency roles in implementation, as well as examining the evidence of their influencing skills. The routines and habits of organisational practice individuals create and/or follow may be important in understanding how change is perceived, and what the knowledgeable agent understands of their relationship to the structures they constitute. I expect to evidence different levels of cognitive change across the cohort of maps: varying degrees of assimilation and accommodation (Wadsworth 1996) or what Bartunek and Moch have classified as first, second and third order changes to knowledge structures (1987).

How events and environments are interpreted, explained and described can illustrate time-space considerations as well as identify particular roles being adopted such as institutional entrepreneurs (Battilana 2006) or street level bureaucrats (Lipsky 1980). How individuals present themselves can be an indication of their perception of change, their knowledge of the environment, and to what extent it constrains or empowers them. Finally, it may be possible to detect intentionality by identifying individual belief and value structures adopted by individuals, and examining them in further detail. The identity of the knowledgeable agent has been augmented with detail from a range of agential perspectives, and serves as a conflation of the main characteristics of them.

Conclusion

In this chapter I sought two things: to locate and understand the individual as a component of the sensemaking template, and to identify the knowledgeable agent as an embodied expression of cognitive agency. The individual is the means of locating

sensemaking in an empirical setting, and the specificity of the knowledgeable agent enables me to focus on knowledge, reflexivity, and the discursive nature of agency in organisational change settings.

At the beginning of this chapter I identified the path required to locate sensemaking in action. I began by stating there can be no agency without sensemaking, and therefore it is necessary to explore what agency means in broad terms and in an organisational change context. In particular, a sensemaking research focus demands consideration of cognitive agency from a decentred and an individual level. "Capturing the enormous complexity and potential scope of change-agency in organizations is clearly a daunting and perhaps impossible task" (Caldwell 2006:11). In addressing Caldwell's comment, I have structured the chapter to examine how agency is understood. This is to inform how I represent the knowledgeable agent as embodied sensemaker in the sensemaking template. In considering the different literatures and approaches I sought to identify the elements of cognitive agency identified as part of agential knowledge. For this reason, I used the term 'Knowledgeable Agent' originally introduced by Giddens (1984) and adapted it to a cognitive focus. The knowledgeable agent now becomes the 'individual' component in the sensemaking template, and through whom sensemaking is explored.

In adopting a sensemaking approach to organisational change, I have assumed change to be a relationship between the individual and the environment, and where change is detected, the individual reacts in an agential capacity. According to Giddens, all humans have some degree of agency, in being able to offer a rational account of their actions,

influenced by different levels of autonomy (Frankfurt 1978) and temporal context. In moving on from the simple identification of agency as free will to act, both context and intention create dynamic interrelationships and perspectives, agency in planned organisational change is identified as a conscious act of using knowledge, skills and process to impact on the organisation or the behaviour of its members, (Caldwell 2006). From an interpretive stance, Bevir and Rhodes (2006) locate agency in particular contexts that influence but do not constrain the ability to act in creative ways. Dispersed and decentred agency depends on influencing and negotiating skills, operating in networks and communities of practice to influence and generate change. These views of agency are governed by different theoretical perspectives emphasising different assumptions and models, as I demonstrated when discussing the tensions inherent in the agency-structure debate.

The latter part of the chapter focused on elaborating an appreciation of the knowledgeable actor exploiting cognitive agency. There are two aspects to this. The first was in assessing whether the literatures provided sufficient understanding of cognitive agency in line with the sensemaking template I developed. In arguing it was not possible to explicitly describe the process from current knowledge, I used the literatures to inform my research study. In using knowledgeable agents as a focus of exploring sensemaking as a process of cognitive agency, I needed to know how to locate and identify these individuals in the case study organisation. Therefore, the final section in the chapter returned to a discussion of the knowledgeable agent again, this time with a more detailed understanding of their characteristics.

In concluding, I have explored the literatures and consideration of agency in change, and recognising the sensemaking aspect of agency has been recognised as important but more work needs to be carried out in revealing how individual sensemaking influences relationships with change and where the variances occur in creating different reactions. I want to explore the “cognitive logic” facilitating reaction and response to change (Isabella 1990:35). With the sensemaking template now theoretically justified, it needs to be empirically researched. In the next chapter I identify how I operationalise a study of sensemaking using the sensemaking template as structure and utilising what I now know about the knowledgeable agent as a result of agency literatures. Towards that purpose I propose a definition of cognitive discretion as the intention to act. Intention to act is different to intentionality. The former has a physiological orientation in preparing to initiate activity. The latter is an abstracted level of identity. *Intention to act* is the cognitive equivalent of physical, socially exhibited agency: the practical and discursive consciousness identified by Giddens (1984).

If intentionality is the driver for moving to a level of equilibrium offering greater control over the environment, cognitive discretion is the internal acknowledgement by the knowledgeable agent that they have the capability and option to act. As strategic actors exhibit “bounded discretion” (Bell 2011:894), so knowledgeable agents are also bounded, or alternatively freed by their own capacity and discretion to create knowledge structures across temporal zones, within the realms of their own creativity and perception.

In addition, based on Wolpert's (2011) evolutionary explanation of the drive for increased autonomy, I also understood these active agents would have a sense of purpose in wanting to influence the social structures of which they were a part. This does not presume an agential energy and focus automatically supporting change processes but such a view can accommodate active passiveness (if that were defined by informants as a valid influence or change engagement). What this view does do, is accommodate Caldwell's argument that any consideration of agency should be as representative as possible (2006). In moving towards the operationalisation of research, I am aware the boundaries of knowledge structures may be detectable through patterns and habits of routinisation, and how individuals perceive the constraining and enabling properties of structures. I also now assume those who are considered to have influence or effectiveness in change settings, would have a conscious awareness of their actions and be able to express them in ways meaningful to others.

4 THE SENSEMAKING TEMPLATE

In this chapter I introduce the sensemaking template as a framework for identifying and explaining the cognitive elements that influence reactions and responses to change. The three elements of disequilibrium, temporal context and knowledge structures are embodied in the individual. As yet, it is not possible to explain how these elements interrelate, or how they differ from one individual to another in creating different responses to change. Thus there is a requirement for empirical examination.

In explaining the sensemaking template in more detail, I consider it from a conceptual and operational aspect. In expanding on the meaning of each of the elements I also consider the broader demands placed on the template as an analytical framework. In particular I consider the challenges of identifying the influence of identity and how disequilibrium can be recognised. I argue for a narrowing of focus and in doing so, I am orientating the sensemaking template towards a more focused and in-depth research study.

4.1 Why is there a need for a Sensemaking Template?

In the introduction to this thesis I identified a puzzle which I considered had not been satisfactorily resolved and this has been confirmed in my examination of sensemaking and agency literatures. As yet there is no clearly defined cognitive process to explain how individuals create meaning to inform their action in public sector change environments. It is clear individuals assimilate or accommodate new experiences and data (Weick 1995, Klein et al 2006b), through reference to, or development of, knowledge structures (Schank and

Abelson 1977, Weick 1995). The selection of knowledge structures used in assimilation and accommodation are influenced by individual situation and context (Dervin 1983, Bevir and Rhodes 2006) and the level of reflexivity enacted by the individual (Archer 2007) in formulating purposive action. What I have described originates from different disciplines and theoretical approaches such as organisational sensemaking, cognitive science, learning sciences, political science and sociology. In developing the sensemaking template, I am looking to unify these disparate ideas into one framework in order to answer these research questions:

RQ1; what are the cognitive sensemaking processes that influence the creation of responses and reactions to change?

RQ2: How and where are these processes differentiated in individual sensemaking?

These questions have been constructed from an iterative process of working between different elements of knowledge and theory about what is already known in the sensemaking and agency literatures about cognitive agency in organisational change settings. As I identified the elements of influence on sensemaking, I considered them in terms of the research questions and my original focus, refining concepts until there was an emergent shape to the sensemaking process.

The template thus provides a frame of analysis for empirically addressing these questions, by creating a structure for the research inquiry. The application of the sensemaking template as an analytical framework for a research study is discussed in detail in chapter 5.

“An analytical framework is not a theory. It does not seek to explain the causes of phenomena (as theory aims to do), but rather offers a structure for categorising and interpreting aspects of the phenomena” (Hartley and Benington 2011: 9-10).

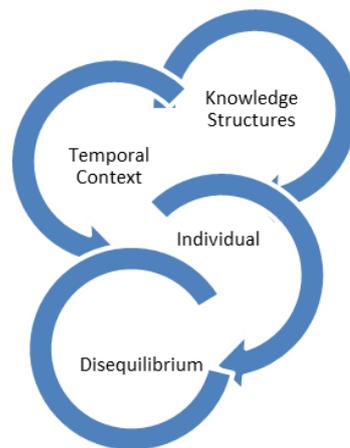


Figure 4-1 First iteration of the Sensemaking Template

I refer to the analytical framework as a template (See Fig.4-1) because of the stage of research development in which it is situated. I understand a template to be a pattern or an example of how concepts, processes or structures can be shaped within a set of boundaries. Templates are usually referenced as generic (document) structures to which detail is added to make it specific. The value of the template at this stage is specifically limited, and I acknowledge it requires greater definition. The prescriptive nature of a template is advantageous in bringing a level of consistency and standardisation to a cross-disciplinary research question focusing on micro-processes. Bringing a range of perspectives and literatures together in a meaningful way is aided by defining boundaries and providing a

means of ordering to an iterative and dynamic process. The template serves as a pattern or form to which shape can be added. It identifies where there are gaps, and a sense of direction for developing more robust relationships and greater levels of detail. As a template therefore, I distinguish its role as an analytical framework at an emergent stage of exploration. It acts as a representation of knowledge. It cannot contain detail, subtleties and complex movements and inter-relationships.

This representative model is required to direct, to simplify and to connect. Direction is provided by explaining the scope of each of the components, what is defined and what the boundaries are. The template simplifies by identifying key process transitions and relationships. Connection is not just about the relationships between different theoretical approaches in informing process, it is also a declaration of how research is to be pursued, the conceptual links being made and creates a point of reference for the empirical study. This section now examines specific process transitions of sensemaking, and it is here I begin to articulate the foundations of the precursive sensemaking process. In examining and articulating a cognitive adaptive approach to sensemaking, I situate the research at a micro level of analysis as discussed earlier.

I now explain each of the components of the sensemaking template in more detail, identifying where a clearer focus is required to inform the research study.

4.2 Disequilibrium and Equilibration

Disequilibrium is a disconnection between internal expectations and external experience and it triggers sensemaking. Equilibrium is restored when congruence is established between cognitive frames and experiences (Klein *et al* 2007). Also referred to as ambiguity, dislocation or cognitive dissonance (Burnes and James 1994), this disconnection drives the individual to make sense of her newly altered environment. Being in a state of disequilibrium is dynamic, complex and emergent, as the sensemaker explores the environment through particular identities, influencing what she perceives and understands, a point made succinctly by Weick:

Whenever I define self, I define “it”, but to define it is also to define self. Once I know who I am, then I know what is out there. But the direction of causality flows just as often from the situation to a definition of self as it does the other way (1995: 20)

Disequilibrium is affected by two elements: internal and external states. Weick (1987) opined that disequilibrium has sometimes to be created so the organisation can reflect the chaos of the external environment, in order to build sophisticated levels of sensemaking that can interpret and adapt to complex situations, something he referred to as “requisite variety” (Weick 2009:164, Kurtz and Snowden 2003). Identifying the world as either dynamic, chaotic or as a steady state experiencing episodes of change, as in the punctuated equilibrium model of institutions (Baumgartner and Jones 1993), influences how disequilibrium is viewed. Teleological models of change (Van de Ven and Poole 1995) such as Lewin’s model of change (1947) speaks to the latter approach, while proponents of “non-

linear dynamic situations” (Levy 2004:167) emphasise a state of continuous disruption. However, disequilibrium is an aspect of sensemaking theoretically fragmented in the sensemaking literatures. Weick situates the disconnection between internal expectation and experience in the theories of cognitive dissonance (1995:110), while Snowden locates environmental disturbance in chaos theory (Kurtz and Snowden 2003) and Dervin views it as a discontinuity in the flow of knowledge (Dervin 1983). What does unite these different views of disconnection is an awareness of the need to continually balance what is already known, with new experiences. Sensemaking, however it is interpreted, forms the basis of working towards a new level of control and understanding of one’s environment.

Striving to achieve a level of equilibrium and to sustain a sense of identity requires equilibration, the continual process of balancing the forces of change and stability (Lewin 1947), where change is multifaceted, and socially constructed reality is a dynamic process (Sztompka 1991). Disequilibrium is an affected state of being, where there is dissonance between internal knowledge structures and expectations of the external environment. It is therefore a non-agential state in that no conscious action is taken. No-one actively chooses to be in a state of organisational disequilibrium, it is a non-voluntary result of alterations to a socially constructed environment. As the sensemaking template is orientated to understanding an active process of cognitive agency, I now consider disequilibrium should be replaced by an examination of equilibration.

Equilibration is the process of shifting through states of knowledge in order to achieve a balance between internal expectations of how the world operates, and external experiences.

Where these experiences create a level of incongruence, the individual accommodates or assimilates new information with the objective of reaching a state of equilibrium. This disconnection drives the individual to make sense of the new environment from a subjective standpoint. Equilibration is a dynamic and interdependent process, as it involves managing incongruence through multiple identities constituted in self-identity. Equilibrium is restored when congruence is established between knowledge structures and experiences (Klein et al 2007). So for instance, an individual may have achieved a sense of equilibrium in the workplace as she invests a level of control over her environment. At the same time, she may be experiencing a sense of ambiguity about how she deals with a family problem, or a technical issue. Whichever of these has prominence, in terms of what she focuses on, depends on the intensity, proximity and risks to identity. How the individual identifies the sense of self at the centre of disequilibrium, influences how she understands what is taking place, and how it affects her. Weick succinctly crystallized this relationship between identity and environment as part of the act of creating:

Whenever I define self, I define “it”, but to define it is also to define self. Once I know who I am, then I know what is out there. (Weick 1995: 20)

Disequilibrium is affected by two elements: internal and external states. Weick (1987) argued disequilibrium has sometimes to be created so the organisation can reflect the chaos of the external environment, in order to build sophisticated levels of sensemaking, or “requisite variety” that can interpret and adapt to complex situations (Weick 1987:112), Snowden 2007). In other words, to maintain a level of equilibrium, internal complexity

(Complex range of knowledge structures) should match the level of external environmental complexity.

The process of equilibration: striving to achieve a level of equilibrium and to sustain a sense of identity is a continual balancing of the forces of change and stability (Lewin 1947) where change is multifaceted, and socially constructed reality is a dynamic process (Sztompka 1991). In balancing these forces, equilibration generates different levels of tolerance for change before ambiguity is triggered. Tolerance is dictated by the level of reciprocity between a changed and a stable state, the risks and rewards incumbent in each (Smith 2008).

4.3 Identity to Intentionality

“Sensemaking begins with a sensemaker”, (Weick 1995:18). The sensemaker is constituted of multiple identities, all operating to a greater or lesser extent at the same time (Kurtz and Snowden 2003). How does one capture which identity is privileged in a process of sensemaking? Is it important, does the knowledgeable agent have sufficient discursive capability and reflexivity to identify that identity? Once again, like disequilibrium, identity cannot be explored as an active process in its totality. Manifestations of identity are contextually situated. In searching for an active and specific expression of identity, I now focus more intently on intentionality as an expression and intent of purposiveness. Intentionality is understood as being conscious of something and goal directed (Tallis 2010). Each of these aspects of intentionality is an expression of active cognitive engagement with

the world. I now explain in more detail what intentionality is, and how this metaphysical concept can be identified at an empirical level

In creating order from the flow of data that surround her, and maintaining it, the sensemaker is expressing intentionality. Through the use of belief systems, values and visions, the continual flow of data is filtered and selected with purposive intent. The intent is to sustain or adapt something the individual considers important to her sense of being, driving her to create an appropriate and optimised environment, enabling control and identity to be maintained (Duranti 2000). Intentionality can best be described as a process of equalising, in the same manner as equilibration. Where the latter is about managing expectation and experience, intentionality strives to manage the balance and achieve a level of congruence between the ideal self and the real self (C. Rogers 1951, 1961).

The ideal self acts to motivate, to influence how the individual works towards an optimised state through beliefs, desires, visions that go beyond concrete reality. The individual works to achieve a state that generates “hope, ideas of a desired state and core identity” (Boyatzis and Akrivou 2006:627, Wolpert 2011). The real self is the image of self, generated in a socially constructed reality and is how the self perceives it is seen by others (C. Rogers 1951). When disequilibrium occurs, intentionality acts as a focus in sustaining the aspirations of the ideal self, by searching for cues to sustain both self and social identity as meaningful. It is here intentionality requires agency to sustain the balance between ideal and real self. Intentionality provides a sense of continuity between past, present and future, as the essence of self-identity. Being *about* something, is based on socially constructed and

socially valid connections considered by the individual to have a purpose in meaning making (Duranti 2000), becoming established as drivers of action and development of knowledge structures.

How does intentionality influence the sensemaking process? It does it on two levels. The first is through an evolutionary process of aspiration driven by the ideal self. The reflexive and purposive individual wants more control over her environment until she reaches what can only be described as a sublime state of self-actualisation (C. Rogers 1951, Wolpert 2011). This state is never achieved because the environment is continually changing and evolving so the distance between the real and ideal state maintains a permanent incongruence.

The second way intentionality influences sensemaking is through its influence on identity. The desire for a greater level of autonomy or discretion is invested in identity. Identity provides the external expression of the ideal self. Identity therefore holds and shapes what it is that the individual expresses as real self, and what she wants to become. As a shorthand expression, intentionality is often referenced as 'aboutness' (Fairthorne 1969, Yablo 2014). This term conveys an understanding of some of the constitutive elements of intentionality which are somewhat difficult to express: intentionality is about beliefs and desires: higher order conceptualisation that can be expressed or considered in different ways (Flavell 2000). '*Aboutness*' offers a way of expressing these ideas in more concrete terms, or as part of something else, from which the core of intentionality can be abstracted (Yablo 2014). Aboutness expresses the ideal self and the real self operating in a given context, where elements of each will be stronger or weaker dependant on circumstances. A

way of expressing it is to say that in a dissonant environment, the ideal self will work harder to ensure hopes and beliefs are sustained when the real self may be vulnerable. In an optimising environment, where the real self is acting in line with the direction the ideal self desires, the method of travel e.g. with a sense of morality, honour etc. is where the efforts of the ideal self are focused.

The starting point of a self-actualising individual is based on psychological, cognitive and neuro-scientific perspectives. Maslow reasoned individuals held a cognitive need to understand the world better in order to achieve self-actualisation or personal growth (Maslow 1987, Wolpert 2011). This desire to reach a higher state of equilibrium, with ever increasing control over one's environment is driven by intentionality, which fills the gap between the real self (operating in a socially constructed environment) and the ideal self (an abstract sense of identity) (C. Rogers 1961). Therefore, intentionality is premised on the idea of the individual being in a continual state of working towards becoming a more evolved being and therefore creates a link between identity and action. There are elements of my identity that serve to drive my desire to achieve a higher state of control. These elements, whether academic, based on moral reasoning, or a particular set of beliefs, inform and influence whatever eventual action I take in a certain situation.

The relational tensions between individual intentionality and the dynamics of external forces provide the arena for examining to what extent knowledgeable agent autonomy is exercised (Castelfranchi 2004). In summary therefore, intentionality is about perception: a focused view of the world. It is about agency sustaining core beliefs and desires in relation to

the external, socially created environment. Finally, intentionality is about a reflexive understanding of agency and the search for cues to sensemaking within the context of being *about* something intrinsic to identity.

Examples of intentionality will be examined later in the chapter, but for ease of literary flow and understanding, when the italicised phrase ‘*about*’ is used, it is synonymous with intentionality.

Intentionality, as part of self-identity, is presented as the starting point in unpacking the detail of the sensemaking template, as it forms the basis of what the knowledgeable agent brings to a relationship with an altered environment. In the thesis, the ability of the knowledgeable agent to act autonomously is understood within the context of self-identity and Intentionality (relative to the boundaries of a socially constructed reality).

4.4 Temporal Context

In using the new term ‘temporal context’, I conflate ideas about contextuality from a sensemaking and broader organisational perspective. I acknowledge the specific contextual references in the sensemaking accounts of time-space, but also the concept of social situatedness, where individual meaning derives from being socially and culturally embedded.

The nature of time and its dimensions are considered from two main perspectives in the sensemaking approaches. I consider the first perspective as one of temporal internalisation. Dervin (1983) centres the individual sensemaker in contextually specific moments of time

where past, present and future meet. In drawing on different knowledge structures the sensemaker is able to cognitively move across these temporal dimensions to create meaning (Dervin 1983). From this internal cognitive perspective, sensemaking is about continuous navigation of data flow, sifting and filtering to find the cues that inform identity and place. The act of sensemaking is situated in the present, informed by knowledge structures containing bracketed experiences in networks of memory, experience, emotion, and situated understanding. However, sensemaking is also influenced by past experiences and knowledge, and also orientated towards the future, as options and possibilities are generated. Each of these bracketed moments is part of the meaningful, continuous progression through time-space (Dervin and Frenette 2001).

So far, it appears the sensemaker lacks autonomy in their contextualisation. Temporal influences of past, present and future are automatically brought to bear on their decision making because such influences are embedded in knowledge structures. Bevir and Rhodes argue the sensemaker can exert agency at a local level within the context of situated agency (2006). Although influenced but not constrained by structural or temporal constraints, the sensemaker has the ability to select and follow her goals and aspirations. She can adapt or modify current knowledge structures in light of new ideas or experiences, by distancing herself from normative stances, enacting “creative situated agency in a setting of tradition” (Bevir et al 2012:167). The agency within sensemaking begins to emerge here, as the relationship between the sensemaker and her environment is comprehended as one of interaction, where meaning is created, rather than simply an interpretation of what is occurring (Weick 1995), and in that creation, there is selection of cues, and a choice as to

“structure the unknown” (Weick 1995:127). These acts of cognitive agency: interaction, creation, selection, choice, show the human embodiment of change.

In the sensemaking template, temporal context conflates ideas about contextuality from a sensemaking and broader organisational perspective; I am acknowledging the specific contextual references in the sensemaking accounts of time-space, but also the concept of social situatedness, where individual meaning derives from being socially and culturally embedded.

The second temporal context is external. It locates the individual in an organisational context or wider environment, where bracketing and demarcation of change episodes is a collective or organisational action of creating focus on change (Weick 1995). In the same way some observers did not see the invisible gorilla mentioned earlier in the chapter (Simons and Chabris 1999) because their focus was on counting baseball passes in a specific domain, organisational bracketing informs and influences what the individual or group is aware of, as they become embedded in particular contexts. Pirolli et al (1999) adopted a task-based consideration of time, where sensemaking was enacted in a specific process of generating a product like an analytical report (Pirolli and Card 1999). Sensemaking was temporally punctuated in segments dictated by environmental demands such as task end dates and reporting deadlines.

The act of sensemaking is situated in the present, informed by knowledge structures containing bracketed experiences in networks of memory, experience, emotion, and situated understanding, but also orientated towards the future in the options and

possibilities being generated now. For Weick, sensemaking takes place retrospectively: to make sense of what has occurred, there is a need for reflection (1995). Dervin centres the individual sensemaker in contextually specific moments of time, where past, present and future meet. Each of these bracketed moments is part of the continuous progression through time-space (Dervin & Frenette 2001).

Klein et al (2006, 2007) also consider sensemaking within the intersections of past, present and future in anticipatory sensemaking: “noticing and extrapolating trends” (Klein et al 2007:3) to investigate how events may proceed and how individuals may need to react. It is here the concept of capacity is applied to create a range of options both constructing different options but also considering the individual’s potential to deal with them. Corley and Gioia consider “projective futurism” (2011:25) as the need to understand what will be important in the future in order that problems and implications can be examined and made sense of. Situatedness of particular actors locates action in specific space-time dimensions and situations are embedded in particular contexts (Rouleau & Balogun 2011) but situatedness also delineates agency, as individuals distance themselves from normative structures and create new constructs or structures (Bevir & Rhodes 2006:9).

4.5 Knowledge Structures

Cognitive processes identify how people make sense of change and what influences the perspective they adopt (Bartunek, Lacey and Wood 1992). These processes are predominantly focused on knowledge structures, a classification system for holding

knowledge (Hintzman 1976). Sensemaking takes place when these knowledge structures alter to accommodate new data (Weick 1969). The different approaches to sensemaking have illustrated differing views of how such processes are to be regarded and labelled. The micro-cognitive sensemaking approach treats sensemaking as information processing (Klein, Moon, Hoffman 2006b), while others focus on the socially constructed interpretation of meaning (Weick 1979, Dervin 1983). However, there is a general consensus reflecting knowledge as distinct frames, whether these are regarded as episteme (O’Leary and Chia 2007), schemas (Pirolli and Card 1999), mental models (Klein and Baxter 2006) or frames (Weber and Glynn 2006).

Cognitive processes identify how people make sense of change and what influences the perspective they adopt (Bartunek, Lacey & Wood 1992). These processes are predominantly focused on knowledge structures, providing a means of continuing routine tasks and institutive practices to maintain equilibrium. Hintzman (1976) provides examples of these knowledge structures, such as the use of scripts and memories. These provide and reinforce the dominant knowledge structures representing and generating belief systems and stereotypes informing intentionality (Hintzman 1976). These structures can be organisational stories or cultural experiences legitimised through sharing (Harris 1989), or what Bloor and Dawson call patterns of “signification, domination or legitimation” (1994). An additional interactive role of knowledge structures is in providing situated cognition (Elsbach, Barr and Hargadon 2005). Essentially, these are transitory moments of sensemaking generated by the interaction between knowledge structures and context (Cook and Brown 1999). They can be ‘lightbulb’ moments, radical ideas or new connections, and unless acknowledged in some

way, will be lost. This highlights the importance of context in sensemaking, which I will now explore further.

The information processing perspectives of sensemaking concentrate on identifying what knowledge structures are used and how. In his review of organisational cognition literatures, Walsh (1995:286) identified an extensive list of knowledge structures including frames of reference, schemata, shared perspective and worldviews, cause maps and cognitive maps. Essentially these structures were considered to be “mental templates consisting of organized knowledge about an information environment that enable interpretation and action in that environment” (Walsh 1995: 286).

In contrast, Schwenk differentiated cognitive maps as a particular type of knowledge structure, focusing on cause and effect beliefs informing decision making (1988:145). Huff (1982) argued cognitive maps were not knowledge structures, but a method of visually representing knowledge structures. These knowledge structures are used to identify patterns and anomalies in the flow of data, highlighting gaps between expectations based on previous knowledge, and new experiences and data (Weick 1995). The knowledge structures hold empirical data as well as values, beliefs and memories, imbued with inferences to specific contexts and socially constructed meaning. As data is gathered, it is matched against these structures. Data that doesn't match is used to generate the search for new representations or frames ((Pirulli & Card 1999). Matching is carried out through identification of patterns and anomalies between internal expectation and external

experience (Weick 1995). The generic term ‘knowledge structure’ (Schank and Abelson 1977) will be used in subsuming all other knowledge systems.

Conclusion

In this chapter I have developed a sensemaking template, identifying the components from the sensemaking and agency literatures, and locating the focus for enactment in the knowledgeable agent. I have used the template as a means of clustering and managing a range of conceptual groupings and potential sub-themes for exploration (King 2004). The template represents my understanding of how cognitive agency works to inform and influence reactions and responses to change. I adapted the template in consideration of the research questions I have now formally expressed in preparation for empirical testing. I argue such changes have created a potential for a sharper focus on sensemaking in action. The revised sensemaking template is now represented in Fig.4-2.

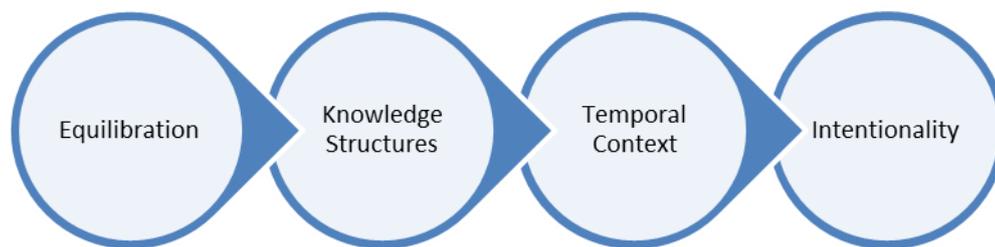


Figure 4-2 Revised Sensemaking Template

I began this chapter by explaining why there is a need for a sensemaking template and what it provides in a research setting. I introduced the sensemaking template as a framework for identifying and explaining the cognitive elements influencing reactions and responses to change. I considered the three elements of disequilibrium, temporal context and knowledge structures to be embodied in the individual. I explained my reasons for adapting disequilibrium to the sub-process of equilibration, and to search for intentionality as a more exacting exploration of purposive cognitive agency than simply using identity as an embodiment of sensemaking. I consider these elements as phases or transitions in sensemaking rather than bounded steps in a process. To identify how these transitions relate to each other and to context requires empirical study. In the next three chapters I explain how the study is designed and implemented.

5 ANALYTICAL FRAMEWORK

In determining how to design an empirical study of cognitive agency, I used the sensemaking template explained in Chapter 4. The sensemaking template is set within an interpretive approach, recognising the knowledgeable agent as one who constructs a reality that is socially constructed, and where the researcher shapes the research in the choices she makes. This chapter is the first of three in which I explain the approach, research design, and data analysis procedures adopted in the thesis.

Chapter 5 consists of two sections. In the first section, I discuss why an interpretive approach is followed and the implications for the way in which the research questions are expressed. In the second section, I unpack the sensemaking template as a methodological tool, outlining my understanding of each of the elements, and how they inform what data is to be collected.

5.1 Interpretive Approach

According to Creswell, there are two factors influencing the design of a research study (2009). The first is the nature of the research problem, and the second is the researcher's predisposition, based on training and experiences, gravitating towards certain research disciplines. Within those influences, particular "worldviews" (2009:6) are assumed to influence investigative frames and selection of methods. In this section I explain my rationale for selecting an interpretive, qualitative approach to this study.

5.1.1 Rationale

The research problem focuses on *how* individuals make sense of change. In this simple question, viewed through a sensemaking lens, I acknowledge particular elements influencing my adoption of an interpretive approach. The basis of sensemaking theory can be traced to a number of influences. The influences derive from symbolic interactionism, where meaning is interpreted through a socially defined understanding of reality (Burrell and Morgan 1979); ethnomethodology's sensemaking procedures used in creating a sense of social order (Garfinkel 1967, Burrell and Morgan 1979); as well as social constructivism, drawing on influences from Vygotsky (1978), Piaget (1952), Kelly (1955), Berger and Luckmann (1966). The legacy of these influences generates a constructivist premise that individuals "structure the unknown" (Waterman cited in Weick 1995:4) through individual interpretation enacted and shared (Vygotsky 1962, Weick 1995).

Like sensemaking, the interpretive stance seeks to find meaning within research participant knowledge structures and views the environment as socially constructed and emergent. As such, an interpretive perspective influences how the research question is focused, and reflects an ontological understanding of reality as socially constructed through actions and interactions (Orlikowski and Baroudi 1991:14). Conscious awareness and engagement with the socially constructed environment in which she is situated, a researcher creates her own reality (Crotty 1998) through immersion within it, shaping understanding of the forces that constrain or empower. An interpretive approach shares that understanding of meaning created by individuals through socially bound experiences. The interpretive

approach attempts to understand phenomena according to the meaning ascribed to it by individuals (Deetz 1996) investigating relationships and contexts (Creswell 2008), knowing that different perspectives can elicit different interpretations of the same data (Kincheloe 2001).

An interpretive approach also speaks to the messiness and complexity of sensemaking, to a study recognising individual perspectives, networks of relationships and influences, and the “world of lived reality and situation-specific meanings that constitute the general objective of investigation” (Schwandt 1994:18). Having developed the sensemaking template in chapter 4, I stated empirical research was required to surface the dynamic interactions and interrelationships of each of the four components in the process of sensemaking. In adopting an interpretive approach, I am able to locate individual sensemaking in each research participant’s situated context, but also to locate those individual contexts as part of a more general positioning in an organisational community. The ability to move between general and specific is an important consideration. Geertz’s often-quoted statement that “small facts speak to large issues” (1983:23) is relevant here in emphasising the importance of locating individual or particular perspectives within a broader theoretical and empirical landscape as a contribution to current knowledge in the organisational change and public policy arenas.

Yanow and Schwartz-Shea offer a key perspective on the role of micro-analysis in the context of historical reflections (2006:64). I have already cited examples of how the period in which the research took place, was described as a perfect storm (Haddad 2012, Lowndes

and McCaughie 2013). In reflecting on this period of local, national and global economic and social disequilibrium, and as we become distanced from the events themselves, micro-studies such as this offer the opportunity to search for recurring patterns, scripts and bounded frames of reference in the broader context of defining the critical nature of exceptional events. Although this particular perspective does not influence my selection of an interpretive approach to the particularities of the research study, it does mesh with my consideration of the study as a starting point for further research, and locates it as part of a wider research landscape.

Examining emergent phenomenon, the as yet hidden and assumed sensemaking process, demands a particular kind of research and researcher flexibility. Beginning with what Yanow and Schwartz-Shea view as “informed ‘hunches’” (2006: xvi) about an as yet implicit process of cognitive sensemaking, and supported by an identification of the gaps in sensemaking literatures, my research design enables me to identify *how* research participants make sense of their environments and the changes they experience. By using an interpretive, qualitative, single case study and cognitive mapping method, I can give shape to the boundaries of the puzzle as well as detail and explicate a meaningful argument to answer the research questions, and I am able to incorporate a level of ‘intuiting’. I understand intuiting as the application of knowledge structures which I am not yet able to articulate but am conscious of their influence on my thinking. I am interpreting and creating meaning from the data in a way I deem plausible i.e. I am making sense of it. I can then move from my interpretation to the sensemaking template, and back to the data to verify initial ideas and reject or accept its validity. In doing so, I recognise interpretive research that uses analysis to inform, “Where

imagery, metaphor and analogy, intuitive hunches...are prepotent” (Bargar and Duncan 1982:3)

The phenomenological influences of interpretive studies focus on describing the subjective meaning ascribed to the lived experiences of a number of individuals about a concept or phenomenon (Creswell 1998). In this study, the phenomenon is organisational change as experienced at an individual level and understood by knowledgeable agents. I have chosen to use a case study as I am exploring contextualised sensemaking where the boundaries of the study in terms of what will be revealed, are not yet clear (1989:23 13). This is an appropriate vehicle for examining a ‘how’ question (Yin 2003), when I am working on a puzzle not visible in itself but expressed as a result, i.e. action. The qualitative case study is used to achieve specific outcomes, and the particular design is influenced by those desired outcomes. I have used an instrumental case study approach that backgrounds the case itself, as my focus is on the particular phenomenon to which the case study allows access (Stake 1995). The specifics of my case study design will be discussed in the next chapter.

5.1.2 Positionality

From an interpretive and qualitative perspective, as the researcher I become a “passionate participant” in the gathering and analysis of data (Guba and Lincoln 1994:115) through the relationship I construct with the research participants and in the way I interpret the data findings. My positionality produces reactions and there is a need to acknowledge how they influence the participant-researcher dynamic. How I introduce and present my

researcher identity creates a relationship, elements of which I cannot foresee or pre-judge. However, I can conceptualise certain dynamics beforehand, and make judgements about how best to create an honest and positive relationship and also provide opportunities for prioritising different identities with individuals, based on cues I identify (Yanow 2006, Schwartz-Shea et al 2012). I assume my role in the research as a sense-maker and sense-giver, as I create meaning based on my own experiences and how I interact with participants in the dialogue I shape. I also present a particular identity as a female, as a local government worker, and as a researcher. I accept these identities influence the research relationship (Crotty 1998, Yanow 2010). As such, I have to attend to the ethical deliberations that such a relationship can create. The ethical aspects of my position as a researcher were explored prior to my submission for ethical approval with mitigating factors identified. I have informed consent from each participant and possible misrepresentation of data is addressed through signing off procedures.

The interpretive approach also surfaces the concept of power in the research relationship in two distinct ways. First, power can be articulated in the identity the researcher adopts, or is perceived to have. I was open about my employment in another local authority but vague about my role other than a generic description in order to avoid any sense of ranking within the interviewer - participant relationship, from either side. The second consideration of power focuses on my management and analysis of the data. According to Dervin, the participant adopts the role of researcher and theorist as well as the researcher (1983). This balance of power demands a distinction between assumption and analysis. The patterns and connections in the maps cannot be assumed to mean anything other than what the

participant offers. There can be no 'tidying up' of anomalies or gaps, and in that sense, the research must remain messy rather than "making one reading central by caveat and homogenizing or marginalizing the rest" (Dervin 1999:735).

In this thesis I have adopted the approach put forward by Schwartz-Shea et al (2012), recognising causality as that which is explained through research participants own understanding of their contexts and actions. I would argue any other understanding of causality would be at odds in a study where plausibility is one of the key characteristics of sensemaking (Weick 1995). Generalisability concerns the reliability of a research study. Seale argued trustworthiness is a more appropriate term as "trustworthiness...lies at the heart of issues conventionally discussed as validity and reliability" (1999). I have already identified the case study as being situated at the eye of a perfect storm, and it would be difficult to argue generalisability is easy in such circumstances. Therefore I argue my research methods are sufficiently detailed to be open to replication, and it is the sensemaking template that may be regarded as generalisable to theory as opposed to population and context.

5.2 Operationalising the Sensemaking Template

In identifying what data I need to collect, I consider the research questions in more detail, as they relate to the sensemaking template and my broader understanding of context as defined by the sensemaking and agency literatures.

5.2.1 Focus on Research Questions

In Chapter 4 I briefly presented the research questions in relation to a refining of the sensemaking template, with a consideration towards the empirical study. Here I consider the questions in more detail. These iterative stages of developing the research questions are a necessary part of aligning the analytical framework with the overall focus of the research study and the research design. It is here I begin to identify the design implications of the research questions in the context of the sensemaking template.

RQ1; what are the cognitive sensemaking processes that influence the creation of responses and reactions to change?

I have already identified the knowledgeable agent as the individual unit of analysis, as the embodiment of the sensemaking processes I wish to examine. The context needs to be an environment where change is taking place at an organisational level and which impacts on the knowledgeable agent, so sensemaking is triggered. I also want to establish boundaries about the individuals I wish to interview. I need to identify individuals consciously aware of change and their relationship to it in terms of its impact on them, and their options for responding. Individuals who are 'passive' in their approach to change, (whether positive or negative) would not provide the necessary data. My design incorporates a sampling method to access that level of action.

Critically, I am searching for evidence of cognitive processes in individual reactions to change. In artificial intelligence disciplines, the term 'cognitive architecture' is used to

theoretically categorise mental structure, their associated rule sets and networks (Anderson 1983). I use it here to provide a useful metaphorical image of the internal mechanisms of cognition I want to access. The focus is on identifying previously tacit knowledge structures and situating them in individual contexts of change.

RQ2: How and where are these processes differentiated in individual sensemaking?

The second research question reflects the social context and constructivist themes within sensemaking. It also recognises the purpose of a process is to be meaningful and to achieve an outcome. The first research question addresses the elements of knowledge structures and temporal contexts in the sensemaking framework. This question is orientated towards consideration of intentionality and the sub-process of equilibration. The design is required to gather data reflecting a change incident, the responses the knowledgeable agent enacted to regain control, their understanding of their own levels of self-efficacy (Bandura 2006) and the influences and drivers that inform their choices and options for action.

5.2.2 Applying the Analytical Framework

The sensemaking template (See Fig.4-2) has been developed to illustrate the overarching themes denoting the complex and situated sensemaking activities and processes individuals undertake before external engagement.

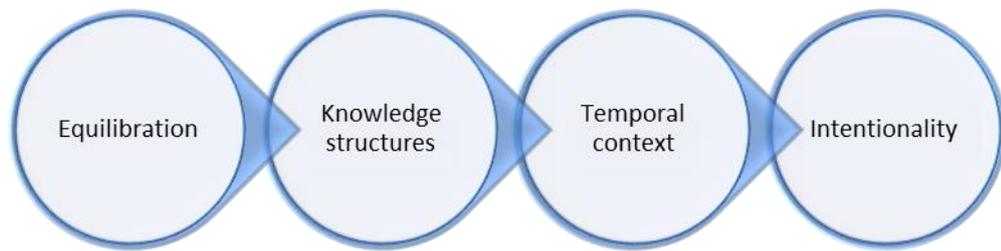


Figure 4-2 Sensemaking Template confirmed as the analytical framework

To examine the messiness and complexities (Law et al 2002, Holt and Cornellsen 2013) of individual meaning making, I used the individual components of the template as a structure for analysis (See Fig.4-2). Although highly inter-relational and dynamic on a day-to-day basis, this separation into a set of four transitions provided a means of separating out different strands of agential consciousness.

In this context, I understand transitions as transient states between one set of conditions and another. The term is conceptually familiar in organisational change and sensemaking disciplines (Lewin 1947, Bridges 2003, Kurtz and Snowden 2003) and is identified as a transition between old and new states of equilibrium, where old ideas are gradually replaced as new alternatives are accepted (Manderscheid and Ardichvili 2008). The concept of transitions is based on Lewin's description of "phase space" (Lewin 1947), which contains certain elements, factors or events in a field of study and is a means of studying relationships between variables or forces. Drawing on the idea of transitions as movement across different dimensions, I envisage the knowledgeable agent giving primacy to different

transitions in the sensemaking template, depending on individual circumstances and demands. Therefore the transitions are states of overlapping, with each element rising and waning in prominence as sensemaking is carried out. There is always, therefore, a dual cognitive focus, one transition will always be in a state of primacy while another shifts to the peripheral boundary of cognition, still present but not predominant (i.e. being aware of its existence at some level of consciousness, but not fully focused). The lengths of these transitions depend upon the intensity of the relationship between the individual and the environment, and the use of the term denotes merging, movement, and the somewhat amorphous nature of progression between the elements as they are contextually situated.

The use of the term 'transition' in the sensemaking template therefore denotes four key aspects. First, it identifies the movement between foregrounded cognitive action (purposive intentionality) and backgrounded cognitive action (routines and habit). Second, it recognises the length of different change stimuli, their contextual relationship to individual knowledge structures and intentionality, and their impact on conscious awareness (Dehaene 2014:131). Some changes to individual environments can be easily assimilated into current knowledge structures, and may involve momentary transitions from disequilibrium to a new level of control, whereas experiences of major shifts in knowledge and understanding will involve a much slower transitioning. In addition, the consideration of multiple socially constructed identities means transitions across different aspects of individual experience will be taking place simultaneously. Third, the use of the term transition acknowledges the temporal dimension to sensemaking, as knowledgeable agents are influenced by the past in making

sense of the present and generating options for the future. Finally, transition reflects the non-linear construction of the sensemaking template.

Although these different components are highly interactive within the individual's knowledge structures, I do envisage a conceptual sense of order that would be difficult to detect empirically. I will explain what I mean by way of an example originally evoked by Dehaene and described as a processing "*bottleneck*" (2014:33): if I press three keys simultaneously on the keyboard, they will be represented in a linear fashion. There is an order to the transitions: only one element can dominate thinking at any one time so the other process transitions are at the periphery of conscious consideration. The moving between process transitions may last nanoseconds or months, dependent upon the situation and intensity of the experience and its duration. This graphic representation (See Fig.5-1) presents dual perspectives as well as one's inability to view both simultaneously (Adkins 2009)

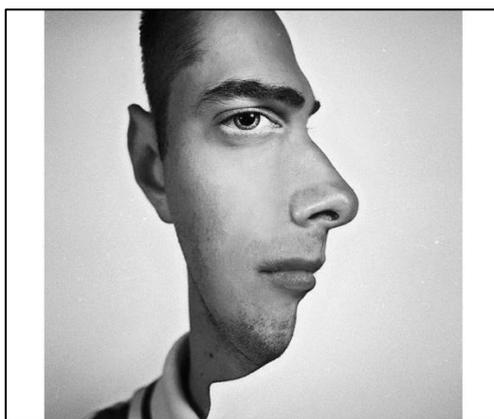


Figure 5- Two images, one focus

In an operational context, the sensemaking template acts as both a pathway to examining the detailed and complex cognitive relationships between individual knowledgeable agents and the change environment, as well as an articulation of the previously invisible or unconsidered prescient process of organisational change. The template frames the period and processes between a conscious acknowledgment of the altered environment and before 'public' agency is enacted. By public agency, I mean the visible and physical acts of agency deployed in a social context, and witnessed by others.

When considering the operationalising of the four transitions of the sensemaking template: equilibration, intentionality, temporal contexts and knowledge structures in the sensemaking template, I envisage the initial semi-structured element of the interview will provide the starting point for investigation. Research participants will be asked to select a recent episode of change they are involved in or affect them. This should identify disequilibrium and further questioning will identify equilibration. The episode will also provide temporal context. Knowledge structures will be identified through cognitive mapping method. Intentionality cannot always be discursively expressed so will be explored when and if it emerges from interviews, and subsequently may be identified in analysis. Asking each participant to explain their role within the organisation will be an opportunity to identify identity as part of the exploration of intentionality.

5.2.3 Signification of Visual Representations

How a theoretical or empirical model is visually represented, is part of the knowledge generation, as much as the process transitions of the model itself. Although two-

dimensional, the conceptual and graphic interpretation of the knowledge structure of cognitive sensemaking has to represent a fundamentally dynamic, iterative process. It also has to balance competing demands of a simple presentation, inclusive language, with sufficient theoretical insight to give it a level of legitimacy. The diagram also has to organise and synthesise a range of ideas, concepts, and relationships in a meaningful way, serving to bracket the phenomenon of this cognitive sensemaking process into “manageable pieces” so the reader can map their understanding against the progressive development of the study (Paradies and Stevens 2005:1). To that end, the simple linear diagram of Fig 4-2 is revised to illustrate interrelationships (See Fig.5-2).

Inserting conceptual diagrams into the study is a judgement call: they will speak to some and not to others dependent upon preferred learning styles (Fleming 2001), but they also have to adopt a stylistic appropriateness for the audience to which they are presented. Klein et al’s sensemaking model (2006b) was focused on a specific cognitive and artificial intelligence audience, while Kübler-Ross’s Grief Cycle (1969) spoke to a more general audience. In addition, the creativity and technical abilities of the designer/researcher play a role in portraying essential meaning. According to Paradies and Stevens, “the best conceptual diagrams are explicit about their scope, are informed and described by theories and/or empirical evidence and parsimoniously convey complex information, allowing the viewer to quickly visualize and grasp complicated relationships” (Paradies and Stevens 2005:2)

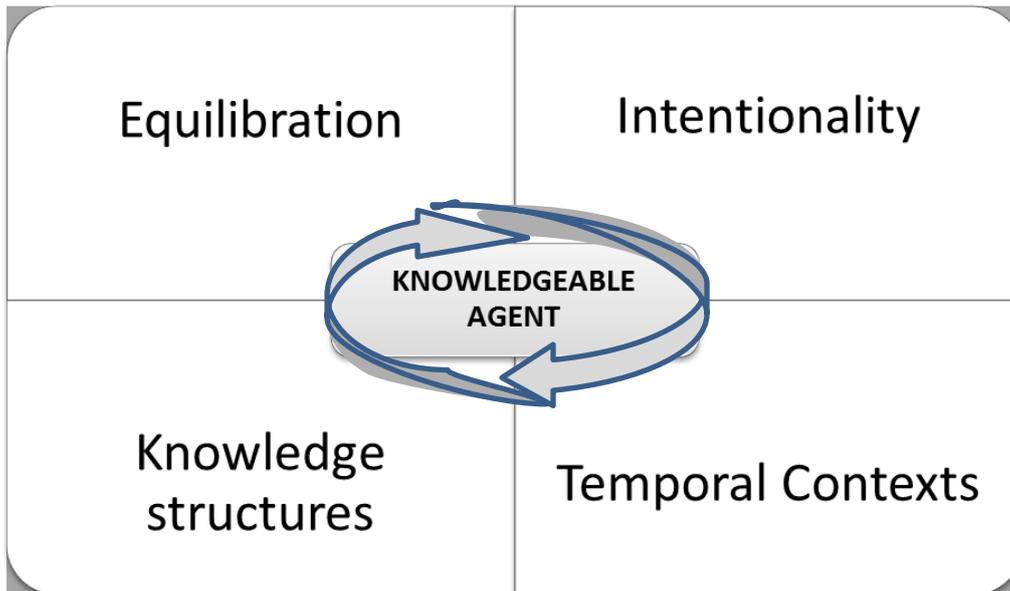


Figure 5-1 Dynamics of the Sensemaking Template

Conclusion

This research project is about identifying the cognitive sensemaking process knowledgeable agents enact in creating options for responding to change. Describing how that process is applied in an empirical setting will illustrate how each of the individual sensemaking elements influence and interact with each other. These elements are equilibration, intentionality, temporal contexts and knowledge structures. The second part of the research focuses on pinpointing where variances in the process occur, and how these influence individual reactions and responses to change.

Having identified and explained the sensemaking template as an analytical framework and explicitly articulated my research questions, with the boundaries of the study set, I have concluded the study is interpretive and primarily exploratory and instrumental. It is

exploratory (Yin 2003) in the sense that this is a new approach to considering how organisational change is implemented, and although it does not have a theory–building focus, Eisenhardt (1989) and Yin (1989) recommend its use in these circumstances. Stake uses the term “instrumental” to describe case studies that study a particular phenomenon to further understand what is occurring (1994:237) while Yin advocates the use of a single instrumental case study to “confirm, challenge or extend the theory” (Yin 2003:40). The challenge remains to find an appropriate means of eliciting tacit knowledge “because it involves perceptual /cognitive skills that are frequently hard to verbalize” (Zsombok and Klein 1997:133). In the next chapter I discuss the research instruments and their appropriateness and applicability.

6 RESEARCH DESIGN

An interpretive perspective of agency informs a specific research orientation. In acknowledging sensemaking and understanding as subjective, and therefore the views of each individual are unique, methods of study look to examining micro-processes or bottom-up experiences, identifying the language and context of the agents' situated environment (Schwartz-Shea and Yanow 2013).

In this chapter I explain the design of the research study, which is based on an interpretive approach using multiple methods of data collection, and how I use the sensemaking template to guide my considerations. I argue in favour of using a single case study and explain how I recruited and selected an appropriate research sample. In using cognitive mapping to identify the knowledge structures used by knowledgeable agents in sensemaking, I use it in a novel way and in a different context to those where it has been applied previously. In explaining my interview method, I give an account of the cognitive mapping method as I applied it and identify the strengths and limitations of the methods. .

The chapter has five sections. In the first section I discuss my case study selection, and set it within the context of change occurring in local government at the time the empirical work was being carried out. I also explain the sampling method used. In section two, I explain why I selected cognitive mapping as a method, its advantages and how I adapted it for specific use in the study. Section three explains the interview format with an explanation of how cognitive maps were introduced to research participants and how they were constructed. In

Section four I discuss the ethical considerations and data security measures I implemented and Section 5 considers the strengths and limitations to the method.

In this chapter, I set out the particular methods I used to collect and analyse the data required to identify the process of cognitive sensemaking. I begin by discussing the case study as a vehicle for examining organisational change, and how the timing of the research provided me with privileged access at a time of unprecedented change in local government.

6.1 Single Case Study

In identifying the unit of analysis I am clear this is a study of individuals, and also one of process, acknowledging the process is embedded in the individual knowledgeable agent.

I argue that a case study is relevant to this research design because it is considered appropriate when 'how' and 'why' questions are being investigated (Yin 1984) and in understanding routine practices and their meaning (Hartley 2004).² The case study has been selected as typical of a local authority in circumstances and an environment that affected all local government organisations operating in a "perfect storm" of austerity (Lowndes and McCaughie 2013). The typical nature of the operating circumstances favour Flyvberg's argument that the issues being faced by the case study, provide a level of generalisation appropriate to other Local Authorities at this time . (Flyvberg 2006:234). Case studies have been used extensively and effectively in sensemaking research when studying organisational change (Maitlis 2005, Balogun and Johnson 204, Gioia and Chittipeddi 1991) so I consider it an appropriate method to use in this instance as it provides a bounded system (Stake 1998)

or phenomenon (Merriam 1998) which can be “a program, an institution, a person, a process or a social unit” (Merriam 1998: xiii). The case study provides a means of pursuing a thick, rich, context specific and holistic study of organisational sensemaking or to focus on particular events or situations (Merriam 1998: xiii). As such it provides a degree of flexibility in terms of how emerging data is gathered and analysed. For instance, if the study should require the need to focus on one or two individual participants or a significant organisational event, the case study can provide flexibility in the research design “in the transition from stage to stage, as the investigation unfolds, as the problem areas become progressively clarified and defined” (Stake 1995:16).

Drawing on guidance from Stake (1995) and Yin (2003), I set boundaries for the case study by defining the study to a local authority setting, which is my milieu, and to carry out the research in the following 12 month period (2012-2013), which serendipitously offered a unique context in which to study organisational change.

I considered that in carrying out a micro-study of organisational change, I did not require multiple cases, as I articulated a clear research focus (Mintzberg 1979) which was possible to test through an appropriate sample within one organisation. Having already had to renegotiate my research study with the organisation, I was confident that in using a case study approach, any further shifts and movement in both research question and findings could be accommodated without detriment to the final outcome (Eisenhardt 1989). In selecting a single case study, I acknowledged its use in qualitative and detailed examination of particular phenomenon (Bryman 2004) and in particular, its effectiveness as a tool of

inductive research, using multiple methods of data collection. In examining individual sensemaking, I considered a single case study would provide sufficient data in a setting Stake identifies as “a specific, unique, bounded system” (Stake 2008:445) and where the study was exploratory (Yin 2003), particularly in the context of the accelerated rate of change taking place within the local government arena at that time. I considered taking longer to complete research across multiple case studies would have added additional variances that would obfuscate rather than clarify the research, and would necessitate additional time resources that would add pressure to the research timetable (Eckstein 1975). Additionally, the single case offered contrasting perspectives through the maps and additional data of both knowledgeable agents and key informants (Hartley 2004).

In selecting the particular case, I wanted to use a local government organisation because that is where my career experience predominantly lay. I wanted a geographical location within the West Midlands region for logistical ease, and sufficiently distant from my own organisation to minimise confusion between my identity as a researcher and as a local government employee. I also wanted an organisation of sufficient size to produce an adequate sample, and one where there was evidence of planned organisational change taking place (See Appendix 17 list of possible organisations).

There are disadvantages to employing a single case study relating to credibility and generalisation (Eisenhardt 1989, Hartley 2004). The obvious one for me was that of researcher subjectivity, based on my own background in local government (Flyvberg 2006). Wanting to ensure my design mitigated the worst excesses of this, I incorporated member

checking, local and expert peer review. I also used my predisposition towards visual representations of data to the use of diagrams to explain and illustrate the theoretical aspects of my findings, thus announcing a certain level of data consistency in the findings.

6.1.1 Case Study Context

The case study was executed in a metropolitan borough council in a deprived urban area in the Midlands region of England. It was selected as a convenience sample because a work contact provided me with a Letter of Introduction to the Chief Executive. It was logistically suitable, and in addition to experiencing the impact on services of severe deficit reductions, had also recently committed to a long-term strategic partnership in order to transform service delivery through to 2020. I had also completed some initial comparative work across a number of regional local authorities before approaching my colleague to assist in an introduction (See Appendix 17)

The council in the case study was working to address levels of educational, economic and social deprivation in the area. There was a low skills base with a quarter of the population having no qualifications and only 16% of the working population had a graduate qualification in comparison with a national average of 27%. There were low employment rates, a reduced manufacturing, managerial and professional employment base and net outward migration ([name] business plan 2011-2016).

In 2011, the council introduced a new business plan to reflect its move towards increased partnership working. Between 2011 and 2012, key actions were being implemented as part

of a “Change and Continuous Improvement” plan (Report to Cabinet Member for IE April 2011): Restructuring including delayering and reduced workforce, services to be relocated to One Stop shop networks with extended accessibility features.

Shared priorities were being developed with external partners, and incorporated a focus on key actions informed by ‘Every Child Matters’ and ‘Support for Vulnerable People’ policies ([name] Business Plan 2011). Projects at the implementation stage in 2012 included delivery of agile working through the introduction of generic job descriptions, revision and development of Human resources policies, and Terms and conditions of employment. There were new partnership and service delivery models being designed or implemented in Legal Services, Waste Management, Learning and Development, Adult and Children’s services and in Housing ([name] corporate business plan 2011-2014). Elements of the council’s social care service were engaged in an improvement programme as part of a new service model to address under performance ([name] Ofsted report 2011). Finally, a new centralised commissioning function was being developed to orientate the council towards the effective use of external resources in managing capacity and providing an appropriate skills base during transition and towards sustainable delivery models.

The macro perspectives of populist discourses such as Localism, the ‘Big Society’ narrative and ‘Broken Britain’ were not prominent in the knowledge structures of those whom I interviewed. In their place were organisational slogans of ‘doing more with less’, the loss of expertise, fragmentation of knowledge networks and communities of practice, with some

acknowledgement it was time for a change, and new opportunities for improvement were available.

The case study thus provided a privileged perspective on local government change in which transformation became the outcome of a survivalist imperative, rather than the bold rhetoric driving early change initiatives. A more detailed contextualisation of the local authority setting is provided in Appendix 1.

6.1.2 Sampling

Throughout the thesis I have referred to the category of *knowledgeable agent*, as a collective term for describing enactors of change, and also as a conceptual term encompassing differentiated levels of agency (See chapter 3). From Giddens view of purposive agency as an expression of being human and reflexive (1979, 1984), to an appreciation of the 'expert' in adaptive decision making (Hoffman et al 1995), there are a multitude of ways in which the term could be interpreted. In collecting data, and particularly in gathering an appropriate sample, I was conscious I had to bridge academic and empirical perspectives, to be aware of the context in which I would be interviewing, and the knowledge base of local government representatives. The term 'knowledgeable agent' is not one used in public policy discourses and I considered it would be unfamiliar to the research participants.

In chapter 3 I explained my use of the term knowledgeable agent was as an overarching term to encompass all aspects of agency identified in the agency literatures. I acknowledged

agency in all individuals who were reflexive, and able to explain how they act from a position of knowledge and discursive consciousness (Giddens 1984). However I also placed a caveat on this statement by suggested there were different levels of knowledge, reflexivity and discursive ability that affected agential enactment.

I correlate higher levels of reflexivity with increased knowledge structures and a greater level of discursive consciousness. From earlier chapters, I am aware equilibration and intentionality influence individuals to strive for greater control over their environments. Therefore I consider that individuals possessing these higher levels of agential attributes will engage with change to create more power over their environments (Wolpert 2011). On that basis, I also presume these knowledgeable agents, in enacting agency in episodes of change, are enacting prior cognitive agency. I define and use the term 'cognitive agency' specifically to describe the mental capacity and capability of the knowledgeable agent to identify and create options for responding and reacting to change. I presume these incidents of cognitive agency would be manifested in agential action visible to others.

Based on this understanding, in this thesis, the knowledgeable agent is differentiated but defined as reflexive and purposive, with an understanding of their place and capacity to act within the social system. On that basis, I used snowball sampling (Faugier and Sergeant 1997) to achieve a purposive sample. I used key informants: individuals who are considered to have first-hand knowledge, expertise and understanding of a neighborhoods or locality (Chazdon and Lott 2010). Their names were drawn from my own contacts in the organisation, gatekeepers to strategic directors and Elected Members as well as team

leaders and members of teams suggested by my key contacts in the research organisation. I invited each of the key informants to engage with the research, explaining the aims, format and method of data collection I intended to use. There were 8 key informants who volunteered to join the study and I interviewed them all (See Question set Appendix 34) and as a snowball sample asked (Patton 2002) them to provide names of individuals whom they considered were influential in getting things done, those who influenced change in some way.

By representing the sample as a broad category of actors engaging with organisational change, I expected to receive nominations of individuals who were visibly enacting agency, and in applying agential capacity, were therefore deemed to understand their capacity to act. Capacity to act presumes a level of knowledge about one's place within a social structure, and about one's own skill and resources available to create change as well as a discursive ability to explain the reasons for action.

In Fig.6-1, I show the snowball sample emanating from the key informants.

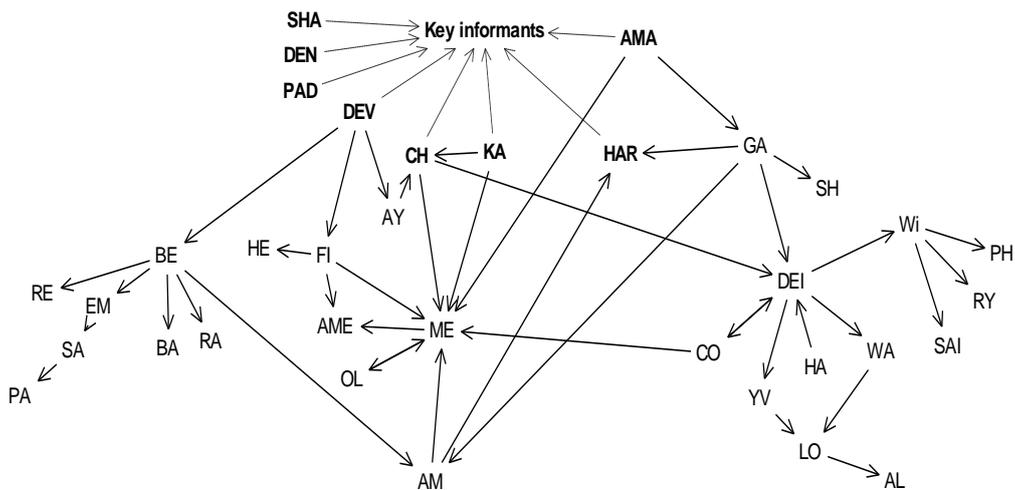


Figure 6-1 Network of Knowledgeable Agents and Key Informants

A total of 35 interviews were completed between May 2012 and January 2013, with 4 participants interviewed at sites separate from the main administrative complex. There were 13 females and 22 males, 17 participants had line management responsibilities and 9 were members of teams. Two participants were leaving the organisation for new posts soon after I completed the interviews and 1 was on paternity leave but came in to complete the interview. I developed a sampling frame to identify a broad range of characteristics and circumstances in order to identify as diverse a sample as possible within the confines of the snowball method (See Appendix 2). In Appendix 3 I detailed the methods used in gathering data, matching respondents to each of the methods.

The interview stage reached saturation point when the same names were being offered on a more frequent basis, and attempts to invite those nominated individuals resulted in a lack of response. The longest interview was two and a half hours, and the shortest was three

quarters of an hour with an average length of two hours. I classified one of the original volunteers as a knowledgeable agent based on the sampling framework (Appendix 2): he was active in engaging with change in the organisation, he reflected on his role and how it afforded him opportunity, or constrained his ability to act, was active in searching out materials, individuals, groups to help him make sense of change and was able to explain his actions.

The first 11 interviews were based on responses to interview questions and field notes only. Confidentiality was protected by pseudonyms, data coding and data security protocols. Participation was not restricted by role or location, nor was there hierarchical sequence to the interviewing schedule. Participants were asked to describe their own job roles, rather than classify them from an organisational chart, and they were invited to assess where they considered their role was situated on a spectrum from operational to strategic focus (See Appendix 34). Some considered they carried out dual functions and plotted two points as a meaningful representation of their role. This conscious disregard of hierarchical structure in the interviewing and analytical process was established to avoid building on researcher bias influenced by the views of central characters or role models (Schein 1986: 125-126).

Interviews were recorded and transcribed. I was also positively influenced by Dixon and Johnson's work (2011) on think-aloud protocols in interviewing. As I had witnessed participants already doing this when mapping, it provided me with another reason for recording. I did not introduce the protocol to the interview as I believed it would

compromise the mapping method if participants were focusing on what they were doing in the interview, rather than reflecting on a change episode.

6.1.3 Cognitive Mapping

I selected cognitive mapping to investigate and describe the processes of cognition because it satisfied the research requirements of adaptability, managing complexity and participant engagement through a novel approach. Cognitive mapping can be applied as a quantitative method by using a scoring system (Novak and Gowin 1984) to score links and concepts as an indicator of “richness” (Pearson and Somekh 2003:12) or the hierarchical position of certain concepts.. As a qualitative method however, cognitive mapping provides greater benefit as a means of analysing the complexities of individual knowledge frames (Miles and hubermann1994) and referencing implicit knowledge (Sparrow 1998). It provides an immediate representation of boundaries and connections of the topic under research. Importantly, the cognitive map can go beyond “ A rehearsed form of narrative that precludes more spontaneous answers” (Hathaway and Atkinson 2003:162) The advantages of using the cognitive mapping method were identified by analysing other research techniques used in sensemaking studies such as the use of narrative analysis (Weick 1995, Snowden 2010), cognitive task analysis (Crandall et al 2006), predictive modelling (Pirolli and Card 1999), and Dervin’s specialist interview technique (1983). Having selected a mapping method as appropriate, I assessed different mapping techniques before selecting Decision Explorer 3.3.1 (Eden and Ackermann 1999) (See Appendix 8 and 9).

Cognitive mapping had previously been used in identifying shared understanding of organisational issues and generating options in strategic decision making (Ackermann et al 2005), where data is “complex and messy” (Brightman 2003). Based on Personal Construct Theory (Kelly 1955), cognitive mapping assumes there is a hierarchical structure to concept structures with super-ordinate and subordinate constructs (Brightman 2003).

The advantages of the cognitive mapping method were threefold. First, it provided a way of developing a participative relationship in a short time period. This was an important factor in adopting the participant as co-creator of the research data, creating an equitable power dimension in which the participant’s contribution was recognised as having equal weight in the final outcome. The participant provided the knowledge and I offered a means of directing them to express it in a meaningful way. By building a sense of rapport (Taylor and Bogdan 1998), I could more easily gather rich data. Second, as a research tool, the method was easily adaptable to place (it could be carried out anywhere), to time (once concepts were generated, ordering and linking are reasonably fast processes) and to participant experience and reflexivity (there are no right and wrong mapping outcomes: the map is as detailed or as sparse as a research participant considers appropriate). I had to rearrange interviews with participants and condense the time available because of new demands. As a result I felt there was a benefit in offering each participant a copy of their map that captured their understanding and sensemaking in a novel way. The map provided them with tangible record of their contribution.

Finally, it was a method that could be adapted to suit particular circumstances. The process could be carried out without the need for software or specialist resources or facilities. I believed cognitive mapping could also be used in conjunction with other research methods, in a manner similar to that used by Kandiko and Kinchin (2012) when using concept maps. Participants were able to adapt the process to a pace at which they felt comfortable, and to take a degree of ownership in how it was completed.

Having satisfied process requirements, the method also had to satisfy key data collection requirements: first, to reach beyond the “automaticity” of day-to-day responses and reactions (Miller 2010). Secondly, to make explicit in some way, the tacit processes participants used in situated sensemaking (Kinchin, Cabot, and Hay 2008). Finally, in constructing a cognitive map during an interview, I considered it afforded a more iterative participation and engagement with research participants in eliciting data. Used as a participatory process, Emmel et al describes it as “an interactive approach using accessible and free ranging visual methods...to interrogate qualitative research questions” and viewed it as an effective means of generating dialogue and relationships. (Emmel 2008:1). There were additional benefits to the use of cognitive mapping: analytical reports could systematise complexity at a level where data could be managed effectively, rich data could be gathered in a relatively short space of time. Finally I hoped to engage interest by using a method unfamiliar in policy settings which would offer research participants a new perspective on their engagement with change.

The cognitive mapping approach required tailoring as it had generally been used in group or individual problem solving and decision making situations as a cause and effect relationship (Bryson et al 2004, Eden and Ackermann 2014). Therefore in implementing a one-to-one exploratory approach, other mapping applications were considered. Novak and Cañas (2008) provided detailed guidance on producing maps, and raised questions about conceptual relationships, while Self-Q method (Bougon 1983) and Repertory Grid (Tan and Hunter 2002) methods provided a clarity concerning the importance of enabling participants to elicit their own concepts and relationships as a means of reducing researcher-led bias.

Cognitive maps are understood in two ways; the mental ability to categorise, organise, store and recall knowledge, and thus generate an active and continuous cognitive series of processes. They are also visual representations of how, in a specific moment, we represent our knowledge of a phenomenon (Swan cited in Edkins et al 2007:764, Downs and Stea 1977). In the same way a map denotes a spatial boundary, the cognitive map (product) defines the boundaries of mental frames of reference when representing an area of study: in terms of what is not known or is not considered. Originally introduced by Tolman (1948), who considered cognitive maps as mental images constructed from the cues individuals gathered from their environment, I have adopted the definition of cognitive maps as a modelling technique representing thinking about a particular subject, event or problem (Eden 2004). These maps provide representations of how individuals seek to manage their environment through sensemaking, where sensemaking is derived from the relational aspects of frames of reference. Concepts are understood in relation to other concepts, and each concept has an opposite dimension (Kelly 1963). As examples, change is understood in

relation to stability, controlled is understood in relation to empowered and so on. The concepts emerging in each map are the dominant ones, actively selected and representative of individual context and meaning in that moment. In this way, each map portrays specifically selected categories of understanding (Lynch 1960).

It is important to emphasise the role of the map as a representation or portrayal of sensemaking in a temporal context. The map may display a change episode that occurred in the past, occurring now or is expected. The sensemaking occurring in creating the map is emergent or established. In emergent sensemaking, the process of completing the map and linking concepts generates a new understanding or perspective of the change episode. Where sensemaking is established, the map represents robust knowledge structures. Cognitive maps identify clusters of ideas, knowledge, and experience to inform perceptions. In making decisions, the individual draws upon a map containing concepts and connections, eventually building extensive networks of information. These maps represent individual belief systems and understanding at a given point in time and are domain specific, in other words they are not reflective of total belief systems but of particular clusters of knowledge and experience each individual brings to mind in given situations (Eden 1988, 1992).

In their explanation of the mapping technique and its benefits, Bryson et al argued mapping is useful when “thinking matters” (2004:263). The technique of mapping organises content, encourages emergent thinking (sensemaking) as participants begin to ‘see’ new perspectives and connections, and is a positive emotional experience. The latter is an important factor in my being able to successfully engage with participants, gain their trust in

my researcher expertise, and in generating rich data. I considered such a positive experience would move the interview to a “communion” rather than a “conquest” dynamic (Ezzy 2010).

6.2 Interviews

I considered interviews as an appropriate method to use in conjunction with cognitive mapping as it offered a relatively familiar routine to build trust and rapport before moving to the more novel mapping experience. According to Kvale, it was also applicable to understanding how individuals understood “the meanings in their lived world, describing their experiences and self-understanding, and clarifying and elaborating their own perspective” (1996:15). This appreciation of the interview as a place for exploring sensemaking and contextualising it, serves as a useful adjunct to the exposition of sensemaking in cognitive mapping. Ackermann et al also considered individual interviews as an opportunity for thinking through the process of sensemaking (2005:31).

The disadvantages of using an interview process in a mixed method approach revolve around time and structure. With a limited amount of time scheduled with each participant, time management is critical in achieving completion of both interviews and map. As a researcher I have to be able to manage time efficiently without making the participant feel hurried or curtailing their responses. Additionally, the contrast between the familiarity of an interview process and the new mapping approach may create too much of a contrast, unnerving the participant when the more freeform mapping process is introduced. Rather than reassure, the interview may set up an expectation of structure that will not be realised.

To counter this, I sent out information about myself and the mapping process whenever I emailed a potential participant, and I went through the format of the interview in any telephone discussions I had prior to the interview. Also, the introductory stage of each interview involved my explaining the process, emphasising it was a new approach for me as well as them, and we would be doing it together. This approach garnered positive reactions and enthusiastic application. One participant expressed reservations about mapping techniques as she did not normally find them useful, but was still willing to participate. At the end of the process, the participant said she was glad she had done it and surprisingly, had enjoyed it (OL Field notes December 2012).

6.2.1 Interview Format

The interview format was comprised of five stages (See Fig.6-2). The first stage covered aims, process and interview conduct. I used an example of a benign map I had drawn up for illustrative purposes to show participants what a map could look like (See Appendix 11).

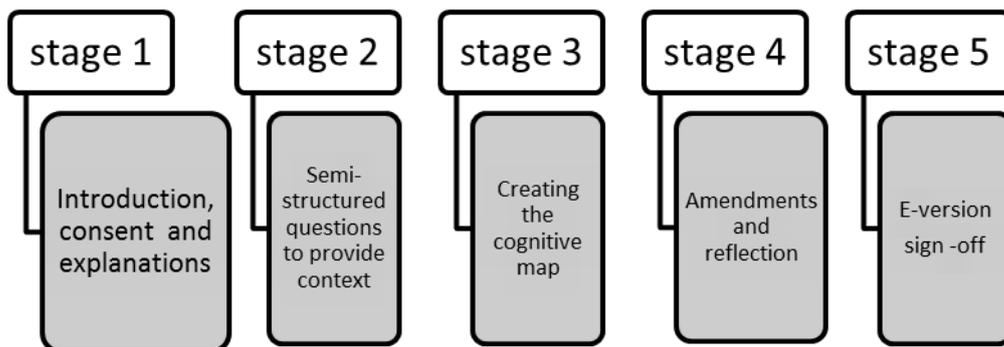


Figure 6-2 Five Stages of the Interview Process

In stage 2 answers to a semi-structured set of questions provided context. The questions focused on setting a general focus and context for identifying a change episode. In the remainder of the interview section of the interview, I gathered detail about how the search (Foraging - Pirolli and Card 1999) for data and sensemaking was carried out, how research participants articulated their sense of empowerment, and how they explained their understanding of change.

This stage provided the context and prompts for the mapping stage and provided the space for researcher and participant to build a level of rapport, empathising with the participant's view of the world (Silverman 2006), but also balancing it with a differentiated stance that makes explanatory probing acceptable (Fairclough 1995). In using a novel research technique, the participant needs to feel a sense of trust in the researcher so developing the interview in the style of a conversation, albeit with purpose and structure (Kvale 1996:6) is important in generating a dialogue. In my objective to encourage the participants to identify process by exploring "knowledge, skills, experiences, attitudes, beliefs and values", I used questions that invited explanations about understanding, trust, exploring avenues of knowledge, meaning, interpretation (Lee and Barnett 1994). In asking participants to identify their own significant change episode, the amorphous conceptualisation of 'organisational change' was deconstructed into a series of "common breakpoints" in the perception of change (Keisler and Sproull cited in Isabella 1990:11). Episodes selected by the participants covered an organisational timeline started in 2007 and was expected to be completed in 2014.

The third stage was the physical writing out and mapping of concepts (See section 6.2.2). The penultimate stage was an opportunity to reflect on the constructed map, to secure agreement that the participant had exhausted all concepts, they were satisfied with final positioning and links, and they had no further questions or clarification requirements.

On occasions, there were discussions with participants who wanted to discuss the meaning they drew from the map, and what they had gained from the experience of constructing it as a process of sensemaking. The final stage involved the researcher making an e-version of the map and sending it to the participant for sign-off and validation (Guba and Lincoln 1989).

6.2.2 Constructing the Cognitive Map

This section provides a pictorial representation of a map being constructed. Details are taken from participant RY's interview and map. The representations are not intended to be read, but are used for the purposes of illustration.

Step 1: Concept generation

Information from the initial interview stage is drawn upon to offer a focus (Bryman 2004:326). Sticky notes are added to the side of the page when written.

Step 2: Creating a hierarchy of concepts

After the list is exhausted, concepts are placed hierarchically on the page. If there is a low number to start with e.g. <15, it is often the case that additional concepts are added later as they begin to evolve within the mapping process.

Step 3: Linking concepts

Once placed satisfactorily, the research participant links the concepts to each other by incoming or outgoing arrows, with two or more concepts linked together into a construct, providing the basis of an overarching conceptual system.

Step 4: Review

Once the research participant is satisfied the map represents his understanding of the change episode the interview is concluded.

Step 5: E-Version Sign-off

The hand-drawn map is converted to e-version with mapping software (See Fig.6-7) and presented to the participant for sign-off. Maps were transcribed using *Decision Explorer*

3.3.1.1 software (See Appendix 9 for assessment of software options). Each concept was typed verbatim onto a map template in the same order and position as the paper map (top to bottom, left to right). This allocated a number to each concept. Connecting arrows followed the links on the paper map. Once the map was saved, the map could be 'tidied up' to make it more organised: reducing crossing lines, spacing concepts out, with 'busy' concepts in the middle (those with most arrows in and out) and others on the periphery. 'Tidying up' did not include deletion of unlinked concepts as this would challenge the integrity of the map. However the concepts were moved around, the original connections remained intact, so concept movement improved the aesthetic aspects of the map without jeopardising the analytical integrity.

6.3 Ethics and Security

Ethical considerations of research are not an add-on to the research chapter but inform and influence each stage of the research process. I was conscious of my identity as a local government worker and the knowledge I brought to the study, but also this identity could create ethical problems in terms of what I shared and with whom. I made a conscious effort to express my role in generic terms and not to associate it with a specific grade or level of responsibility in order to avoid hierarchical boundary barriers (Kvale 1996). Declaring my employment status was part of an open approach, offering a basis of identifiable empathy to the external pressures and stresses the change episodes created for the participants.

In interviews I clarified the difference between anonymity and confidentiality. Participants were informed at the beginning of each interview their identities would be anonymised. However, there were occasions when I was asked 'This is confidential, isn't it?' A subsequent discussion would clarify the difference and participants then confirmed what information could and could not be disclosed as part of the project. The need to explain the difference served the requirements of making participants aware and as fully informed as possible about the scope of semi-structured interviews in an interpretive study (Wise 1987).

In my submission for approval to the ethics committee, I drew attention to risks of participants using the interview as a "therapeutic interview" (Kvale 199:111, 2006), particularly when the organisation was undergoing extensive restructuring, with an interviewer who was also familiar with such a setting. The application for approval laid out the steps to be taken if such a circumstance were to arise (Application for ethical review 2012: section 19:9) which were deemed appropriate (Letter confirming full ethical approval 19/03/2012). (See Appendices 5 and 6)

All data was stored according to University of Birmingham guidelines for information security (2012). Data was anonymised and those invited to participate were not informed who had nominated them. Duplicate paper copies of the data were stored off site in a locked secure facility and only accessible by the researcher.

6.4 Strengths and Limitations of the research design.

The overall research design offers an innovative use of cognitive mapping in tandem with a number of additional data collection methods including semi-structured interviews, field notes, interview transcriptions and vignettes of individual research participants. The advantages of such a design mean that I am able to gather a rich understanding of the sensemaking complexities implicit within organisational change. The use of multiple methods provides opportunities for triangulation in the interview and analysis stages to reduce researcher bias or attribution error (Allport 1954).

In selecting a research strategy I recognise the need for flexibility in adapting the research process to emerging themes, unexpected findings or altered contexts (Stake1995), and a case study offers sufficient flexibility in boundary definition, direction and project operationalisation to be able to address such demands without having to go back to the beginning and start again (Merriam 1998, Stake 1995). By providing some national and local context to the case study organisation, augmented by vignettes of individual research participants, I provide the opportunity for “naturalistic generalisation” (Stake 1995:85) whereby the reader can determine a relationship between their own experiences of local government and that of the case study itself. According to Stake, in such instances it is expected that the data provided by case studies “often resonate experimentally with a broad cross-section of readers” (Stake 1995:85).

The selection of cognitive mapping as a method provides an explicit representation of individual knowledge structures which are signed off as accurate by the research participant before being used in analysis. Analytical tools provide exact representations of elements of maps in which the integrity of the original map is protected. Mapping provides a non-linear means of gathering complex representations and rich data (McDonald, Daniels and Harris 2004).

In using the cognitive map as a means of detecting sensemaking process, I chose not to mandate any particular rule sets for how concepts were to be expressed e.g. the inclusion of verbs or action-orientated sentences for two reasons (e.g. 'I believe, they saw' etc.) (Bryman 2004:80). First, I was not pursuing a decision-making outcome. Second, I considered the introduction of a novel research method was required to be fluid and adaptive, and as co-authors and researchers, the research participant and I could negotiate forms of expression in the interview process. This decision did impact on what data could be drawn from each map but this was supplemented by additional data gathering methods.

I used research participant signing -off to validate the data but I realise the boundaries of validation are specific. The participant can sign off the map to validate individual content but cannot validate the more extensive generalisations of the research emanating from a collection of data sources of which the individual map is one element (Morse 1998): validating one map cannot provide validation for the whole project which is why the use of multiple methods strengthens overall validation. Morse (1998) argues that, as theory is developed from a synthesis of the perspectives of a number of participants, it is

inappropriate to expect that individual participants will have the ability to 'validate' the findings of the research study as a whole. For these reasons, I considered it inappropriate to return the findings from a study to individual participants for comment, in order to obtain participant 'validation'.

Whatever the strengths of the research design, each has its limitations. In considering the limitations I argue that either the design mitigates the worst excesses or there is a balance to be struck between accessing the appropriate data and wider generalisability. The use of the snowball sample is one such argument. The benefits of using such a sampling technique is in accessing individuals who are engaged in the change process but who may not be readily recognised in the organisational structure and in that sense are a 'hidden' group. There are however, weaknesses in using this approach: A snowball sample may provide a bias because recommendations from key informants might be influenced by referrals from their own limited networks; they may also be based on traits or characteristics favourable to them, rather than reflective of sampling requirements, and there is a need to ensure prolific networks are not over-utilised in providing sample cases, or that certain characteristics are not over-represented (Biernacki and Waldorf 1981).

Because there is little control over this sampling method, it is hard to argue that it provides representativeness or findings can be generalisable to the wider population. However, to generate a sample of knowledgeable agents recognised or recommended from an organisation perspective would create its own selection bias, by not taking into account those who may engage with change processes in a negatively perceived manner, or whose

efforts and influence may not be on a scale that is organisationally recognised. Therefore there is a trade-off between achieving a representative sample and accessing prospective research participants who would be difficult to identify or reach through other methods.

I developed a sampling frame that recorded characteristics of agents of change drawn from the literatures and used this to keep track of where the sample satisfied the various elements or were under-represented (See Appendix 2). I also mapped out the snowball network to keep track of connections and to actively manage the sample (See Fig.6.2). I asked informants to provide names of individuals who may be influential in change processes but who were perceived as being against the changes or whose views differed from the majority.

By using a qualitative research design I recognise the need to harness the complexities and context of sensemaking in organisational change. This approach offers the opportunity to seek out new ways of interpreting data, to represent the perceptions and meaning experienced and conveyed by the research participants and to record both macro and micro considerations of what is taking place in a socially constructed reality. Interpretive studies are also open to the accusation of researcher bias in interpreting data, of balancing anonymity of respondents with providing sufficient contextual detail, and that the quality of the data gathered is influenced by the individual skills of the researcher. Criticisms of the use of cognitive maps revolve around the balance between participant representation of understanding and researcher interpretation and whether aggregated maps can represent collective cognition (summarised by McDonald et al 2004:74). These are limitations that I

have attempted to mitigate in the overall research design by using multi-methods of primary data.

Conclusion

In this chapter I focused on setting out my research design, explaining how the key elements were selected and why. I outlined the backdrop and challenges facing the case study organisation at the time when the empirical research was being carried out, arguing it was a unique set of public sector circumstances being addressed generally by local government and represented in the single case study. I identified the strengths and weaknesses of the design and how and where I was able to offset some of those limitations in order to pursue a novel approach.

In the final methodological chapter, I provide an account of how I conducted the analysis of the empirical data generated by the maps and additional methods.

7 DATA ANALYSIS

In this final methodology chapter, I explain how I collated, managed and analysed the empirical data gathered from the case study, interviews, cognitive maps, field notes, and transcriptions. In preparation, I provide an explanation of the features of cognitive maps and how they should be read.

This chapter has four sections. In the first section I explain how cognitive maps can be read. The second section details what data was collected and how it was managed. In the third section I explain how I analysed the data and then I outline the strengths and weaknesses of the process.

7.1 Reading Cognitive Maps Analytically

Like any map, the cognitive map is not designed to be read as a whole. It provides different aspects of a sensemaking landscape according to context and requirements. Those using geographical maps demand certain prerequisites that also apply to anyone reading cognitive maps: the map must be readable, provide sufficient detail, be adaptable to addressing changes in orientation, and drawn in a manner enabling it to be shared (Lynch 1960).

Lynch, an architect, identified five characteristics of a city providing cues to map reading and orientation. I use them here as a method of explaining how the cognitive map can be read. First, I have to provide two notes of caution. The first is alluded to by Lynch: everybody

uses a map for different purposes, sees different points of significance and has a different orientation and destination (1960:9). In an interpretive study, my interpretation of the data is based on my immersion in the detail, my analysis and my interpretation of what that means (with the caveat that checking and validation was also carried out). There may be disagreement with my interpretation or others may not see the detail of the map in a way that satisfies them. The second is, unlike a geographical map, which is drawn for general use, the cognitive map is individually specific, and it is my role as researcher to orientate the reader and provide the characteristics of which Lynch speaks.

This idea of the map also speaks to the reader, whom Lynch calls “the observer”, as he writes

The observer himself should play an active role in perceiving the world and have a creative part in developing his image... An environment which is ordered in precise and final detail may inhibit new patterns of activity. A landscape whose every rock tells a story may make difficult the creation of fresh stories... what we seek is not a final but an open-ended order, capable of continuous further development (1960:11).

So maps require a relationship between reader and author where both act as interpreters of what they see, as part of a mutual, collaborative process of knowledge building, of collective sensemaking. It echoes the interpretive relationships I have identified in previous chapters, where interpretation is enacted and knowledge constructed through social structures (Giddens 1984), through culture (Bourdieu 1972), and through language and social interaction (Vygotsky 1978). Both types of map provide different kinds of information, both graphic and textual. In presenting my findings, I attempt to cater to both visual and textual needs by providing excerpts from maps as well as textual explanations.

I will now Use Lynch's mapping categories to explain how a cognitive map can be read without analytics (1960:49-82). I use these terms because I consider they offer a useful device for understanding the constitution of the map. In brackets I have added the terms currently used in cognitive mapping, for reference.

Paths: (linkage). Lynch describes paths as channels along which people move. In a cognitive map, these are the directional arrows showing relationships. They may signify influence or effect, or causal relationships.

Edges: (Analysis). Edges are the lines dividing two different phases of a city. In cognitive maps, edges define different aspects of the map according to different analytical reports. They break up the map into different components for examination. Edges also define the map as a whole, as a knowledge structure. The map represents previously tacit knowledge. So even without any further manipulation of the data, how the participant conceptualises organisational change has now been made visible, with its edges/boundaries defined.

Districts (Domains) are relatively large sections of the city, and characterised, according to Lynch, by wealthy neighbourhoods. In cognitive mapping, domain analysis identifies the most important concepts, based on the total number of arrows in and out of a concept. It shows the busy concepts, which tend to be the key concepts in a map (Decision Explorer 3.3.1 Users Guide: 27 n.d.).

Nodes (Cotails) are strategic spots generating additional focus, like a junction or a concentration of some element or phenomenon. In cognitive mapping, "composite tails" or

cotails are concepts with two or more outcomes. There may be a number of consequences to a particular process, or abstracted view. They are “branch points in a line of argument” (Decision Explorer 3.3.1 User Guide: 27).

Landmarks are unique and singular elements that provide a marker or point of recognition by “having a clear form and contrasting with the background” (Lynch 1960:79). These are slightly different to the other cognitive mapping categories because they are not recognised within the cognitive mapping analytics or literature. I define them as being given significance by the knowledgeable agent, so it may be an event, a change in perspective, a window of opportunity critical to the sensemaking process.

When reading a map it should be noted that higher numbered concepts (1, 2, 3 etc.), are those the participant considered most important when creating the hierarchy of the map i.e. placing the concepts on the map. Lower numbered concepts are usually aspects of detail and have fewer links as detail has less contingent aspects. The relationships between concepts in individual maps are a representation of individual plausibility. The only argument of plausibility that can be ascribed is that which the participant offers. The researcher protects and respects meaning making by acknowledging contextual conceptualisation (Schwartz-Shea and Yanow 2012). Meaning ascribed to relationships between maps at the macro level (generalisable across the whole cohort of maps) is interpretive. Each extract from participant maps is accompanied by a thumbnail of the complete map to demonstrate derivation. Each thumbnail is enlarged and included in the appendices to the thesis. Fig.7-1 shows an

example of a cognitive map constructed by a knowledgeable agent and then transferred to an e-version.

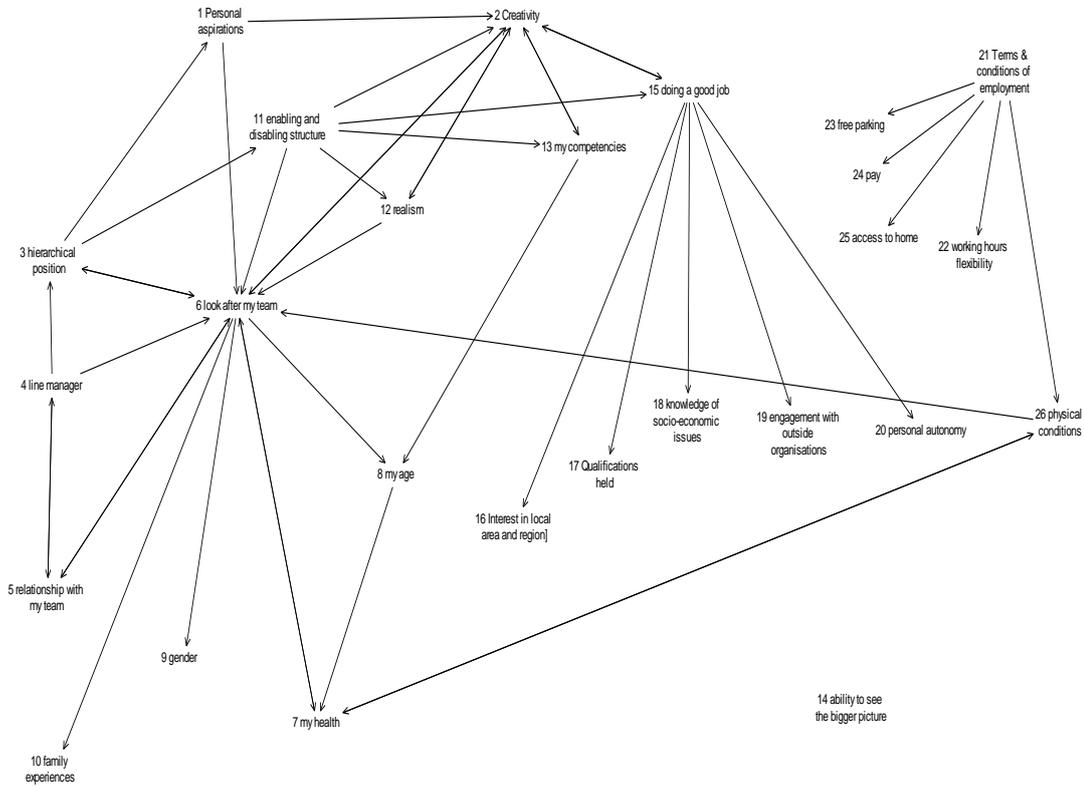


Figure 7-1 Example of a Cognitive map

Excerpts from maps are used to illustrate particular facets of the data, either because they represent particular themes that have emerged from the data or highlight mapping features such as causal loops or conceptual clusters. I use maps and diagrams as a means of complementing text, and providing visual representations for others like me who have a preference for diagrammatic representations in knowledge building. Excerpts are also used analytically to focus in on particular aspects of sensemaking such as the identification of

typified scripts, vicious and virtuous cycles and clusters of knowledge structures to be examined. In the empirical chapters certain maps and interviews are selected because they evidence a number of examples of sensemaking processes and techniques. By using a small sample of maps to illustrate the findings, the additional use of vignettes, field notes and transcriptions provide a richer context than using all of the maps to highlight singular points.

The mapping process is a process of sensemaking in situ. Working with concept maps enabled me to plot the network of connections between aspects of cognitive sensemaking as I analysed the data. The map provided an opportunity to develop an overview and begin to identify a process arising from details of micro-processing. I have provided an example of a concept map (See Fig.7-2) I constructed in the early stages of analysis to plot how the different sensemaking processes linked together and how certain variables influenced option generation and subsequent stages of the search for meaning. The map is offered as a demonstration of how visual representations can succinctly summarise rich data as part of a search for meaning and how I used them in 'working out' what was emerging from the data (As an early iteration, it is not part of the thesis argument so is scaled to be viewed as an image rather than read as an explanation). Appendix 4 provides guidance as to how concept maps are read. Cognitive mapping provides a graphic representation of knowledge and a source of detailed data, effectively illustrating the non-linearity of knowledge structures. These maps provide a valuable alternative dimension to linear forms of explanation and description. Goyal et al's testing of visualisation features in analytical tools, evidenced visual effects as helpful in sensemaking (2013). The full map graphic representations also offer a

more general insight into the cognitive architecture of individual knowledge structures beyond the immediacy of the examples given in the empirical chapters.

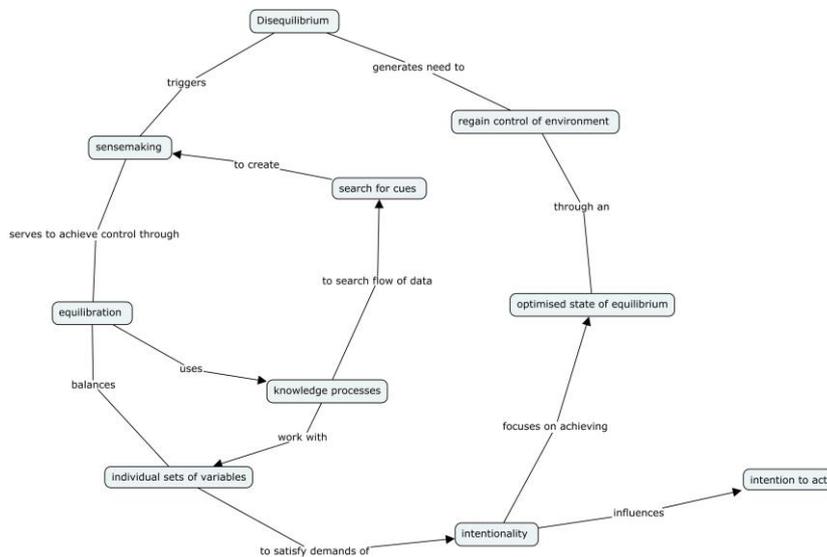


Figure 7-2 Using a Concept Map to Map Links and Connections

7.1.1 Context

The logics embedded in research participant cognitive maps are those of individual sensemaking, and represent the plausibility (Weick 1995) each individual affords to both concepts and connections. Cognitive maps have previously been used as decision-making tools (Bryman 2004) using a classic stimulus-response frame of understanding, and in strategic decision making (Ackermann and Eden 2005). In the context of this research, the cognitive map is used to represent and identify how knowledgeable agents make sense of change, and define options for reaction or response. I consider the mapping process as a different form of narrative (socially situated, helps to make sense of ambiguous situations, and is a representation of individual reality), requiring a different focus in understanding

how complexity is relationally represented. In terms of success, the maps enabled research participants the freedom to model relationships, actively participate in the research and define the scale of detail they wanted to work with (Fairweather 2010).

Interpretive research depends on the creation of meaning within specific settings, therefore context is paramount (Schwartz-Shea et al 2012). There are two aspects of context to be considered. The first is the context that I, as a researcher consider important in presenting as a setting for the research study: the broader public policy landscape, the local landscape of the single case study, and through my field notes, the individual contexts in which the research interviews took place. There is also the internal context of the research participant, the temporal contexts, the emotional and memory based knowledge structures that influence and effect how a change episode is perceived and constructed. It is feasible the two contexts are not related and therefore a note of caution is raised in assuming the macro perspective is influential in individual searches for meaning. In some instances it will be shown it is in terms of references to policy and demands of service delivery, but in others, the search for understanding operates at a personal level where context is not made fully explicit.

In this new application of cognitive mapping, the research participant selected a change episode and provided a context for their sensemaking actions. From a sensemaking perspective, the context influencing individual sensemaking is critical: it is the route to how and what cues are extracted from a continuous flow of data, and how they are interpreted

(Yanow et al 2006:19). Yet the contextual needs of the reader have also to be met in some way.

To manage the differing demands for contextual information requires a balancing of the ethical demands of anonymity for research participants in the organisation with the research requirements of transferability, where readers can decide how salient the findings are, based on methodological underpinnings and contextualisation. In some instances, context and the a priori knowledge informing knowledge structures, remain implicit. I cannot argue or explain why knowledge structures are constructed in certain ways, or why certain concepts are used. But nor do I need to. I am interested in the situated sensemaking of the individual and how it informs the options they develop for future action. I accept the validity of these given frames of reference because they make sense to those individual participants.

However, the reader has not been privileged to participate in the cognitive mapping process, nor to see the transcripts and additional data, so there is a need to create what Yanow et al term “a persuasive account” (2006:20). I have addressed these tensions by identifying each map and citation with a reference, and a limited amount of contextual detail in vignettes, arguing the maps and other data sources tell a story, but unlike a narrative method, they do so in a more collective way. The maps play a dual role (Bevir and Rhodes 2015) and are the stories (internal frames of reference) the knowledgeable agents use to make sense of their world, as well as being the illustrative forms I have used in making sense of the sensemaking process.

In analysing the data, I became aware the sensemaking process was more than any one individual map or contribution. It was an amalgam of different experiences, perspectives and focus, and it would therefore seem logical to remove any identifying labels from the maps, thus treating them as an amorphous whole.

However, in using cognitive mapping as a tool for eliciting personal frames of reference, it was important to retain a level of identification for each map for three reasons: first, labelling provides an additional element to the audit trail, in addition to the visual thumbnail. Second, interpretive research offers itself to different interpretations; by labelling different maps, the reader builds a sense of identity for the different agents, and can therefore interpret the data in ways that are different to mine. Finally, identity and context are entwined. By providing some background details for each of the knowledgeable agents (in the form of vignettes), I provide a sense of the identity each participant expressed in the interview: through how and what they said, and what they valued and believed to be important to express (Yanow et al 2006).

7.2 Data Collation and Management

In this section I have identified all the sources of data used in the study and how it was stored and managed. In addition, I have identified different tools used to aid data management and analysis.

7.2.1 Data Sources

In adopting a case study method, I used a number of different tools to gather the data: In addition to preparing a cognitive map with each research participant, I also carried out a semi-structured interview, and made field notes at the completion of interviews. For those respondents whose data I used as examples of more than one aspect of the sensemaking process, I generated vignettes to provide a context to their responses. I have tabled the details of which respondents were engaged in each of the data gathering exercises (See Appendix 2) I presented intermediate findings to three of the participants at different times (November 2012, January 2013, and May 2013) and received feedback and requests for further clarification as well as some disagreement and discussion about certain terms I had used. I presented my research at doctoral symposiums (2011, 2012, and 2013), again receiving constructive feedback. In the questions I asked and the way I used my written notes as prompts, made me realise that I was carrying out an informal analysis, identifying elements of the map I needed to explore more fully, or to ask about connections and the use of certain terms. When I was conscious of those actions, I recorded them as field notes.

7.2.2 Management of Data

Data was stored and managed both electronically and manually. I wrote transcriptions manually in order to get close to the detail, and made paper copies of the maps to locate concepts across the maps. I used Quiqqa (Jardine 2010) to manage my library of pdfs, to make comments on them, identify duplications and generate citations. Scrivener (Literature and Latte 2006), which is a manuscript manager, was useful when I began to draw my

research together into an initial draft: I could move material around within chapters and across the whole document without having to cut and paste. I could also add notes and prompts as I wrote to be followed up at a later date. This helped to keep my writing phases flowing.

During the periods when I was unable to make thematic links, or was unable to fully articulate conceptual ideas and links within the data, but knew I had something, I used Exploratree (Futurelab 2015), a bank of different mapping guides to scope, plan, and explore different aspects of the research topic. When I was struggling with the sensemaking literatures and how best to present them as arguments informing my understanding, I used an “examine ideas” template to plot out thoughts, key points, links and areas of differences and from that I developed a micro/meso/macro discussion. Finally, I used concept mapping (CMap tools 1984) to plot out the sensemaking processes generated from the data. Moving iteratively from data to theory (Piaget 1952 and Vygotsky’s 1978 cognitive development theories) I was able to build plausible chains of argument about what was taking place. Fig. 7-3 is an example of one of the concept maps I constructed and used for reference, in comparing processes generated by the maps, cross-checking against theory, and identifying how these elements fitted with the sensemaking template. The concept maps were a useful tool in managing and representing a large amount of data with complex relationships and variations.

'spontaneous'. As well as challenging, it is also exciting to recognise that "you discover themes and concepts embedded throughout your interviews" (Rubin and Rubin 1995:226).

With that iterative caveat in place, I instituted five stages of data analysis, based on Miles and Huberman's guidance in developing strategies to generate meaning (1994). The stages were preparation, assemblage, generalising, checking credibility and refining. In this section I discuss how these were operationalised.

7.3.1 Preparing for Analysis

Preparation begins when the research focus is first articulated and continues throughout the research process until submission. The iterative process of interpretation is built upon in the examination of theory and literature, and is ignited when sitting in a room with a participant, hearing ideas or views that take on a not-yet-defined resonance. In using the heading of 'preparing for analysis', I am asserting analysis is both passive and active. In preparing reports as a function of *data analysis*, I am not engaged with the data. It is simply a case of automatic sifting and categorisation completed electronically. However, in *analysing the data*, I adopt an active, interpreting role, searching for patterns and plausible meaning.

I began preparation by completing the transfer of hand-written maps to an electronic version and the manual transcription of interviews. This gave me a physical connection to the data and "a sense of personal involvement... [that] can lead to different and often profound insights" (Ingold cited in Thomson August 10 2015a). As possible lines of

investigation, similarities or polarising views struck me; I noted them for further consideration. By combining both manual and software analysis, I was able to uncover the nuances and subtleties of the data, contextualised meaning that identified synergies which would not have been picked up in data processing. Welsh (2002) recounted a comparison of manual and electronic searches for negative views expressed by councillors of their organisation. As expected, the software search was contained by a search for exact matches, whereas manual searches identified a broader recognition and representation of such views (Welsh 2002). Finally, automated and manual coding provides distinct research services: the use of software offers a means of data reduction to facilitate large tracts of data, whereas manual qualitative coding involves creating meaningful categories that retain the data in significant ways.

7.3.2 Operationalising the data

I used Decision Explorer 3.3.1.1 analytics to prepare three analytical reports for each map. First, I used cluster analysis (Appendix 13) to identify groups of concepts wholly or partially separated from each other in the map. Bryson et al (2004) describes them as “islands of themes” (2004:316) and the clusters lists can be used to initiate a list of themes to explore. Second, I was able to identify ‘rich’ (Bryson et al 2004:324) concepts through domain analysis (Appendix 14). This scores each concept on a map according to the number of arrows in and out of it. These concepts tend to dominate the map, and higher numbers of connections suggest the central importance of these concepts in the individual knowledge structure. The third report identified loops indicating virtuous, vicious or feedback loops

(Appendix 15 and 16), important because they generated lists of processes to be examined further.

Initial reports on raw data were the starting point for pattern detection, foraging (Pirolli and Card 1999), tagging (Deerwester et al 1990, Dumais et al 2000), cross linking between theory, literature, sensemaking template, and data. In Table 1, I provide examples of what I was searching for in the data to match the sensemaking concepts as I coded. For each of the four concepts, the operationalisation process was an iterative one, with definitions of what concepts meant in an empirical setting becoming more defined as the process continued. Temporal contexts were originally just about past, present and future. By analysing each of the examples in these time dimensions, it became clear that additional examples did not fit easily into these codes so temporal contexts developed into a more relational concept that identified relationships between the research participant and a range of change experiences that were impacting on current events.

Once the initial coding was completed I turned to consideration of concepts that did not fit the initial codes. These anomalies were reconsidered by looking at the context of each for clarity, whether there were connections between them in terms of context, patterns, how they influenced identifiable outcomes. They were then recoded or eventually considered as irrelevant to the broader themes (this latter stage was completed on the basis of peer review, member checking etc. as part of triangulation). Table 2 indicates how the process was carried out using an exploration of anomalous concepts as they related to initial coding. I questioned why and whether the code was ill-defined or concepts within it mismatched,

whether the anomalies were part of a group not yet coded or whether certain codes had to have sub-sections as in the case of identity and intentionality. Each time I went through the process, and moved concepts or altered codes I had to review the results for plausibility and question the validity.

Table 1- Operationalising the sensemaking process

	Operationalisation- Searching for:	Data
Knowledge structures	Clusters of concepts, loops, scripts, memories, routines, thematic clusters related to e.g. Process, strategy, operations, and conceptual frames.	YV- Typified script HA-Process loops CH –Metaphor WI- Strategy
Equilibration	Expressions of concern regarding changes to the environment, fears, opportunities, challenges, examining the context, contrasting with previous changes,	OL-opportunities to be taken and comfortable with change CO-contrast with previous change and knowledge building BE-High level of disequilibrium
Temporal contexts	Identifying and analysing references to time and relative dimensions : before, after, during etc.	WI-recognising skills development over time RY-context to current change initiative and influencing factors
Intentionality	Centred on the individual and their relationship to the environment. Expressed as being about something: e.g. Change is about hopes, ambitions, fears, goes against personal beliefs, satisfies needs, creates career desires etc.	Intentionality in the data indicated an overarching sense of the individual through different temporal contexts: OL-essence and stick of rock SA-Sense of community identity is a consistent theme in his work DEI-having a sense of her role as a facilitator of expertise being matched to particular projects

Table 1 illustrates one step in the analytical process. Although conscious of the sensemaking process, I was also completing a more general coding of all the concepts that

did not link specifically to the template as I wanted to ensure I was not selecting the data to fit the sensemaking template. The initial codes in Table 2 were generated solely from the data using terms utilised in the cognitive maps and each subsequent round of analysis refined the fit between concepts and codes. I studied each of the analytical reports generated by the software programme, and then manually plotted a series of headings I considered meaningful so I was able to organise data in themes. I could also isolate certain elements of each map to study it in more detail. I could examine feedback or causal loops that had been identified in the analytical reports. To highlight certain elements of a map, I was able to electronically hide the concepts that were not relevant to the aspect under discussion which provided greater clarity when looking at the maps. Having highlighted certain features or patterns in a map, I was able to rearrange the concepts to provide a more visually coherent shape without losing the original conceptual links identified by the research participant: I could reduce crossing lines or narrow spaces between concepts, or illustrate the hierarchy. The concepts can also be moved around in accordance with the story arising from the transcript or interview notes. At all times the integrity of the connections, made by the participant remained intact i.e. where concepts were linked, if one concept moved, it remained connected to other linked concepts and lines extended or contracted to accommodate movement. In this way, the maps are a robust form of analytical manipulation.

Table 3 provides an example of how the anomalous concepts related to the code of 'individual' were analysed and coded (See Table 3). These were coded to the individual but

were about non-work related elements their meaning was unclear, or they represented a unique or different perspective.

Once these two processes were established, I then began cross linking the codes to the sensemaking template; refining both the meaning of the sensemaking concept and the concepts included within it (Table 1 records the start of this process).

Table 2 Analysis

Code	Map reference number	Concepts	Notes
Leadership and management	16, 23,	Leadership Strong and Decisive Leadership	Management is differentiated between senior managers, officers and senior management team
Survival	25,26	Survival	This concept appears to be an underlying motive for action as part of understanding the change process. Need to explore as part of intentionality and how far it extends
Risk	2,28,30	Risk averse Risks and Opportunities Risk (the Concept)	Some overlapping between risk and survival
Influence	6,8	How to influence Senior Managers Influencing	Need to differentiate this concept. From context, one is an observation of others influencing and the other is part of an agenda for change.
Uncertainty	9.26	Uncertainty	Both references relate to job security and the outcomes of the restructuring in the organisation

Table 3-Refining the coding for concepts related to 'individual'

Analysis	Process	Empirical examples
Identify anomalous concepts from initial coding	Do they fit current codes if context clarified?	Allocated a broad code e.g. 'personal factors' (health, family, mortgage)
Does this code have validity?	Complete additional trawl of all data to search for other concepts that may fit better here	What personal factors are an inexact fit for other codes: 'role', 'relationships' 'organisational behaviour'
Is there a connecting story that unites these anomalous concepts?	Look for contexts, interpretations, sequences of events, outcomes.	How do personal health issues affect sensemaking?
Specify what common ground is made explicit – what factors are the same (broader appreciation of conceptual context)	Influences?	E.g. reduced priority of organisational change 'Bigger picture' view Increased pragmatism
Link to Identity, part of Intentionality?	Ongoing review and analysis	

The analysis of the data was iterative and is illustrated in Fig.7.4. The figure shows the steps completed in carrying out the analysis on an ongoing basis beginning after the first 4-6 interviews were completed. Concepts were categorised and connections identified from the initial analytical reports for each map, so for instance, the reports were used to identify hierarchy and linking of concepts: whether the hierarchy of concepts was borne out by the number of links in and out of it. In other words, were there concepts that had a greater potency or connection to other concepts than those first thought of? In such cases, I removed the numbering from the maps to clarify a revised hierarchy. The analytical reports also showed loops in individual maps which formed part of pattern recognition.

The reports also indicated clusters of concepts. These clusters indicated smaller knowledge structures, which when looked at in isolation, were coded or categorised to describe the content (see Appendix 13). It is in instances like this, that I referred back to interview notes or transcriptions to increase my understanding of what is being expressed or I was able to reconfigure the isolated cluster to try to make sense of what was being articulated.

Coding was then completed manually by identifying terms used in individual maps until all the concepts from all the maps were coded to a particular theme. The coding also included the reference to the maps where it occurred. Once again, where the meaning of particular concepts was unclear, I referred back to the other data sources to interpret a best fit. This process went through a number of iterations to check for duplications, refining the codes, looking for connections between codes and within codes, and checking what anomalies remained. Table 2 provides an example of initial coding. Notes about the coding and different concepts were recorded and used to reference the next coding iteration.

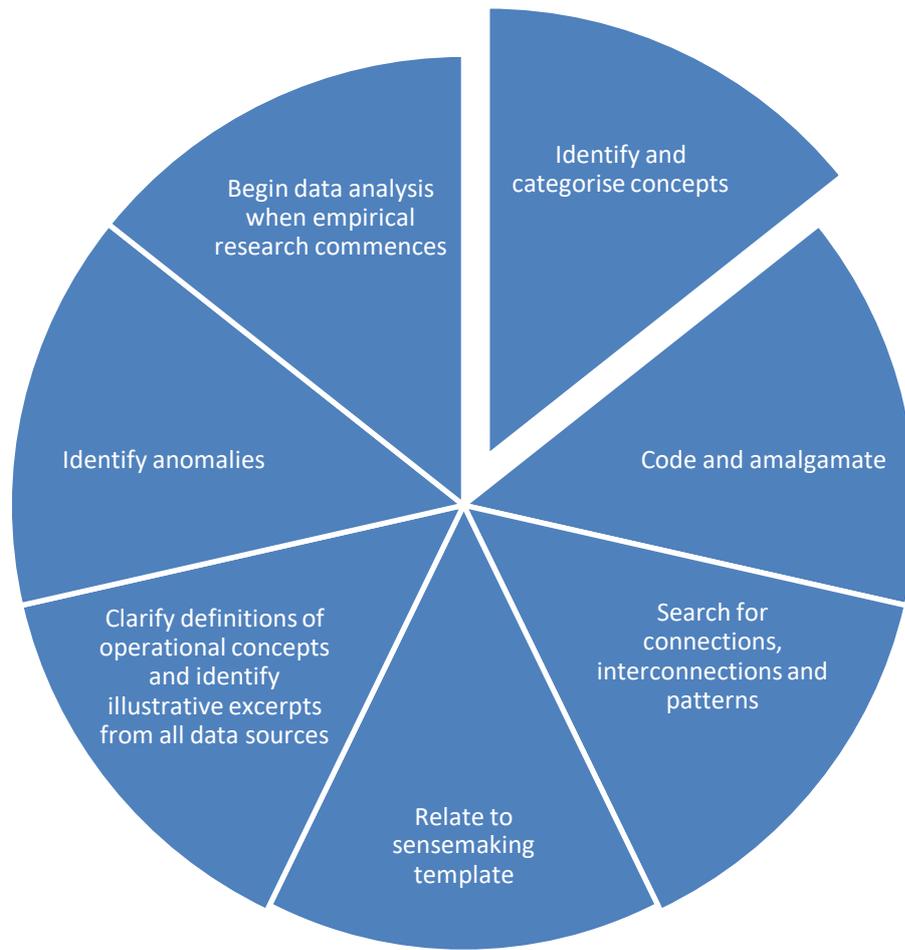


Figure 7-4 Iterative Analysis Process

Appendix 12 Illustrates how I worked through the concepts on one map to make sure the process I was working through was a viable one in terms of results. Column 1 recorded the concept as it appeared on the map, with context provided by the links made to other concepts or explained in the interview transcript identified in column 2. Column 3 provided the narrative of how the concept formed part of a knowledge structure, while column 4

supported the data with an appropriate illustrative excerpt and the final column interpreted the broader conceptualisation drawn from the wider map and the additional data sources

The cognitive maps provided the starting point for the substantive analysis, ensuring data was not overlooked and that the initial analysis was credible and could be validated. All concepts were included systematically in the coding cycles and after that, I was able to select data that represented similar perspectives, unique perspectives or offered variations on particular themes in order to present the data more succinctly. Because I had not demanded a particular format or structure to the writing of concepts by research participants, I drew upon the data gathered in interview transcripts interview recordings and field notes to clarify meaning and context. I created vignettes from the multiple data sources to provide context and clarification to the analysis.

7.3.3 Generalising

As was to be expected, the alignment between the initial data categories and the sensemaking framework was initially cumbersome and blunt, but was recognised as part of the process of firstly reducing the data into manageable components, and secondly, for thinking about the story the data was beginning to reveal (Miles and Huberman 1994). The iterative nature of the process of analysis also formed an important part of the analytical process as I searched for ways in which to present and represent the phenomena. The format of a thesis necessitates a linear representation of research study and yet the process of research itself is seldom linear. The development of the sensemaking template was not a fixed reference point already defined before the empirical study began, but was refined in

conjunction with the analysis taking place. I made several attempts at finding an appropriate organising structure before the sensemaking template was generated, and it went through further iterations as I generated the data into different domains of meaning

In offering the sensemaking template as a generalisable or transferable finding from the research (Yanow et al 2006:109), it was important to substantiate each of the elements in the data.

To examine whether the template worked as a means of expressing individual sensemaking, I had to use empirical examples of sensemaking against it in terms of pattern and process. Pattern is difficult to detect without some level of differentiation to work with, so I started with the knowledgeable agents who had been described in the transcriptions of other research participants: who were more than just a referred name. This description implied they stood out in some way and were therefore 'different' with some sort of unique characteristic

In carrying out pattern recognition, initially with these 'different' maps and then with a random selection of the other knowledgeable agent maps, I was looking for patterns, and the logic behind them. If they were thinking in this way, what was the reason, what were the circumstances and context? This provided me with degrees of differentiation in cognitive processes. Identifying patterns however, didn't always guarantee they were appropriate or relevant patterns.

Miles and Huberman described these as “outliers” (1994). Originally a statistics term, it denotes exclusion from a data set. One example of an outlier I eventually discarded was the introduction of generic job descriptions to the organisation. The topic appeared in three maps at the beginning of the research period, but was mentioned in other transcriptions, and appeared to be a threat to normative practices of networking and communities of practice. It appeared to be a significant theme initially, during the fieldwork stage and I had noted it as such. It demonstrated patterns of discomfort for those who saw it as a threat to identity or in project work, not knowing who to refer to. Eventually, it became apparent it was a transitional effect of change rather than a substantial influence on cognitive processes as it appeared only in the maps of those preparing to undergo or were completing change initiatives, rather than as a long term influence.

During the research process, and particularly after contracting the research focus to a micro perspective, it was important to ensure that my arguments were still plausible and I did this in a number of ways. I ensured the reliability of my data by signing off maps before they were used, maintained records of electronic and manual analysis, kept notes of ideas and thoughts about the analysis as I progressed, signalled my gathering of contextual data with the generation of vignettes, as well as supporting my analysis with original evidence in the providing copies of cognitive maps, and excerpts from transcriptions and field notes etc. To check the assertions and findings I was developing were credible and plausible, I undertook triangulation exercises by participating in opportunities to discuss my work in a variety of arenas offering critical feedback. Looking for plausible explanations from analysis, finding and organising ideas and concepts, is part of my own sensemaking. Such

sensemaking is part of the process of presenting an argument to an audience. The analytical process was interspersed with exercises in peer review and informal member checking, acknowledging where alternative interpretations were more plausible (Lincoln and Guba 1985:301). This process included presentations to members of the research organisation (May 2013), a discussion with my case study sponsor, annual presentations at University of Birmingham doctoral symposiums, a presentation at the British Academy of Management Doctoral showcase (2013), as well as a University of Birmingham research poster event. Each of these interactions with other researchers and organisational members offered opportunities for defending, clarifying and refining my research questions and analysis as “local informants can act as judges, evaluating the major findings of a study” (Denzin 1978 cited in Miles and Huberman 1994:275)

There was also an element of internal credibility taking place as I constructed concept maps of the processes I had identified and worked out how the concepts related and influenced each other. In completing that process, I was also analysing how I thought through processes of change and whether I felt the visual representations were accurate from a personal cognitive and knowledge perspective.

In considering how research participants might have consciously or unconsciously shaped their responses to me, I installed a number of elements within the research design to limit such factors as far as possible. Research participants were invited to volunteer to participate in the study and I worked to create a collaborative and empathic atmosphere in which individuals felt able to trust my skills as a researcher in adequately recording and

constructing their experiences and that they would be anonymised so they were able to speak freely. I used a form of iterative questioning, confirming or clarifying points made in the initial semi-structured interview stage when maps were being constructed, and I sometimes challenged participants to clarify meanings or contexts that they talked about. Processes and organisational change events were shared by a number of the research participants which provided a certain level of validity to accounts. Finally, I used my own experience of similar organisational milieus going through similar experiences to reflect upon the accounts I was being given.

7.3.4 Refining

At this stage, I had satisfied myself the sensemaking process had credibility, reflected the cognitive sensemaking processes of the knowledgeable agents in toto, rather than individually, and it was substantiated by a robust theoretical foundation. The refining stage is the beginning of the process of authoring the empirical findings: identifying the stories and maps that illuminated, explained and summed up the transitions within the sensemaking process.

The exactitudes of the analytical sequencing are difficult to articulate in a precise manner because analysis is a full-time and iterative activity, with insights and meaning occurring even when the task of analysis is not foregrounded. In an interpretive framework, analysis does not directly produce meaning but acts as a trigger to reconfiguring and constructing new frames of understanding.

Yanow and Schwartz-Shea describe the importance of developing an “indwelling” or deep familiarity with the data until a new understanding of what is taking place, is reached (2006:71). This sense of some new perspective is felt almost at a visceral level, before the struggle begins to articulate it at a conscious and intellectual level, with a “struggle to sketch the flow that already exists intact in mind” (Kerouac 1959). The intensity of such a process is understandable when one takes into account the nature of analysis: “Identifying salient themes, recurring ideas or language and patterns of belief that link people and settings together is the most intellectually challenging phase of the analysis and one that can integrate the entire endeavour” (Marshall and Rossman 2014:222)

Data used to illustrate the sensemaking process in toto (parent process), and sub processes (child process) of equilibration and knowledge structures, is based on a judgement as to which format (interview transcripts and field notes, cognitive maps) provide the clearest examples of the research aspects. Extracts from the research maps are used to illustrate frames of reference, arguments, connections.

Analysis of cognitive maps is time consuming when using both manual and software applications. Maps can also be difficult to read by persons who are not acquainted with the format, in particular when maps become denser and the linkages are harder to see (Miles and Huberman 1994). To mitigate this, I used cognitive mapping in conjunction with other methods of data analysis to provide a more complete picture of the cognitive process and strategies, and maps were sub-divided to provide clarity. I also attended a one-to-one

workshop on applying the Decision Explorer software, and where I was also able to gain an appreciation of cognitive mapping in the field.

7.4 Strengths and weaknesses of the approach

One of the key strengths of the analytical approach adopted in this study was the high level of research participant involvement in shaping the data: each participant identified the change episodes they wished to consider, they marked out their own roles in terms of strategic or operational focus, and they collaborated in representing how they made sense of change. This resulted in analysis that departed from previous sensemaking studies that were hierarchically defined either through managers (Balogun and Johnson 2004, Rouleau and Balogun 2007, 2011, Caldwell 2009) or leaders (Gioia and Chittipeddi 1991, Sonenshein 2010, Mantere et al 2012, Berger and Meng 2014). It provided an analysis of connections and networks being established in the organisation that were not defined structurally through the research framework.

From a constructivist perspective it may be argued that how respondents described and situated themselves in the organisational context, is a reflection, both of their understanding of a social reality and their own internal reality. This analysis, through boundaries and definitions of their own choosing, offers an alternative to hierarchical presumptions. That is not to say that inferences cannot be made to interpret the breadth of individual knowledge structures with organisational experiences and hierarchical positioning but that inference or

interpretation is one that I sought to avoid in the design and analysis of the study as a means of offering an alternative perspective to organisational sensemaking.

In using concepts maps to analyse my findings, I was able to see immediately, certain key or potent concepts, loops, connections between concepts. This meant that I was able to maintain a sense of understanding about the maps that may be more difficult to contain within more traditional narrative accounts. By having maps in front of me as I transcribed or read interview transcripts, I had a more immediate connection with key elements of individual sensemaking. The maps provided representations of complex networks of understanding on one page so I was able to make comparisons and examine the context of concepts that appeared on different maps in order to understand different uses of the term and to note them for further reference. The electronic versions of the maps provided a robust form of analysis as I was able to move concepts around without losing the integrity of the original concepts and connections. This provided me with an effective means of isolating clusters, loops, and hierarchical groupings that I could then move around to generate meanings from them.

The use of a case study and multiple methods of data gathering resulted in a large amount of data: the cognitive maps provided me with a way of linking the narrative transcripts in a more manageable way as the concepts acted as triggers for recalling detail and context. Additionally, when discussing my findings with some research participants during the analysis stage, they were able to refer back to their maps and in some instances, recognise where my ideas had derived from. Using additional tools to gather data, provided

sources of clarification and detail which I could use to test out the validity of some of my arguments: Can certain perspectives be supported by participant experiences, are orphan concepts anomalies or have links been made to other concepts in the narrative data ? An additional benefit of using multiple methods was the gathering of contextual data relating to the organisation. An appreciation and understanding of what was taking place in the organisation when the interviews were being carried out minimised the risk of basing interpretation on participant responses that were consciously or unconsciously self-serving, where outcomes were attributed to agency rather than situational factors (Allport 1954). There were some individual responses across the organisation that attributed recruitment and selection outcomes to the need to get rid of 'dead wood', 'faces that didn't fit' or to bring in allies and supporters. As a cognitive process, attribution is not always explicit, but using triangulation to provide an understanding of how consistent such views are, or whether they are part of a typified script about organisational expectations is useful, as is the researcher's skill and aptitude in searching for complex rather than simplistic relationships.

A challenge of using multiple methods was the amount of data gathered: how to manage it, and the time taken for analysis. The analysis took a long time and finding a means of extracting particular elements of the data to tell a story that became something different from what I had originally expected was a challenge. I explored a number of different models and frameworks to support the analysis and eventual presentation of material that was plausible both theoretically and empirically. Each of the initial models produced flaws in terms of either inadequacy in relation to adequately reflecting epistemological and

theoretical positions, or did not provide a sufficiently plausible narrative to audiences and individuals to whom I presented. Presenting interim findings to a variety of audiences supports my attestation that the data has driven the findings rather than data being selected to fit the theory.

From a practical perspective, not everyone is inclined towards visual representations and initial drafts of the study provided insufficient signposting about what the maps were offering as data. This was achieved by supporting them with additional narrative examples and presenting excerpts in different formats, replicating how I had completed the analysis. The maps can be difficult to read for those unfamiliar with the format, and the linkages may be harder to see as the maps get more and more complex as demonstrated in Figure 6.6. Because of this complexity, it was necessary to use other data analysis strategies in conjunction with the maps.

The result of using a case study approach and multiple data gathering tools resulted in an extensive collection of empirical research data with the consequence that there was too much to be adequately represented in a thesis format of 80,000 words. In curtailing my study to a micro-examination of sensemaking, I had to refine the data selection to this one aspect of organisational change, rather than the micro-meso-macro study I had considered presenting. Thus data was selected on the basis of individual sensemaking, the cognitive and previously tacit aspects of a precursive sensemaking process which established the foundations for formulating responses to changed environments.

Conclusion

In summarising, to answer a question about how organisational change is understood, I used a sensemaking lens to examine what that means. I focused on the knowledgeable agent as a unit of analysis because of their immersion in change. Influenced by the constructivist influences in sensemaking, I used an interpretive framework and qualitative methods to identify individual understanding of change. I selected a single case study as a method of examining a 'how' question, and cognitive mapping and interviews to unpack and make explicit the frames of reference research participants drew upon to search for meaning and identify options for responding and reacting to organisational change. In analysing the data, I used both software and manual processes to work from data to theory and my sensemaking template on an iterative basis, as each informed the other in building my knowledge and understanding. In Fig.7-5, I provide a diagrammatic representation of the research methodology as it is used to operationalise the analytical framework discussed in Chapter 4

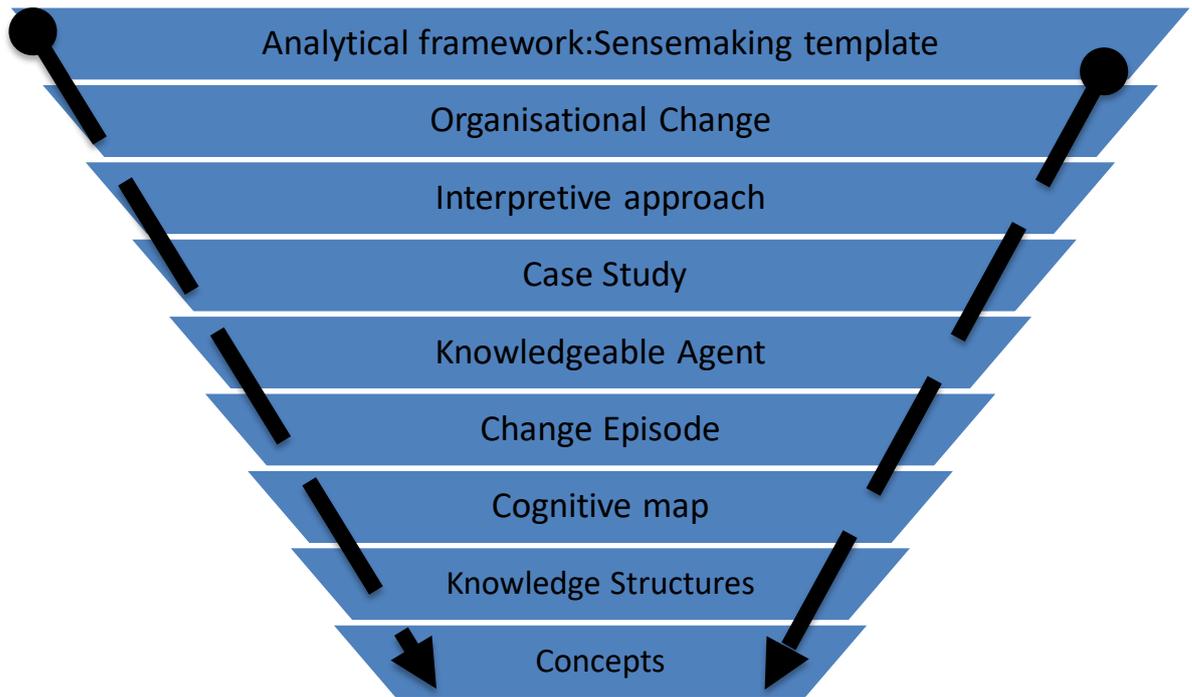


Figure 7-5 Drilling Down to the Micro Level of Research

This figure (Fig.7-5) summarises how I have approached the research design in deconstructing the data demands of the research questions. I constructed a sensemaking template to isolate the elements of individual sensemaking. The construction was informed by the sensemaking and agency literatures. Understanding sensemaking as socially constructed, I adopted an interpretive approach when considering how to investigate organisational change in a single case study. I considered a single case study of a local authority would provide an appropriate context for a study of organisational change informed by individual sensemaking. I identified the knowledgeable agent as an appropriate unit of analysis, having argued they are situated and actively engage with change, and are purposive and reflexive. The latter characteristics were a strong feature in being able to

successfully create cognitive maps. Each research participant selected their own change episode as it was important to locate sensemaking in individual experiences. Identifying the research participant as an expert in understanding their own change environment was an essential part of establishing a collaborative interview and mapping dynamic. The frames of reference for the mapping process were the knowledge structures research participants were asked to represent in their maps. These knowledge structures were created from individual generation of sensemaking concepts and then linking them together in ways the research participants considered plausible.

This concludes the first section of the thesis. The next section presents the empirical findings and in Chapter 11, I summarise my findings and the limitations to the research study, before identifying how this work can be further developed.

SECTION TWO

In Section Two, I present my empirical findings in three chapters. One of the important stages of knowledge development in this section is the shift from considering the sensemaking framework as a *template* to recognition that having been empirically applied, it is now identified as a *sensemaking process* revealing different facets, levels and dimensions of enacted cognitive agency,

In progressing from the theoretical to the empirical aspects of this study, I no longer refer to a sensemaking *template* (See Fig.5.1), but to a sensemaking *process* of enacted cognitive agency (See Fig.7.6)

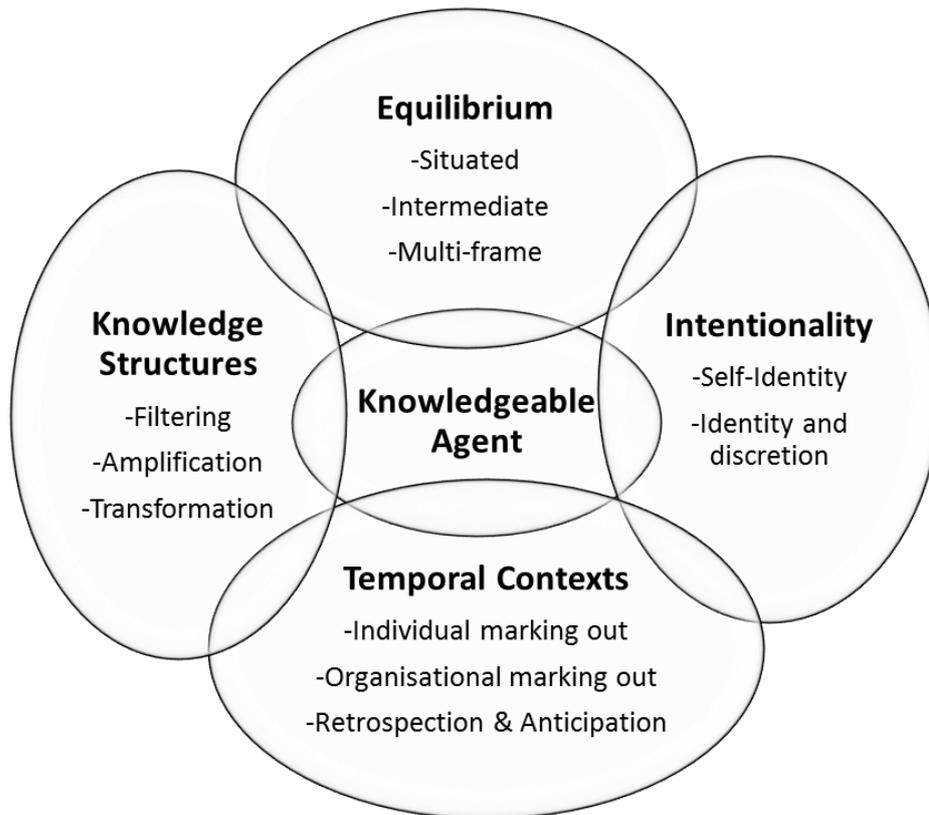


Figure 0-1 Sensemaking Process

In defining the sensemaking model as a process, I have considered two aspects: first, the shift from a theoretical model to one that has been applied in an empirical setting and second, the definition of a process and whether the sensemaking model fits those parameters. Sensemaking literatures often use the term process to describe sensemaking without defining specifically what they mean by ‘process’ (Weick 1995, O’Leary et al 2007, Ancona 2011) although Pirolli and Russell do identify it as a set of interrelated activities

(Pirolli 2010). Therefore, a more detailed understanding of the essential elements of process is taken from Garvin (2012) and augmented with more general definitions (Bandor 2007, Nudzor 2009).

The sensemaking process has the following characteristics: first, there are a number of operations or stages involved in achieving a certain end state, that 'relative' end state being a state of equilibrium. Second, there are sets of variables that argue for its generality rather than a unique set of actions, and within those variables is a capacity for decision making. Finally, the process denotes interdependencies, either with the stimulus or other processes. The sensemaking process provides transitions (stages), variables (multiple identities), and interdependencies (temporal situatedness, intentionality) as the stages of sensemaking "do not always occur in a lockstep sequence, and because more than one emphasis tends to operate at any point" (Weick 2001:96). The diagrammatical representation of the sensemaking process denotes relationships among and between the four sensemaking elements with the knowledgeable agent at the core. In the following three chapters I explain how each of the elements and sub-elements are in play with each other as the individual transitions through the influences, influenced by her environment. I have used a concept map to illustrate the interrelationships between the process transitions of the sensemaking process (See Fig.7.7). There is an explanation of how to read concept maps in the appendices (See Appendix 7).

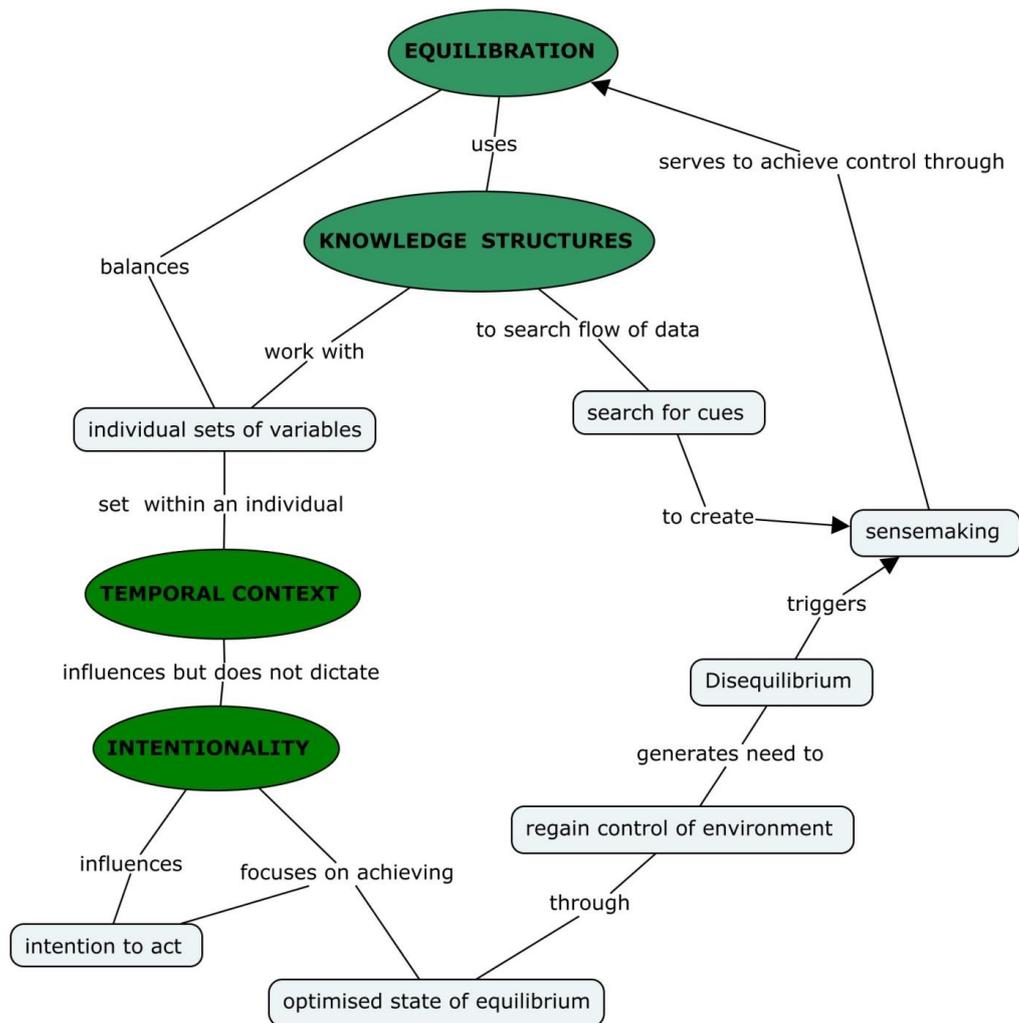


Figure 7.7 Interrelationships of the Sensemaking Process

What the concept map illustrates is explained through the sensemaking process diagram (See Fig. 7.6) and the process itself is explained in detail in the next three empirical chapters. The diagrammatic representation moves from the initial linear versions (Fig.4.1 and 4.2), to undefined connections (Fig.5.1), to one that represents high levels of interrelationships.

8 KNOWLEDGE STRUCTURES

Knowledge structures can be described as both the storage facility of different knowledge structures: The mind gathers meaningful data and stores it in encoded knowledge structures (de Jong et al 1996, as well as the tools for sensemaking. This chapter explores a range of knowledge structures represented in the cognitive maps and in the interview transcripts of the research participants that were applied to making sense of changed environments. As a tool of sensemaking, knowledge structures form the structure, rules and principles through which knowledge is organised. According to O’Leary and Chia (2007), there is a socially-constructed context to the development and dominance of certain structures that represent particular periods of time and these “(Epistemes) are intended to educate our senses and to cause us to selectively attend to specific aspects of our experiences since the sensory inputs of humans are invariably abundant and overwhelming” (O’Leary and Chia 2007:399).

In this chapter I explain what knowledge structures are, and how they are applied in sensemaking in this study. The selected examples sit within the context of, and are influenced by Pirolli and Card’s foraging model (Pirolli 2009, Pirolli and Card 1999). However, where Pirolli and Card used a biological metaphor, describing individuals seeking for necessary information as “informavores”, I have drawn upon an auditory metaphor to explain how knowledge structures are used, in filtering, amplifying and transforming the continuous flow of data that surrounds us.

Each cognitive map contains representations of different knowledge structures as they provide concrete manifestations of continually evolving knowledge and sensemaking. The

maps offer examples of different types of knowledge such as self-knowledge, factual and conceptual knowledge as well as procedural and operational knowledge. The examples used in the chapter are selected on the basis that they show either the clearest or most comprehensive examples across the cohort, or they illustrate some approaches that have a degree of uniqueness or interest to them.

The range of knowledge structures were identified through an iterative process of analysis repeated throughout the study and identified in Chapter 5. This process is explained and illustrated later in the chapter when I discuss the transmutative knowledge structures constructed by knowledgeable agents SA and BA.

Like tuning in to a radio station, the knowledgeable agent actively searches for meaningful data, or picks up on certain patterns and cues in the background. Knowledge structures inform what station will be listened to and how the information is then organised and classified. In this chapter, I explore some of the techniques and processes knowledgeable agents use to find meaning, and provide sense giving to others. I argue they can be generically classified in sensemaking knowledge structure taxonomy. I demonstrate this by providing a framework to explain how the knowledge structures work collectively and individually, in creating meaning, and in disseminating it as a means of mitigating the effects of disequilibrium. The taxonomy is important because it provides a means of signposting to a range of knowledge structures being used in other contexts and organisations. By identifying broad characteristics of each of the knowledge structures and the role they play in

sensemaking and sense giving, the taxonomy adds depth of understanding and interpretation to the sensemaking template, and increases generalisability.

The categories I use in the taxonomy are transformation, filtering and amplification. These are explained in Table 4. The chapter has five sections: the first section explains the taxonomy and how each class of knowledge structuring is conceptualised. Section 2 explains the knowledge structures of filtering, and how particular examples such as sourcing, typifications and metaphor are applied in the case study. In section 3, I explain amplification is a means of increasing sensemaking by clarifying and transmitting messages and information. Providing the space for clarity is an important element in this process. Section 4 considers transformation and uses examples of two knowledgeable agents who presented different ways of cognitively framing change. I return to the taxonomy in section 5 and summarise the characteristics of the different knowledge structures and cross-reference some of the key examples from the data. I conclude the chapter by acknowledging there are extensive knowledge structures available as a means of sensemaking and sense giving, more than are evidenced here, but they can be accommodated within the structure of the knowledge structure taxonomy.

8.1 Typology /Taxonomy of Sensemaking Knowledge Structures (Part 1)

I developed the typology sensemaking knowledge structures when I identified the extensive variation in knowledge structures being applied by the knowledgeable agents. It

became apparent that having a list of contextually-specific methods of sensemaking and sense giving would be counter-productive: the detail of each example would lose an appreciation of the overall role they played. The detail would also impede the generalisability of the sensemaking template because of the specificity. By using the taxonomy, I have provided a means of structuring the detailed examples of specific knowledge structures so they inform a broader representation of sensemaking and sense giving through maximising variances between groups and minimising those within groups (Bailey 1994). The initial summary of the typology (the conceptual equivalent of an empirical taxonomy) (See Table 4) proposes three categories of knowledge structure and characteristics of each. The categories are filtering, amplification and transformation. At the end of the chapter, the taxonomy is populated with examples of knowledge structures from the case study.

Before introducing examples of knowledge structures in use, I provide a brief summary of what knowledge structures are, for context, and explain how I have defined the concepts of transformation, filtering and amplification used in the typology.

Table 4 Typology of Sensemaking Knowledge Structures

	Transformation	Filtering	Amplification
Concept	Developing different ways of understanding, interpreting or modelling ideas, visions, processes.	Refining data streams into manageable, bracketed and applicable units of knowledge	Creating the appropriate atmosphere and means of communication to transmit clearly and appropriately constructed sense giving
Characteristics	Changes the form or appearance, Changes the nature or conditions, Changes the means of transmission of sensemaking content to others	Examines and selects data and signals according to a set of qualifying criteria: cognitive schema	Clarifies, expands, and adds to ideas, messages, and concepts, in sense giving.

Knowledge structures, such as scripts, plans and goals (Schank and Abelson 1977) provide the cognitive mechanical processes of filtering the continual flow of data into meaningful knowledge and experiences. At the moment when an individual experiences disequilibrium, knowledge structures are applied to make sense of it. The structures represent identity, intentionality, levels of equilibrium and are a means of storing and classifying complexity. PA's cognitive map demonstrated a knowledge structure representing his understanding of the relationships between different functions of the organisation (See Fig.8-1 and Appendix 25). CH used a metaphor of a tanker and its turning circle, as a way of expressing his conceptualisation of organisation as an entity unable to respond quickly to change because of its size (See Appendix 23 Concept 45).

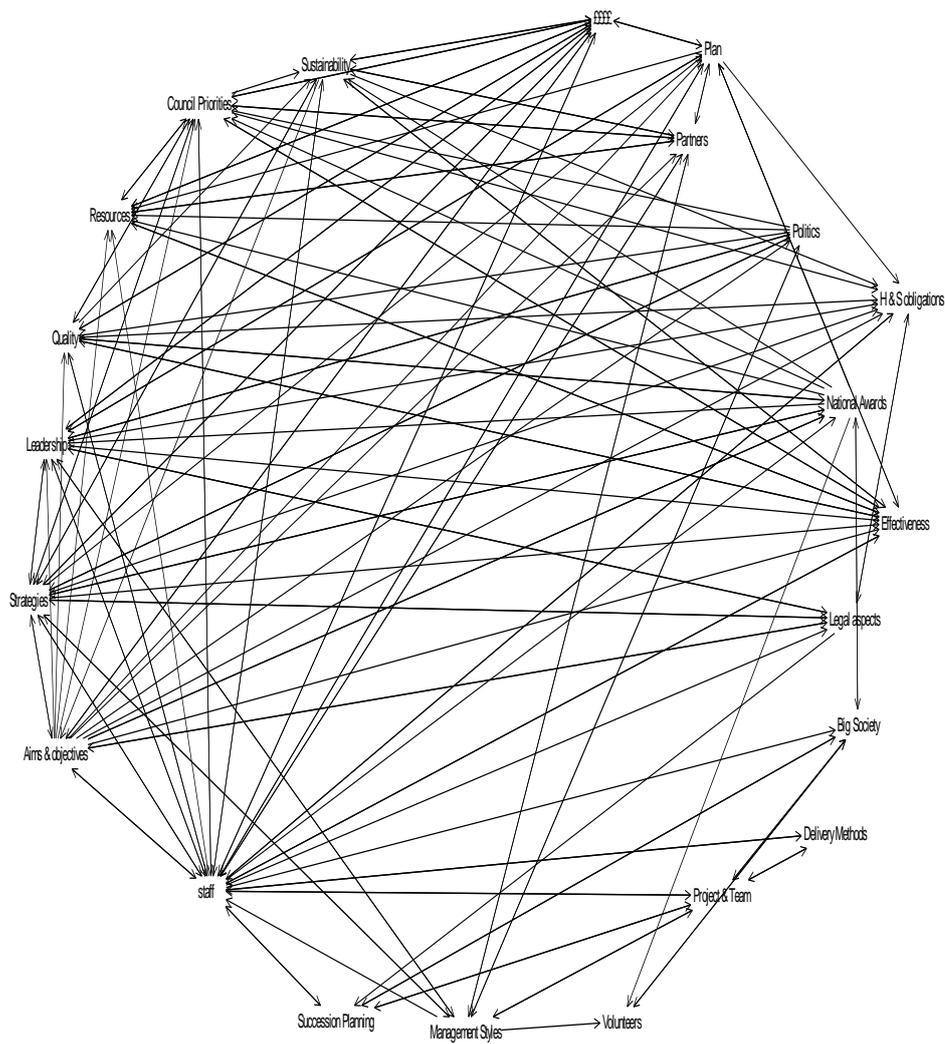


Figure 8-1 PA's Relationship Knowledge Structure

These knowledge structures represent self-knowledge; our multiple identities, what we are 'about', our skills and capabilities, as well as conceptual knowledge; the ability to operate at an abstract level. They conceptualise how we understand change, the environment, our role within it, and finally operational knowledge; how to put cognitive

plans into action, what concrete knowledge and skills are required. Knowledge structures incorporate belief and value system that don't necessarily need knowledge to sustain them (Dervin's concept of rigidified time-space 1983), but the belief and values can influence how knowledge structures are populated. In this quote knowledgeable agent AM expressed his passion for language and its importance:

I don't think it is exaggeration when I say there are things I hold absolutely central and no amount of persuasion or fashion will move me way from particular beliefs. Language is the most important tool for improvement and development. [I] can't get over that, never will and I will remain absolutely unshakeable about that belief and about the importance of linguistic ability (AM Interview and field notes December 2012).

This belief, set in a context of working with schools, provided AM with a "particular view of how schools and communities should work , and based on experience and what I bring with me, -[my] total knowledge base, I think I know how they can work to best effect" (Interview notes December 2012). This knowledge structure demonstrates how language is central to how AM understands change, and its importance as a means of improving the environment in a way that is not specifically identified. Language is also what AM is *about*, part of his belief system, an element of his identity that will not change even when other parts of his environment do. There is an implied sense that this belief has been long held, and remained a constant over time when AM uses the phrase "I will remain". This has both past and future connotations of intentionality. "I will" is future tense and "remain" invokes a past dimensionality.

In constructing the taxonomy to represent the properties and attributes of knowledge structures applied to individual search for meaning, I use terms and processes familiar in sensemaking literatures.

Transformation: change creates an altered state and although there are expansive arguments about the degree of organisational change that constitutes a transformational alteration at a concrete level (Dunphy and Stace 1993, Bartunek and Mocha 1987), as a result of this study, I define cognitive transformation along the lines of Klein and Baxter's cognitive transformation theory (2006) where the individual adopts different and better mental models in their search for understanding and learning.

Filtering: is influenced by Pirolli and Card's Information Foraging theory (Pirolli and Card 1999, Pirolli 2007), and expects activities to be broad in scope, with active searching across general fields, creating connections in an expansive approach, while tagging (Dumais et al 2000) certain elements of data to be collated for subsequent detailed searches

Amplification: is centred on the concept of clarity in sensemaking (Weick 1995, Bartunek et al 2006). It acknowledges the role of plausibility but also the refinement of plausible arguments to suit the needs of different audiences and contexts. Pirolli's (2007) consideration of enrichment as a further filtering and enhancing of data also exerts an influence in developing the idea of amplification as creating a purer version from the initial filtering and identifying a core message, devoid of peripheral interference.

8.1.1 Analysis and Interpretation

My data collection and analysis processes operated simultaneously, with themes and interpretations changing and adapting as I added more data. My research questions were constructed to be broad enough to accommodate findings that emerged, through which I adopted a non-hierarchical approach. My analysis of the data went through a number of analytical strategies before I arrived at a version of the sensemaking template and process as a means of adequately representing the empirical research in a coherent way.

In analysing and interpreting the research data, I adopted an inductive approach; beginning with the reports generated from the cognitive maps (See Appendix 13, 14, 15) which I then coded. One example of a code was “communication” which appeared as a concept on 5 maps. In focusing on this concept, I re-examined all the maps, searching for other concepts that would also be relevant such as “keep talking” (Knowledgeable agent DEI), “subliminal message about how the workforce are considered” (Knowledgeable agent WI), “Thinking, talking, sharing” (Knowledgeable agent BA), and “Use people or situations to have the right conversations” (Knowledgeable agent CH). By trawling the maps for each initial code I was able to build up a richer appreciation of the code and its meaning. This provided a sub-set of codes: Associations, time, distance, blockages etc. Where the concept of communication was identified, I examined maps to reveal hierarchy, how it was connected in clusters, and the contexts in which it was used in the maps and interview transcriptions.

As I coded I was also searching for conceptual structures to present the knowledge structures in a meaningful way. My first attempt was to define role characteristics (Bridge

maker, model builder, commissioner and embryonic agent) representing the elements of the sensemaking template but feedback through member checking identified lack of definition between roles and lack of credibility in one of the categories. The second iteration was a conceptual model: I developed an aural metaphor as a conceptual framework for explaining different knowledge structures and their relationships to the external environment. (The identification of such a metaphor was influenced by and resonated with the Piagetian and Vygotskian concepts of equilibrium, with knowledge structures, and with Rogers' humanistic theory of equilibrium where there was a tension between the real and ideal self).

The metaphor tool assisted in defining relationships between sensemaking processes across the maps by providing a means of creating plausible abstractions in which relationships made sense. Such a tool would however, be invalidated if data were forced to fit such a framework. It can only work if it creates plausible accounts of what the data means to participants, the researcher and reader. Appendix 10 shows how I related the 'communications' concepts to the metaphorical categories as an example of the process I carried out in interpreting the data. The structure provided a means of reviewing the data to further clarify concepts without losing the integrity of the data e.g. 'time' became 'tempo' and 'interruption' included 'resonance' (See appendix 10).

8.2 Transformation

8.2.1 Transmutation within Transformation

Transformation in the context of sensemaking is not structural transformation, It is how individuals conceptualise different ways of operating, of thinking of acting in the change environment. This is cognitive transformation and differs from the projection techniques talked about during the filtering stage. Rather than single ideas, or new approaches considered on an individual basis, transformation is about visualising and cognitively constructing a new environment, with new ways of thinking, new approaches to engaging with change and communities. The concept of cognitive transformation echoes Bevir and Rhodes understanding of autonomous agency, acting to transform beliefs as they are headed down through the generations (2006:72). I present two examples to explain further what this means, and both examples are about the transmutation aspect of transformation in cognitive agency.

Transmutation is about shifting cognitive focus from the normative to somewhere or something 'different'. I have used this specific term for two reasons. The first is recognition of the relational aspect of transformation: orientating towards, or moving from a perspective or format to something different. This is recognised in the 'trans' prefix. The second reason relates to emergence. In the context of this study, transformation occurs at the internal, individual level, therefore it takes time for that change to be articulated, understood and adopted by a wider group. 'Mutation' can be slow or spontaneous; it can

have an effect on structure, function or appearance. It has a more subtle nuance than that of transformation which has been generally adopted as complete, high profile, extensive, strategically planned change. I consider transmutation to be a lower profile, more emergent, cognitive change process. Both of the following examples are about transmutation. They show the ideas and shifts in thinking of knowledgeable agents and how that impacted on the groups with whom they worked, and the projects they completed. Both of these examples came to prominence at a crossover between one of the initial coding exercises that identified leadership and communication.

In the first example SA transformed the role he shared with others, into a unique interpretation, enabling him to influence and build community capacity. In the second example, AM was consciously aware of his temporal context, reflecting across past, present and future dimensions to create new solutions to maintain partnership between schools and the local authority. AM's intentionality is clearly expressed as he works to achieve a balance between his passion for foregrounding what he called "linguistic ability" and more general organisational priorities.

SA worked at a satellite office and had extensive experience of working with community groups, and in this quote he emphasises the relationship he places on building good relationships- to build trust, to get things done and to build capacity to achieve results by and with the community:

Internally I've got a lot of people I've built good relationships with in different departments right across the council and I know it's literally a phone call away to get

the right person – that’s a real big strength for me to get things resolved... I’m almost like a middle man to fix problems.... I’ve built relationships over time, talking to people, not like the keyboard fanatics... they’ll respond and things will get done. I’ve got a good cohort of people but vice versa if they’ve got a problem they tend to phone me- no problem, I’ll go and talk to that individual. ...My volunteers step over their territory boundaries for projects, they meet others and others will go to them....For me to deliver an event is easy, to do it with volunteers who will give their time and get involved, for me that’s how you create change –capacity, sustainability, confidence, building local people to take control of things that previously were allowed to happen- making things happen.

SA had transformed the role he was appointed to, into one that satisfied his own favoured way of working but also satisfied the needs of the community and Elected Members with whom he worked (See Fig.10-6). He used creative momentum to drive progress (concepts 8, 13, 15 and 17) by gaining volunteer support (concept 6) and using that as an argument to seek the necessary approvals. He had built up a network of connections across the organisation, and in diverting from hierarchical communication paths through adopting face-to-face relationships (concepts 2 and 9), he had implemented processes that delivered results (concepts 2, 3, 11, 12, 13 and 20), based on his premise that securing change was based on *“it’s not allowing things to happen, it’s making things happen”*. SA’s focus on change lay in creating a volunteer base that once engaged, created pressure and volume in the community. This was the sound and force of change at a local level. Communication was central to his design, supported by an extensive resource of connections to volunteers, local authority staff and elected members. The processes he used were reflective of, and influenced by his relationships: *“I go in and deliver things in different ways...there’s another way of delivery when you get volunteers on board”*.

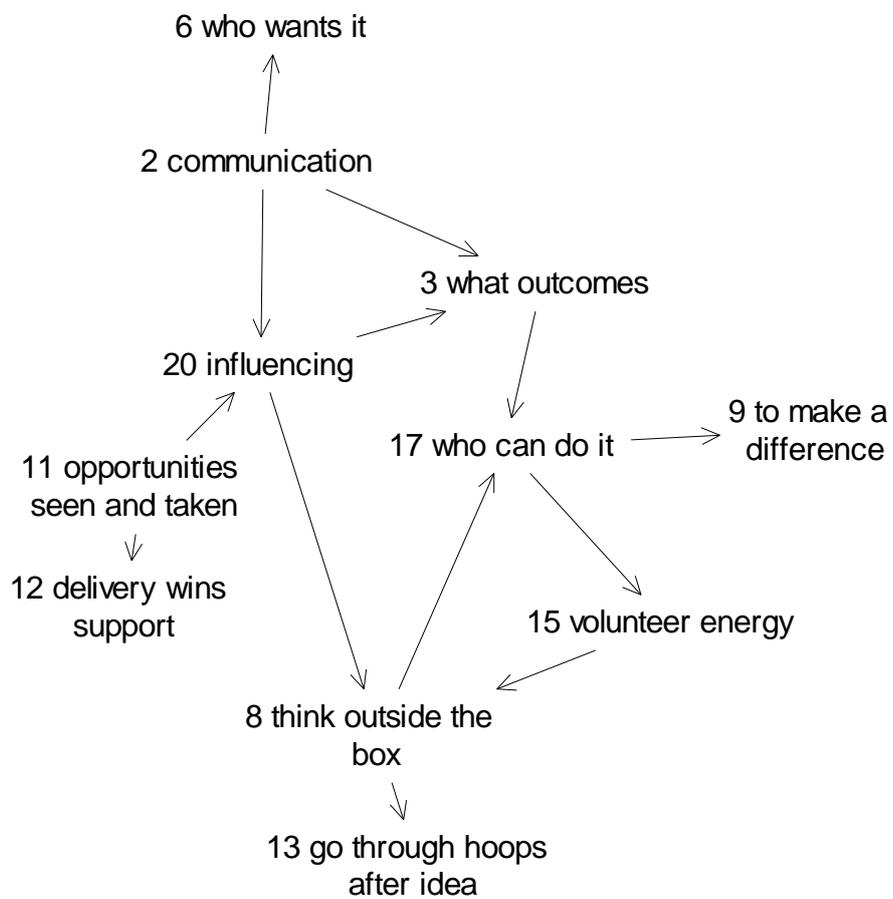


Figure 8-2 SA and Transformation

(Full map Appendix 28)

The process of maintaining and creating increased connections involved a responsive approach to the community in which he operated. His priorities were to react “appropriately and quickly” to problems, and to “feedback and communicate with residents and groups who have issues” (SA Interview notes December 2012). SA used an incremental approach to

building momentum: once he had resolved an issue for an individual and he had their trust, he invited them to become community ambassadors, becoming involved, reporting and being aware of what was taking place in their community. This created a number of reactions: volunteers became empowered to act and engage with others, strengthening community cohesion, the sense of fear of not knowing what was happening locally, was diminished. In addition, volunteer numbers grew and spread across areas as they helped each other and stepped over territorial boundaries. The power arising from their commitment and interest demanded accountability: “An empowerment that I’m giving volunteers is to ask why things are being delivered in certain ways which for me is fantastic and a real positive because it’s not me saying we’re going to do this and this” (SA Interview transcript November 2012)

By creating and using knowledge structures that referenced his sense of identity as a community worker, his preferences for working with volunteers, and his intentionality to achieve results, SA enacted a role differentiating him from his peers and changed the conditions of his relationship with Elected Members, volunteers, his line manager and his community.

In the second example of cognitive transformation, AM had extensive change management experience, and considered he had a part to play in all areas of the authority’s activity. The most significant change affecting AM was a central government “creation of an increasing distance between local authority and schools, as the Department for Education

wanted a market economy in schools.” The Local Authority was now moving from intervention to support.

AM’s ability to transform was embedded in his view of his relationship with the organisation. He wasn’t conceptually bound by territorial boundaries, and he enjoyed searching for pattern in illogicality and randomness, to create new order by engaging with others. He enjoyed uncertainty and considered it was necessary to have a sense of disconnection from the status quo in order to connect extensively in different ways (AM Interview notes November 2012. Full map Appendix 33). He was unequivocal in stating what he was ‘about’:

[I’m] not willing to be landed with the status quo, [I’m trying to think around things...[apart from legal restrictions] I can’t think of anything where I can’t be influential or play a part...it’s always been part of the work to push out and influence and convince people my work is their work.

Working outside normative boundaries, with a mission to improve by “participating and pushing” and working with other like-minded individuals, gave AM a platform for enacting and exchanging creative intelligence, so he could articulate and make sense of his own thoughts and ideas. The ability to communicate new ideas was critical in AM’s ability to transform because it carried passion and energy:

I will remain absolutely unshakeable about that belief...the importance of linguistic ability because unless we’ve got that I wouldn’t be able to explain to you the difference.

AM has refined his operating style over time: drawing on, and revising or updating his Knowledge structures, identifying the right people and the processes he wanted to implement. He had laid out his basis design and functions over a number of years. He understood who he needed to work with and how to direct resources to optimise results. The challenge, one that he enjoyed, was the mental stimulation of creating pattern and order from the chaos of change.

Most of the time it's subconscious ...it's about framing patterns in my head, or congruencies or illogicalities and then that structure then gives a rise to ideas ...I love, understand pattern and need for it...in my view of me in my head, it's less patterned than other parts of my life. But I like collisions, uncertainties, almost randomness, because it's my job to make all the patterns, try and formulate them into some sort route we can get things done.

Once AM has created the new patterns and structure, the next stage was to reformulate it again to meet the needs of a changed environment.

“There's a method where we can continue the relationship on a different footing...it will be a maturation of the market and it will safeguard services for the future. It took 18 months from idea to incorporation and a long time thinking before that....this may not be new but in 12 months' time, it's new because you've developed it, because it's different from what you started with- the same thing but improved.”

SA and AM were clear about the designs they constructed and the processes they required in order to make them work successfully. The design elements or reactions to pressure, intrinsically remained the same (knowledge structures drawn upon), but were adapted to suit the needs of different environments. AM had created three separate

transformations to optimise the impact of his plans: the first was to create order from the pattern cues he had identified. The second was to create a new energy and stimulus for continuing improvement, and the third was the conceptualisation and dissemination of ideas into a format that would engage. SA tailored his design to increase engagement in the community, managing the fluctuations between the community demands and organisational restrictions.

The transformation process, demonstrated through these examples of transmutation, showed approaches to change that included purposive design, reinforced through successful results and adapted according to current conditions. The two knowledgeable agents also communicated a reflexive appreciation of their unique contribution to changing their environments. Understanding the identities they portrayed, appreciating what was important to them, in other words, what they were *'about'* was a key factor in their approaches. Both knowledgeable agents also identified their own boundaries, rather than organisationally imposed ones, both held the view that they had positive connections with people and were able to influence and effectively interact at a social level. As in Giddens consideration of the knowledgeable agent (Giddens 1984), SA and AM developed habits and rules for themselves, based on their self-knowledge and intentionality. In doing so, they created structures that were meaningful to them, and disregarded the organisational structures that were not relevant or for which they had no use. These new structures were borne out of initial cognitive agency.

In section 8.3, examples used to illustrate how filtering works, are from a wide selection of maps, as I want to show a variety of techniques used. In discussing amplification, I use three maps illustrating a number of common threads. The section on transformation offers two examples to illustrate common attributes in different scenarios.

8.3 Filtering

In filtering the continuous stream of data that constitutes our existence, the knowledgeable agent requires some form of discriminating criteria to select appropriate cues, patterns and anomalies to create meaning. Knowledge structures provide the influence for a particular focus in searching the data, but there are processes that organise the data further. There are three methods of mentally cataloguing and classifying the data identified: sourcing, typifications and use of metaphor.

8.3.1 Sourcing

The concept of sourcing is influenced by Pirolli and Card's Information Foraging theory (Pirolli and Card 1999, Pirolli 2007) identifying the cognitive interactions between the data searcher and the information environment. The term 'sourcing' is used to reflect the role of the knowledgeable agent at different levels of data processing. The name suggests a supplier of information, as in Dervin's metaphor of gap analysis (Dervin 1983), an originator of ideas and interpretations (the creative aspect of sensemaking according to Weick 1995), or the expert reference. The term also implies an active approach to searching, rather than passive. This was very evident in my discussions with knowledgeable agents, as they emphasised

their active search for information, triangulation, and interpretation from difference source materials. In these examples, source is both a verb and a noun. In the first example DEI actively *sources* (*v*) people, ideas, information she can use as a *source* (*n*) of knowledge to generate new ideas, visions, and ways of doing things differently.

DEI is an example of the knowledgeable agent using multiple sources and networks to gather information. For her, change was either levered by external circumstances, a compelling need to improve, or her innate sense of wanting to do something better. She admitted she “quite liked change, mixing it up”, and always accepted the challenge to do things differently, knowing she could do it, but was not always immediately sure of how to do it. The following vignette provides background detail:

DEI’s critical priority in actioning change was to find the right people to work with, who complemented her skills and knowledge so they can cover all bases. Dei commented that one of her strategies was to throw out ideas and get others to improve and deliver them. She also got experts to tell her what they do so she can learn from them. She recognises she uses a reflexive approach to ensure the organisation is doing the right thing, not that it should be perfect but so it’s “good enough”. She considered her role was to do things nobody else can do. “If somebody else can do it and they have the capacity then I probably shouldn’t be doing it”. DEI regarded herself as strategic but if anything operational needs doing, she would do it (Field and Interview notes December 2012).

The change process DEI was involved in was responding to the demand for local authority services rising because of an aging demographic and rising poverty, set against reductions in funding. DEI’s priorities were to sell it to the people who were to be working with her, talk to people all the way through the process, get staff to work out how to achieve the objectives

set, do enough reflection to ensure the organisation and she were doing the “right thing- not perfect but good enough”. It was also important to DEI to do what the organisation says it will do and for her to front up the change in order to engender trust.

For DEI, sourcing the right people to work with was important. Domain analysis of her map indicated one concept that was central to her sensemaking: “identifying the right people” (Appendix 30 concept 4). The links from this concept show that not only did it influence influencing “hearts and minds” (concept 2) in getting people to own change (concept 1), but finding the right people also had a part to play in determining solutions (concept 7), being accessible (concept 11), empowering people (concept 16) and being able to assess situations (concept 3). The analysis further identified a reinforcing loop connected to the central concept which was about modification, building in time for reflection and maintaining interest (Concepts 13, 14, 18). DEI’s explanation of how she searched for the “right people” was detailed in the interview transcript and indicated an approach that linked her strategy for sensemaking with delivery of outputs: “always on the look-out for good people because if you pick good people, you can deliver”. In looking for talent, DEI spent time treating people as more than work objects, talking to people about what they did, and she considered there was always a project to involve them in (Interview notes November 2011). Sourcing of information includes looking within and outside local perimeters:

I make a point of trying to talk to people who work in similar fields, be it Public, Third Party or Private. I do a reasonable amount of networking ... read a newspaper, watch

the news. Just talking to the residents about how things affect them, problems facing them.

Always conscious of the need to look for an evidence base, DEI triangulated the data she gathered. Having said she was always looking for good people, DEI used the expertise of her staff and wider network of contacts to increase her knowledge in certain areas. Talking about an experience where she was given a new area of work to manage, DEI identified and “sat down with the person who knows all about it and said ‘tell me’”. (Interview November 2011).

All of the knowledgeable agents interviewed, identified multiple sources for gathering data. They were looking for information regarding different aspects of the organisational change process, but all were engaged in communities of practice. For some, this involved finding sources outside the organisation to interpret and explain new discourses so they could understand the implications and applications of new concepts, policies or perspectives. OL engaged in forums, networked extensively at conferences and events: “[I]pick up on who the key people are...professional networks... [They] explain things I don’t understand, how do things link, what does this mean?” (Interview transcript, December 2012) Others relied on internal networks of peers and colleagues whom they trusted across the organisation, as part of an analytical reflection and ideas generation process;

[We] have these discussions at the [name] programme. We ...face similar dilemmas. .and we share peer proved discussion/analysis. [It] gives moral support and some people have ideas or we exchange views (WI Interview transcript November 2011)

In the next example, triangulating data with accounts of practice, and initiating a broader contextualisation of a problem, gave YV an understanding of the deeper issues he had to resolve as he strove to source the real story beyond data. (See Fig 10.2)

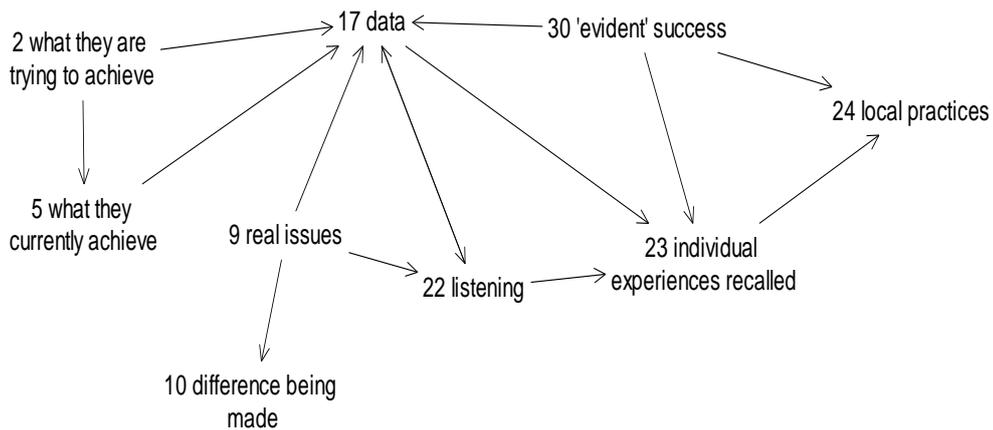
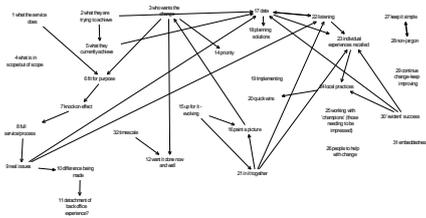


Figure 8-3 YV's Search for Sensemaking

(Full map Appendix 26)

The change episode YV cited was a problem in a call centre he dealt with as a change agent. This vignette provides the context.

The Director had received a complaint from a Cabinet Member that phone calls from members of the public requiring assistance or information from social workers, were not being responded to. YV spent six months working with the call centre team to identify and address the problems. The driver for resolving the issues was that he didn't want the service to be outsourced, which was an option. YV considered a new service provider would be more expensive and wouldn't be any better than the in-house facility so he worked to achieve the targets set. In his investigations, YV discovered the problem of low responses to requests for assistance was not a call centre issue but a blockage in the social worker teams, who were not returning the calls passed to them from the call centre. YV had been tasked just to get the phones answered but that wasn't the real issue. The behaviours of people outside the call centre were not supporting the system as it was originally designed and introduced (YV Interview notes and transcription November 2012).

In searching for a plausible explanation of what was taking place in the call centre, YV was aware the analytical data may not indicate the "real issues" or the "difference being made" (concepts 9 and 10). Analytical data showed YV what the section was trying to achieve and their current results (concepts 17, 2 and 5). In his search for the real issues, YV listened to staff about their experiences, local practices and "evident success" (concepts 22, 23, 24 and 30), a term he used to describe non-quantitative evidence (YV Interview notes November 2012).

Rather than the original task of ensuring phones were answered, the issue was one of institutional practices unsupportive of a service in the way it was intended. YV's search for a plausible argument that satisfied the evidence he had collected, meant a broader search of connecting processes and links with other teams to identify operating norms. Exploring the wider context and sourcing additional materials and data to provide an enriched

understanding of events and actions is as much a part of filtering as reducing data to a more refined quantity.

Originating new approaches is part of the exploration side of sourcing. One of the ways this was carried out by two knowledgeable agents RA and CO was in the use of projection techniques. Projections are a particular form of anticipatory sensemaking when the individual uses current knowledge to envision a future scenario, and uses that new insight to shape current action.

Before considering RA's cognitive sourcing approach, there is a vignette providing context:

The change episode RA considered most significant at the time of the interview was a change in focus for his service area, from direct delivery to a facilitating role coupled with significant cost reduction requirements. The service RA managed was "a non-statutory service that was discretionary, profit-making and surplus generating". They sold their services to local businesses. In managing the changes he identified, RA's priorities were primarily to continue as a viable operation, satisfying customer needs to maintain a trading position. Because the new focus demanded a reduction in staffing resource, RA was aware that motivation and commitment could decline as staff left, and he had to manage the fears and concerns of staff remaining in post. RA was located in offices some distance away from the Council House, and had two separate but allied roles. His operational role was as a Services manager, and his strategic role involved servicing the administrative needs of a co-ordinating group that had both private sector and public sector representation.

RA considered local authority staff did not have the experience to effectively negotiate the appropriate and best deal for local residents because of lack of contracting experience. His strategy was to follow a business model and work round local

authority requirements to fit his needs and then apply necessary processes. In this way he reinterpreted organisational boundaries to suit his needs. RA's sense of empowerment to influence change differed according to each of his roles: At the strategic level, he considered there was only a limited amount of scope to exert influence, whereas at the service level, his manager gave him a greater degree of flexibility to do what he thought was required and so his perspective altered according to context. (Interview and field notes November 2012) (Map Appendix 31)

In attempting to set up a new partnership arrangement with private sector involvement, RA's previous experience meant he understood that having a council-led board would not generate engagement with the private sector.

I strongly feel as soon as we say this is a council committee, everyone will stop coming. If we say this is a private sector led committee, led by stakeholders...then we'll get an agreement...have to have a clear understanding this is not a forum to implement priorities of council policy...if we get that message out we get buy-in and commitment ...different way of looking at [partnership]now. (RA Interview transcript November 2012)

RA used his knowledge of business models, of an emerging cultural shift in the way partnerships had to be developed, with the local authority facilitating and supporting but not leading. Working in a partnership with business leaders who had bought into that way of thinking, required membership that "had the ability to direct", to manage resources and deal with budgets. In articulating a vision about how new partnerships are to work, RA was anticipating responses to certain actions as a causal relationship: if the local authority lead a new Board model, businesses won't engage. Projecting the results of particular options led RA to developing an alternative solution whereby the priorities of the Authority were subjugated to those of the local business needs. In this example, sourcing has two aspects:

sourcing or introducing a new model of collaboration, and sourcing a new power dynamic to underpin the new collaboration. RA spoke about the criteria he set for being on the new board:

I am dealing with leaders. One criteria of being on the Board is they (members) have to have the ability to direct resources. If we have the police attending, I don't want a constable, I want an Inspector because he moves people around and deals with budgets (Interview transcript November 2012).

The source of the material also played a part in how it is considered. CO contextualised the information she received by its format: "I think I'm ... much more sceptical and perhaps not so trusting of the behind-the-scenes discussions, and what the real motives are, rather than what's presented to you" (Interview November 2012).

SA used projection to contextualise his current activities. He understood that as one in a group of 6 all vying for a limited number of jobs he would have to differentiate himself in some way. Projecting forward to when decisions are to be made, SA considers the recognition he receives for his work, will mean something in terms of making a difference so he works hard to gain recognition by the right people,

"when they sit round that table making the decision to cut posts, because I've got so many [Elected] Members (in my area), they know I'm part of that group and no-one can tell me that doesn't help the process. They'll know if they cut the posts, it will have an impact on them. That's why I have to keep delivering to that level. There's not an opportunity for me to slack off" (SA transcription notes December 2012).

8.3.2 Typifications

Typifications are a short-cut process of data filtering. They are a form of cognitive constraint, in the sense that data is filtered according to sets of templates, where meaning is constituted in a social context. These templates have a level of automaticity, and influence the shaping of data based on personal goals (Schank and Abelson 1977) or institutional constraint (Weber and Glynn 2006). These “chains of events and actions “(Trzebinski 1985:1266) are prescribed ways of understanding the environment.

Typifications were indicated in the change scripts used in implementing new initiatives. YV (See Fig.8.4) worked across the organisation on different change projects. YV’s typified script for implementing change programmes involved collaboration in working with the team or section involved in the change, (concept 21), checklists for assessing what is required (concepts 1-10 and 32) analysing a broad data set to identify real issues (concept 9,17) and identifying key components on which to concentrate (concepts 20 and 22, typifications 24,30). The script was based on previous successes YV had in creating quick wins (concept 20).

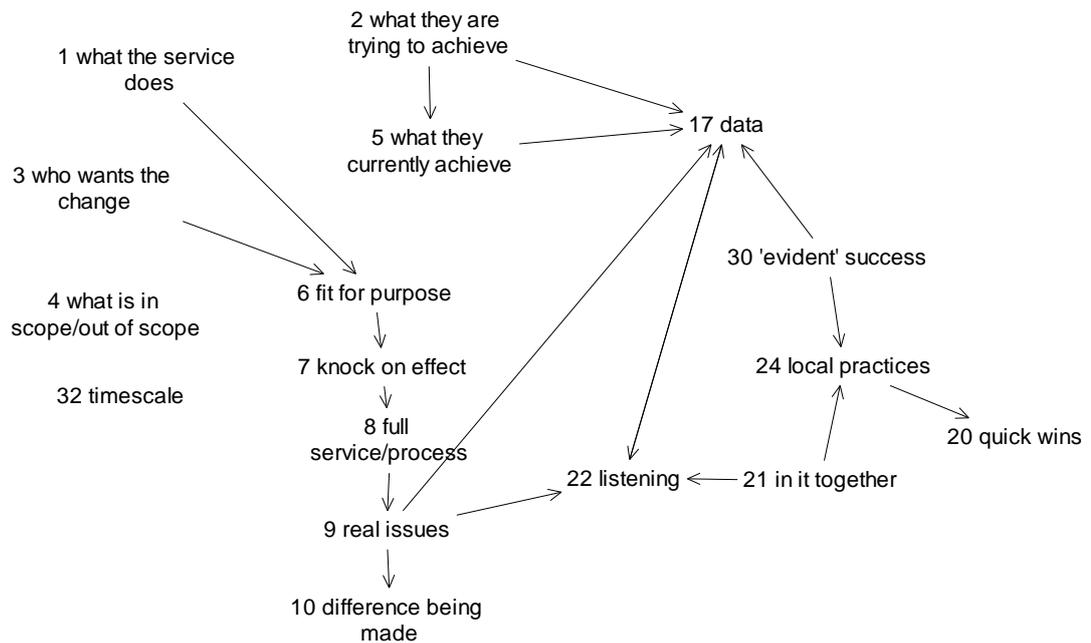


Figure 8-4 YV Typifications

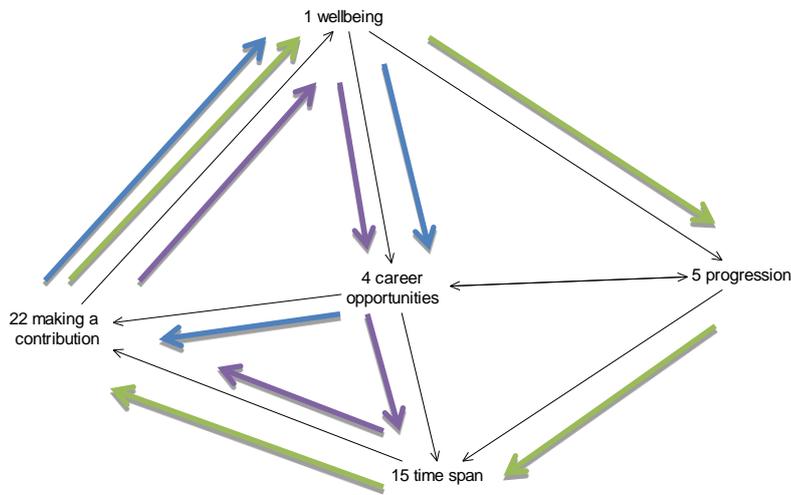
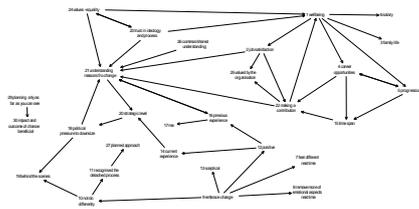
(Full map Appendix 26)

CO developed a script that laid out her expectations of her career development. This consisted of three interconnecting causal loops centred on her understanding of what determined her wellbeing. Wellbeing had become an important factor after the previous change experience : “[I] tried to be a bit more laid back and wait and see...I guess in some ways it was a bit of a survival tactic, to look after [one’s] own mental health”. In the excerpt from CO’s map, there are three causal loops creating typified scripts against which CO assesses the impact of change on her equilibrium, indicating the tolerances she has built into her knowledge structures. This fragment of CO’s map shows the three loops (See Fig.10-4):

Loop 1- Career progression within a particular time span linked with a sense she was making a contribution.

Loop 2 - Wellbeing influenced career opportunities within a particular time span as well as a sense of contribution.

Loop 3 – Wellbeing influenced career opportunities and making a contribution.



*Figure 8-5 CO's Typifications
(Full map Appendix 27)*

CO's script for identifying how she was to maintain a sense of wellbeing offered options to be considered in the light of changing circumstances. Here is an example of how assimilation and accommodation are being applied in changing circumstances. As long as CO considered she was making a contribution, she would feel she was happy and could assimilate alterations to her environment within her current script. Career opportunities, time span and progression could be interpreted more flexibly in this new environment. These script options were being used to filter the data, and options were applied according to the context. Loop 1 had been her original plan when she joined the organisation. After going through a restructure process, she created an alternative script that included wellbeing as a consideration, and then amended the second script to remove the time constraints.

CO used these scripts to filter the data and as long as the data matched her scripts, she could continue to engage positively with the organisational changes taking place. However, if some of the typical conditions in the scripts could not be met (Trzebinski 1995), some element of accommodation would have to occur: she would respond differently: For CO, salary was a condition needing to be met or the organisational change script would be invalidated: "Salary ... links back to progression and I would view it [lower grade] as a backward step and one where I would have been willing to leave the organisation than stay" (Interview transcript December 2012).

The use of scripts is an important indicator of how knowledgeable agents perceive their environment, and the institutional frames and boundaries within which they operate. Scripts

work within certain degrees of tolerance, as in CO's changing view of her future prospects, but are discarded when critical points of stability are invalidated or removed.

8.3.3 Metaphor

Metaphor can be considered as a particular type of script, as the language and imagery presents a mental focus bounded and typified by a defined set of expectations, signals or behaviours. Examples of metaphors used were mechanistic references to processes and blockages:

Unless you put the activity on a (metaphorical) charging sheet, i.e. give credit for it in the big picture, it will always be easier not to do it because other demands override. Need to use levers to best effect, and if levers are counter-productive, it's dangerous (PH)

RY used a poker analogy to describe his strategy for working with others: creating a mental image of a game where psychological processes are in use and pushing opponents to declare their hand (Interview notes December 2012). CH used the metaphor of turning around a large tanker to convey the mammoth cultural task involved in implementing the change agenda, Olympic medal classifications to describe levels of coaching support he wanted to introduce, and construction imagery to communicate the importance of getting all elements of the organisation to purposefully fit together (CH Interview notes November 2012).

The range of techniques used to filter data is indicative, not exhaustive. They reflect how individuals narrow the search for data and expand the search in specific areas. Communities

of practice and networks are used to source materials and drill down to explore what is actually taking place. Data is sifted through particular knowledge structures or scripts and discursive techniques are used to condense understanding into succinct “packets” of data (Klein et al 2006). There is a danger with such short cuts however. If established scripts are repeatedly used without a reflexive dimension, institutional action is implemented and habitualised with little discretion. CH had rejected his typified script and created a new dialogue between himself and the Chief Executive. Where cognitive management is effective in creating change, it uses these shortcuts to provide knowledgeable agents with the space to manage present and future demands concomitantly.

8.4 Amplification

Amplification structures enable clarity: a more robust articulation of ideas and visions, adding to or extending language, metaphor or concepts to create or improve sensemaking and sensegiving. In this section I have selected three examples of how knowledgeable agents disseminated ideas, created greater clarity for others and minimising obfuscation. Their agency lay in identifying the barriers and organisational constraints that muffled organisational messages, visions and signals and then designing strategies and options to correct it. WI worked at developing greater clarity in his relationship with Elected Members, AL wanted to distribute examples of positive change across the organisation as examples to others, and OL was aware of the strength of different communication systems to provide opportunities for engagement.

8.4.1 Clarification

This is an example of AL identifying the cognitive approaches he has developed in addressing the need to find meaning in organisational change. A number of cognitive agential actions are activated in communicating with others (Map Appendix 32). The example is preceded by a short vignette.

AL was working with the organisation in an external capacity and with staff from different functions. In the interview he stated his knowledge of the organisation was drawn from what he saw, what he heard and what he experienced. For AL, the most significant change taking place in the organisation was the tension between wanting organisational change, driven by the Chief Executive and Elected Members, and the fragmentation of the structure itself. Because of the fragmentation, people had limited self-confidence to take the lead and were feeling their way. The organisation lacked the capacity to recognise and support them. AL viewed change as a constant, but had discussions with people around multi-speed and multi-phase approaches. AL provided examples of change agency taking place in the organisation where individuals moved away from normative approaches and did something different. For him, the importance lay not just in the actions, but the fact they were witnessed by others as examples of how to act in change. (AL Interview and Field notes January 2013) (Full map Appendix 28)

AL was aware from his discussions with officers, of the confusion caused through the dissemination of conflicting messages across the organisation. He was adopting a strategy of creating focused and explanatory conversations with others to develop clarity “I think there are a number of things blurred, and a lot of it is about how relationships work. What’s being discussed is how we find a better way of working with the politicians and that isn’t always helped by a lack of clarity” (AL Interview January 2013).

The issue of Elected Member/Officer relationships is one fraught with difficulties for some knowledgeable agents, and was a recurring theme for many of them operating at a strategic level or in local neighbourhoods where Elected Members were active. The Chief Executive was clear officer roles served to support Elected Members, but the former also had a responsibility to alert the latter as to the consequences of what they wanted to do. Having listened to and focused in on that issue, AL attempted to give an explanation of alternative scenarios, using a range of techniques:

We've done role plays about attempting to get that [adult to adult relationship], on the basis that we can't be their parents. We can be respectful but we can steer the conversation around to adult/adult if we're skilful and courageous enough to not take the 'just get it done' as a means of ending the conversation. (AL Interview transcript January 2013)

AL provided a means of reducing the background noise for those with whom he worked, offering greater clarity by being able to focus on those ideas or areas of greatest influence, as in the above case. He also provided the opportunity for individuals to "play back" their own conversational habits and to analyse the baffles in place e.g. a lack of clarity in expression rather than a lack of understanding by recipients:

They may think they have the strategy but it's not being translated into segments that can be translated or adopted by the operationalists...Not blasting people for not listening or not understanding but examining what it was I said that wasn't clear (AL Interview transcript January 2013).

For AL, a powerful message was one that raised the volume *and* prominence of successful change action.

We have a fantastic example of someone cautioned to be careful. (She) was new to the organisation, from Public Health, and was going to talk to Councillor [Name]. Others said ‘be careful’, he’ll cut you off, and you’ll only have ten minutes etc. She went, was brave and he cancelled the meeting after the one he was having with her, to spend more time with her because she had that different conversation with him (AL Interview transcript January 2013).

However the power of the message was stifled when connections were weak, either through lack of leadership, lack of narratives to carry messages, an inability to listen and a lack of priority being attached to its importance. AL cited the example of a systems thinking approach to service delivery called ‘Lean’. AL considered it was an unsupported initiative and needed more focus and its ideas communicated more effectively: “Lean [process]; CEO talks a lot about it, lot of work going on around it but not followed up...More public stories would be useful about that. We don’t have those stories to tell” (Interview January 2013).

AL identified and worked with those whom he knew had the influence and power to create a different environment: the “vocal visionaries”. AL believed they had the skills they needed to maximise their impact by creating a strong and clear signal to others. In this quotation he maps out the requirement to create a link between challengers of the status quo, operating across the organisation, bringing them together to strengthen both the challenge and present a shared vision of the future:

[We need]overarching connectivity (in terms of how it works there, so how to get it to work over here)...Need to be able to equip people with skills to ask questions of themselves to be confident that the brain is forensic enough to risk making a fool of yourself by saying something that people might say is a stupid point...Most effective are the vocal visionaries, need to be brave to challenge the status quo, risks real and

perceived in good and productive conversations and the vision becomes shared, amended, added to. The ones who make the difference are the ones who take that opportunity and find other people to talk to because they are the networkers seek out people to have conversations with in order to create shared vision, think beyond themselves and do it –‘I’ll make that happen’ (Interview transcript January 2013)

In creating clarity of communication and sensemaking, AL provides examples of a number of different tactics in play. There is a dampening down of extraneous distractions such as a lack of confidence in being able to challenge and debate through “difficult conversations”, looking at the source of the message and the means of communicating it as well as the content, analysing where and how improvements can be made and providing a sense of ‘other’ by offering the space for self-reflection in playing back individual styles of communication to aid clarity.

8.4.2 Transmission

WI provided a powerful example of the relationship between the strength of a message or argument and the level at which it was set. In developing a working relationship with Elected Members, WI actively selected specific formats to explain either the limits to, or consequences of, requests made of him. By using his knowledge and experience, WI was able to formulate a cognitive set of procedures he used in balancing the need to develop positive relationships with Elected Members and informing them of the consequences of certain actions. By using political language, developing a collaborative relationship through building trust, and setting out arguments and advice in non-technical terms, WI broke down barriers. The removal of the barriers in his relationships with Elected Members led to sharing

of knowledge. Investing time in building relationships also provided WI with a greater understanding of the political environment, enabling him to develop relationships that became more significant. As a result, he considered his views gathered greater potency as he became more attuned to what was being said.

As you develop that working relationship some of the barriers start to come down and they'll start to give you insights- make off the record comments and some of the banter and working relationship starts to mature (interview transcript November 2012).

OL used professional networks to enhance sensemaking in her own and other local authorities, and to increase her level of skill and knowledge in communicating to and with others. Like AL, OL saw the need for making connections in order to strengthen significant messages, recognising the benefits of new mediums like the 'blogosphere', but there was a need to keep developing:

The [name] blog is powerful when someone makes a comment and someone else in the organisation responds, and then they start their own conversation. They're getting on with it themselves- isn't that what it's all about, everyone being able to have a voice... I've got my own informal network as well as the official lines of communication... (I) go to them because they are like minded. I'm going to a conference to make networks from the public sector to talk to them, arrange to meet, see, and look at websites. I'm happy to talk to another local authority about what I do if it means they get there quicker... People need to interact, go to others who've done similar and look for other evidence, use other sources to support... I'm striving for excellence, but once you reach the excellence, that becomes standard, striving for the new excellence all the time. (Interview transcript December 2012)

OL viewed communication as an important part of the process of clarifying and disseminating information in order to generate knowledge about her environment. Her discursive ability to communicate what she was doing, to groups within and outside of the organisation formed part of OL's search for meaning, sensegiving and her intentionality, driving her towards an aspired state of "excellence", of which empowering others, is a part.

8.4.3 Space

Space provided the opportunity for amplification according to some knowledgeable agents. This included physical and cognitive space. Creating appropriate spaces for change, or recognising the space they were in and how it affected the way people thought about the change process, was a factor in sensemaking. Three participants: WI, AL and OL all offered examples of how they conceptualised and strove to find the right spaces to improve sense giving, by creating or recognising settings.

WI valued the creative and participative space offered to him during a development programme. This was a space for sharing understanding, if not always meaning, as each delegate exchanged, and sometimes challenged thinking: "There is cathartic comfort in knowing other managers face similar dilemmas. No magic bullet and we share peer proved discussions and analysis, [it] gives moral support ...we exchange views...makes me think" (WI Interview transcript November 2012).

Participants recognised the important of space in providing a clear message. As in the written text, space provided opportunity for recognising relationships, and interpretation

(‘nowhere’ or ‘now here’?). OL viewed breathing space between change events as an advantage in creating a positive perspective for the next one: “If they had an intense period of change, and then there’s a tiny space to recuperate even just a day, need to tell people that what it is ‘we are recuperating for the next thing’ ” (OL Interview transcript December 2012).

Space provided a means of bracketing different change episodes in a major scheme, in much the same way space separates words in a sentence. WI worked at building relationships of trust in order to create a space in which he would be heard by Elected Members. In developing this relationship, WI recognised the need for appropriate language and communication that Members would recognise and acknowledge. Not only did he understand what he needed to say, but also how he needed to say it:

“The way I deal with Members now...is very different to the way it was ten years ago. I’m far more confident about challenging’...You have to engage and build trust because members will try and browbeat you and be aggressive. It partly comes with experience; partly with status...I never say ‘you can’t do that’. You learn how to use language and nuances (Interview transcript November 2012).

AL recognised there was too much of a sensemaking gap between different elements of the organisation, resulting in time lag and conflicting disconnections between transitions. This created a barrier to leveraging co-operation, where teams were facing different change programmes at different times, and running in parallel planes:

One of the reasons why there is a disconnection because they may have a different scale /rate of change and need to say “where are your guys in relation to my guys and

how about if my group helped your guys”? I don’t see any of that and if it does happen, it doesn’t filter down to the people I’ve been working with (AL Interview transcript January 2013).

Creating the space for meaningful conversations to clarify and synchronise organisational functions was a challenge AL considered necessary to flesh out the means of a co-ordinated approach. As this quote shows, he wanted individuals to have the freedom to explore the reactions to implications of prevalent organisational discourses:

Using it to explain what ‘get it done’ means and ...and exploring space for more sophisticated dialogue involving different parts of the organisation to explore implications of actions rather than the JFDI approach which people think they have to report to. (AL Interview transcript January 2013)

The relationship between time and space was an important factor in the recognition of leadership for OL. Presenting new ideas at the *right time* and in the right space was critical for success:

It has to be the right time for change. You can’t afford to be ahead of your time. You can be ahead of your time in your head, that’s what leaders know- when the right time is. They might think it will be five years down the line but know it wouldn’t be acceptable now. (OL Interview transcript December 2012)

Physical space was an important factor in influencing how people reacted to change. In her own creative development OL acknowledged and harnessed the power of empty space to motivate her to action:

Sometimes I have no idea what the solution is...I'll go home, [I] have a routine...cup of tea and two blank pieces of A4 paper...It has to be that setting, has to be right at the beginning- a mode where you know you haven't got a clue and it's bloody scary, and the two pieces of paper are symbolic of nothing and that nothing can be really good (OL interview transcript December 2012)

WI viewed the move to new office lay-outs as a subliminally transmitted communication, the results of which created a psychological shift in how individuals perceived their roles in relation to their identity:

There has been a big move to open plan and hot-desking and a lot of resentment. Subliminally, it almost sends a message as to how employers view the workforce. Moving from desks being personalised, get pinch points, internet based log-on phone. Work is an activity not a place. Psychological shift in how people work (WI Interview transcript November 2012).

Through analysing the data, I argue amplification is a process of intensifying cues, ideas and messages or clarifying messages by improving the environment in which they are transmitted. There are subtle cognitive processes being used to refine and disseminate new ideas, to challenge normative discourses and to provide the space for sensemaking and sensegiving to be enacted.

8.5 Taxonomy of Sensemaking Knowledge Structures (Part 2)

In this section I return to the sensemaking knowledge structure taxonomy I introduced at the beginning of the chapter. At this point I have populated it with the findings from the data presented in the chapter. As taxonomies are a type of typology whose classifications are

generated from empirical data I used Kelle and Kluge’s guidance on typology building (1999) to iteratively identify and group properties, identify relationships and characterise them with examples drawn from the data. For each of the taxonomic classifications of filtering, amplification and transformation, there are explanations of each concept, characteristics by which to recognise them and examples of application as discussed in the chapter. When I was examining the category of transformation, I identified the discrepancy between it and the fact that both empirical examples were about transmutation. Based on the data I gathered, I argue transmutation has specificity as a sub-process rather than a general classification. This second iteration of the taxonomy shows the additional data gathered from the empirical data.

Table 5 Taxonomy (Typology) of Sensemaking Knowledge Structures (populated)

	Filtering	Amplification	Transformation
Concept	Refining data streams into manageable, bracketed and applicable units of knowledge	Creating the appropriate atmosphere and means of communication to transmit clearly and appropriately constructed sense giving	Developing different ways of understanding, interpreting or modelling ideas, visions, processes.
Characteristics	Examines and selects data and signals according to a set of qualifying criteria: cognitive schema	Clarifies, expands, and adds to ideas, messages, and concepts, in sense giving.	Changes the form or appearance Changes the nature or conditions Changes the means of transmission of sensemaking content to others
Classification	Sourcing Typifications Metaphor	Clarification Transmission Acoustics	Transmutation Change in conditions

Conclusion

In this chapter, I presented an explanation of knowledge structures and how they influenced the ways in which data is selected, collated and understood in the sensemaking process. I provided a broad range of examples to argue knowledge structures are conceptually generic but applied through different techniques. I showed how knowledgeable agents have a reflexive understanding of the value they bring to changing environments and they utilise their skills and capabilities to adapt the environment to optimise their control over it.

To have presented a range of individual knowledge structures as they arise from the maps of participants would have provided an appreciation of the different sensemaking perspectives at work in the organisation. They would not have provided a “persuasive account” (Yanow 1996:53) that resonates both with those who offered up their experiences and those who read about them. The concepts of filtering, amplification and transformation arose from researcher sensemaking, peer review and wider discussions about a meaningful, interpretive representation of the data. Supported by descriptive detail, direct quotes and field notes, these categories of classifying knowledge structures provide a means of sharing understanding of what was taking place in the field, moving specific details into a broader conceptual context. The use of taxonomy of knowledge structures is used to facilitate analysis, assessment and organisation of data (Bailey 1998) but as it is not yet richly populated, serves as a prototype

In the next chapter I discuss the transitional phase of equilibration, as knowledgeable agents act to balance internal expectations with new external experience and data. Particular contexts are influenced by knowledge structures that incorporate intentionality, and the individual strives to achieve a state of equilibrium optimising her level of control over the altered environment.

9 EQUILIBRATION IN ACTION

This chapter describes the process of equilibration in an organisational setting, and how it interrelates with other transition phases of the sensemaking process. Equilibration is the process of reconciling internal expectations with external experiences, and involves assimilation or accommodation of new data or experiences. First, I provide examples of knowledgeable agents experiencing altered environments and disturbed equilibrium. I detail the responses they make as they search for meaning, as a means of regaining cognitive control over their environment. Second, I identify and explain how response to change is influenced by different parameters of equilibrium. These are the levels of “requisite variety”, or diversity and stimulation generating an increasing capacity for change, eventually influencing how an organisation responds to change; the greater the level of individual adaptiveness to change, the higher the level of organisational responsiveness (Weick 1995, Snowden 2012). These individual levels of tolerance are identified in this section as situated, intermediate and multi-frame levels of equilibrium.

There are a variety of ways in which the individual can react to change, and I provide a number of examples from the case study to highlight this. The examples show how knowledgeable agents respond as they search for meaning to regain control. In this context control is a mental attribution rather than any physical act of agency, when a knowledgeable agent is able to find a plausible reason for events according to her internal knowledge structures. This act of equilibration is either assimilation or accommodation of data to find an acceptable balance. I argue there are three levels of equilibrium influencing reactions and

control. I demonstrate how situated, intermediate and multi-frame levels of equilibrium are developed and how they are characterised. I conclude by asserting that the knowledgeable agent whose equilibrium is least disturbed by changes to their environment, are those who have developed knowledge structures to view and influence change processes in a manner that suits their intentionality and goals.

The chapter has three sections: the first explores how equilibration works in an operational context. It details five accounts of disequilibrium, and different reactions focused on achieving a new level of equilibrium. The second section explains the three new levels of equilibrium identified and how they are constructed. In the final section, the levels of equilibrium are classified and presented to illustrate how they influence the continuing and iterative nature of change.

9.1 Analysis and interpretation

As in Chapter 8, I carried out the data gathering, analysis and interpretation processes simultaneously. I analysed the maps for concepts relating to equilibrium. None of the maps identified this concept as a dominant or high level (hierarchical) concept but there were frequent references to it across the maps. As an example, Knowledgeable Agent WI's map included a number of concepts that related to the broad idea of balance (See Fig.9.1. Full map Appendix 29).

In coding to 'equilibrium', I referred back to my understanding of equilibrium as expressed in the sensemaking template to identify the broad (but not ambiguous)

definition. My understanding of the code was refined as I identified each concept considered appropriate: “weighing up” (concept 30) obviously related to the concept of balance, so too “managing up and down” (concept 38) within the context of balancing flexibility of approach within the confines of a hierarchy (concept 47). Balancing timescales was implicit within concept 41 “management of medium and long term”. I reinforced the argument for its inclusion by referencing the interview transcript in which the participant referenced the pressure of dealing with the Chief Executive’s desire for WI and others at his level to focus on a 3-5 year strategy but they were being “dragged in by politicians to operational matters” (Knowledgeable agent WI Interview transcript November 2012). The transcript also supported the inclusion of Concept 5 “managing the political environment” and Concept 18 “Individual and collective morale” as part of observational or operational considerations of balancing.

Once I had exhausted the individual concepts, I looked at linked clusters containing the above concepts to identify what else I needed to include in the equilibrium code. “Weighing up” was linked to “risk management” (Concept 20) and the balance between a generally risk averse organisation and Elected Members who were more inclined towards risk-taking (Concepts 28, 9, 10). Again, this perspective was informed and substantiated by interview notes. Allied to this, the concept of “weighing up” also led WI to consider and act in a pragmatic manner (Concept 25), not simply as a means of balancing organisation and Member interests but as a means of reaching solutions and outcomes (Concept 22). Reference to interview notes confirm WI’s recognition of the need to manage both the

“theoretical and organisational directives (concept 45) and the demands of elected Members who “don’t want to let go of pet projects” (WI Interview notes November 2012).

The final reference to the concept of equilibrium was WI’s reference to “Managing the schizophrenic positions” of collaboration and a corporate perspective (Concepts 13, 14, 15): as he stated in his interview “We are expected to be all things equally –customer focused and protect Council interest, to negotiate best contracts and best terms” (WI Interview transcript November 2012). In any map, where one concept links away to other concepts, this is a possible indication of choices, process or tension, and therefore there is a visual clue to be examined.

In addition to exploring concepts related to equilibrium, I also broadened the search to include consideration of equilibration – the balancing of internal expectations and understanding with external experiences. This relational concept was identified more readily in the transcriptions and interview responses than in the maps, where participants discussed their attitudes to change and the extent to which they feared or embraced it. (See Table 6)

Table 6 Search for Equilibration

Equilibration	Empirical examples
<p>Assimilation</p>	<p>“You want to change because you want to do something better and personally I have a strong desire to be always better and do better” (DEI)</p> <p>“I see myself as someone who tries to make a change: someone who makes a difference” (SA)</p> <p>“I question, seek confirmation, suggest, challenge, explore, reconfirm, reassure” (RE)</p> <p>“I’ve never had a particular difficulty with managing change and I suppose I do welcome an element of change” (SH)</p>
<p>Accommodation</p>	<p>“I don’t find the change in recent times has been advantageous to me and lots of things I find myself slightly conflicted about because I don’t necessarily agree with the way things move...a devaluing experience” (HAR)</p> <p>Part of my leadership/coaching role is to get big personalities to pipe down and give...timid but technical people some time and space so I give the latter people tasks to do so they ...become more comfortable “(CAI)</p> <p>“I was marginalised and hanging on by my finger nails...so “conform but don’t lose your marbles”...understanding culture as it stands...shape it and learn about self and organisation as go through it” (CH)</p>

These assimilation examples provide indicators of individuals comfortable with change, and embracing it for a variety of reasons. There is a relationship between the inner self and the environment that I have interpreted as assimilation based on contextual data

supporting that perspective as being successfully reinforced for the individual. In contrast, the examples of accommodation, having to develop and shape new knowledge structures show an inner struggle with CH eventually finding resolution between his sense of self and what the external organisational culture demanded. Both HAR's and CAI's example also infers a level of discomfort, in the latter case, for those to whom CAI sought to give space to develop. It was here that the concept of transitions became apparent as individuals were between old and new stages, experiences or perspectives. One map showed a significant example of assimilation occurring as change took place. CO (See Fig. 8.5, s8.1.4) developed knowledge structures to make sense of her career development and maintain her mental wellbeing. As organisational change occurred, her knowledge structures adapted to the environment while still maintaining career focus and mental health options.

Once all maps were mined for references to particular codes, I selected examples of data providing the richest detail, variations of expression of equilibrium, contrasting perspectives or kinships between the research participants. I also mapped the cognitive processes being completed, working out how they fitted together and connected with each other (See Fig. 7.3), which in turn informed a better understanding of how the transitions in the sensemaking process worked.

In the next section I provide examples of differentiated equilibrium.

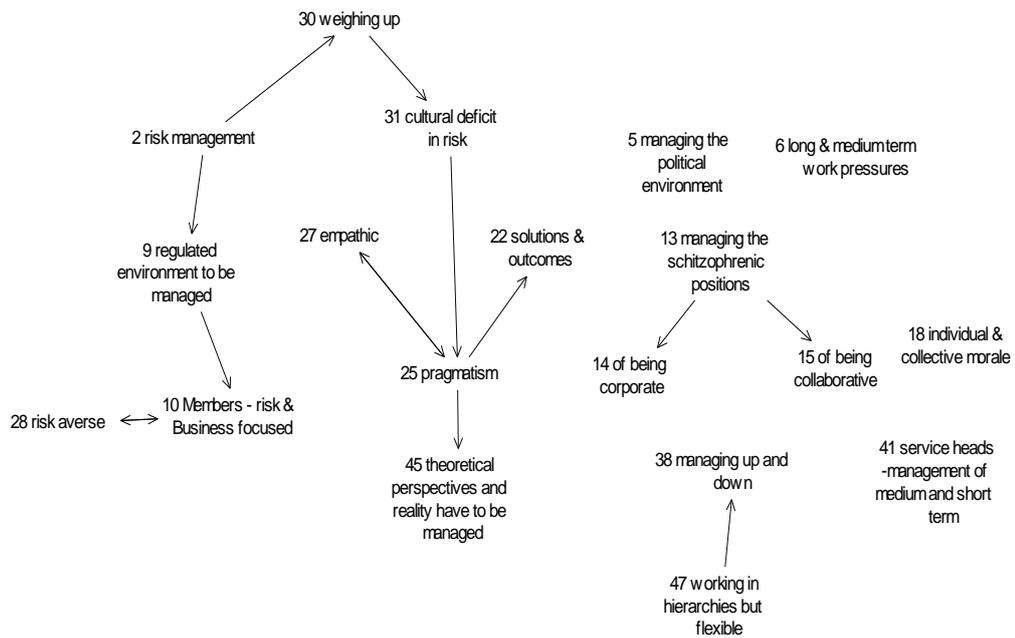


Figure 9-1 Tracing Equilibrium

9.2 Equilibration in Action

There are assumptions made about the context in which equilibration is examined in this operational setting. First, because the research cohort analysed is a group of knowledgeable agents, they are viewed as reflexive and purposive, as discussed in Chapters 3 and 5. Therefore, the assumption is made that their aspirational objective (intentionality) in any change episode, is to work towards achieving a greater level of control over their own environment. The second assumption is that levels of control are not defined externally. A level of control, or balance, is an internally defined level of equilibrium, so there is no

hierarchical dimension to it. In other words, operational control does not correlate to cognitive control. The third assumption is that levels of equilibrium are temporally situated.

I have selected five examples of disequilibrium, because I wanted to show reactions to change are not the basic equivalencies of adoption or rejection. There are many more gradations, and eventual responses are influenced by the outcomes of the sensemaking process. The examples selected demonstrate different change scenarios, different experiences of disequilibrium and a range of responses serving to regain or maintain control. These are summarised in Table 7.

Table 7 Role transition and equilibrium

	Context	Disequilibrium experienced	Response
1- WI	Role Transition	Over an extended period	Pragmatism
2- HA	Continuous Change	Minimal	Application of Cognitive Discretion
3- EM	Planned Change	Loss of Influence	Cognitive Adaptation
4- CH	Planned Change	Threat to Identity	Cognitive Adaptation
5- BE	Planned Change	Threat to Identity	Disequilibrium not resolved in organisation

9.2.1 Disequilibrium during Role transitioning

For WI (Map Appendix 29), the level of disequilibrium experienced was related to his role. Although he had extensive experience of change, it was the demands of the new role that triggered the need for sensemaking, and the development of new approaches and methods. The following vignette, drawn from interview and field notes, provides background to WI's change episode.

WI said he was on a learning curve after his job changed in summer 2012 [4 months earlier], his new role was being developed and he had taken on some new teams. WI was on a one-year management development programme where he was drawing on guidance given about techniques to use. Role play was used to act out change scenarios, and WI recognised the behavioural change skills he was working on were about adapting to new situations, and also the need to manage himself, his boss and his teams (WI Interview notes November 2012)

Context

When asked to identify a change episode, WI said change was ongoing. The restructure he had just experienced was part of a directorate wide strategy to provide joined-up services impacting on physical and economic aspects of internal and external areas of the council. When we discussed how and where WI felt empowered to act or influence, he talked about the pressure on him from Elected Members to roll out corporate actions and to deal with operational matters. The Planning-centric focus of the Director and the directorate change agenda also had to be considered. By influencing and facilitating, WI felt he was able to work around these issues and make the changes he considered important in creating change. WI

had formal and informal networks he used to support his aims, and he related to certain people because they were like-minded. WI's priorities in working through his change agenda were to shift individuals and teams to a more collective approach rather than the current silo mentality, and to manage intransigence in some people. (Interview and field notes November 2012)

WI was working to balance a managerial and a strategic role. He had new teams working for him, who all had conflicting views of the objectives they were working towards. WI also had to develop a relationship with Elected Members, and although he was trying to adopt a strategic role, there was a "constant operational pressure to 'do' so it's difficult". Part of the pressure was to "manage [political] expectations, steer decisions, and things aren't always black and white".

Response

WI's response to change may be identified as that of an "Institutional Entrepreneur" (Lowndes 2005:299) as he drew on certain elements of his past experiences and skills he considered were still pertinent. In reflecting on and appreciating how he worked 10 years ago, and how he worked currently, WI developed a plausible argument or reasoning that helped him to make sense of how he worked differently now, but still maintained a sense of self-identity as a people manager:

I'm a people manager really, so I'm not an overly technical person, or overly process driven...I'm not wedded to being a [technical role]. I used to be and that's part of

maturing I think. Probably 10 years ago I was [wedded to it], but as I got older, less so and my job is taking me away from that. (WI Interview transcript November 2012)

Although WI did not specifically identify the differences between a technical manager and a people manager, it is clear, that for him they were different. The knowledge structure that conceptualised the people manager, the fit between his current working environment and the management skills he considered he required to do the job effectively were linked to a role of social interaction rather than technical knowledge.

This example demonstrates multiple levels of consideration as WI balanced his knowledge structures with external changes taking place. There were different roles, different time-frames, and an appreciation of having to adapt. Weaving through that were indications of WI setting his own level of discretion, his “personal development perspective” denoting a desire to improve and mature, an appreciation of what he was ‘*about*’ in terms of intentionality, and a sense of needing to know the world. In this final quote, he explained how he made sense of reactions to change by referencing the Grief Cycle (Kübler-Ross 1969):

They call it the change cycle ...they compare it with the grief cycle so as I’ve got older; I’ve tended to accept that’s what’s going to happen. It’s almost a natural human function, if you try and bypass it [change], it will always come back later so you almost have to plan for that. (WI Interview transcript November 2012)

Although acknowledging there were areas in which he had still to develop competency, there were also areas where WI’s experience and status in the organisation meant he felt more confident about challenging some of the ideas and views of Elected Members than he

did 10 years ago. WI's reflexive approach enabled him to use his past experiences and memories to make sense of the present.

9.2.2 Minimal Disturbance to Equilibrium

In this example HA's perspective and experience of change, bound up in his knowledge structures, created a low level of disequilibrium that could be resolved through assimilation.

(Map Appendix 20)

Context

HA described the change environment as constant with 3 year budget cycles, and management plans "can be out of date before we get them". Structures changed every 3-4 months. Nothing was settled and "we never complete a change cycle" (Interview notes December 2012). HA did not express any sense of disequilibrium. His view was "If you're part of the change, you can steer it".

Response

HA adopted a dual approach to responding to change. The first involved structuring his area of responsibility where practices and processes were embedded and habitualised, in the manner that Giddens called "routinization" (Giddens 1987:376). The second approach involved anticipatory or creative thinking: projecting forward to anticipate issues and demands on resources and services, then planning for those events now.

In the following excerpts from HA's map, there are three knowledge structures illustrating how HA constructed an environment that can respond to change both current and in the future.

HA understands his role as linking the strategic decision making and operational elements of his service area. By embedding and habitualising processes and procedures serving the demands of continuous service improvement, HA feels able to respond effectively to any change, including the two unexpected issues that had arisen before our interview. HA understood his role and always felt empowered to act; "[it's the] way I am. I react to situations and tailor the business to meet the challenges. [It's] not change for change sake". In meeting the challenges of which he spoke, HA set up a process for reviewing what was required. Within the process outlined in Fig.9-1 are routines and taken-for-granted ways of working so HA's staff feel secure in knowing what is expected of them. In embedding processes and procedures all of his teams adhered to, HA was able to provide a sense of continuity and empowerment in a dynamic environment:

[The] pace of change is quick and constant. Nothing is settled. [We] never complete a change before the next one...not change for change sake...This way of working, people felt comfortable and embraced it.

In Fig.9-1, the process of challenging and testing new ideas and methods of working before making recommendations to the decision-making Senior Management Board is identified (Concept 25). HA identifies his role as Chair is to link strategic and operational processes (Concepts 4, 5 and 17). HA's role is to decide on the appropriate membership of a

group, direct the parameters in reviewing ideas and identify outcomes required, before formalising recommendations, once the challenge and test activity has been completed (Concepts 31, 23, 20 and 21).

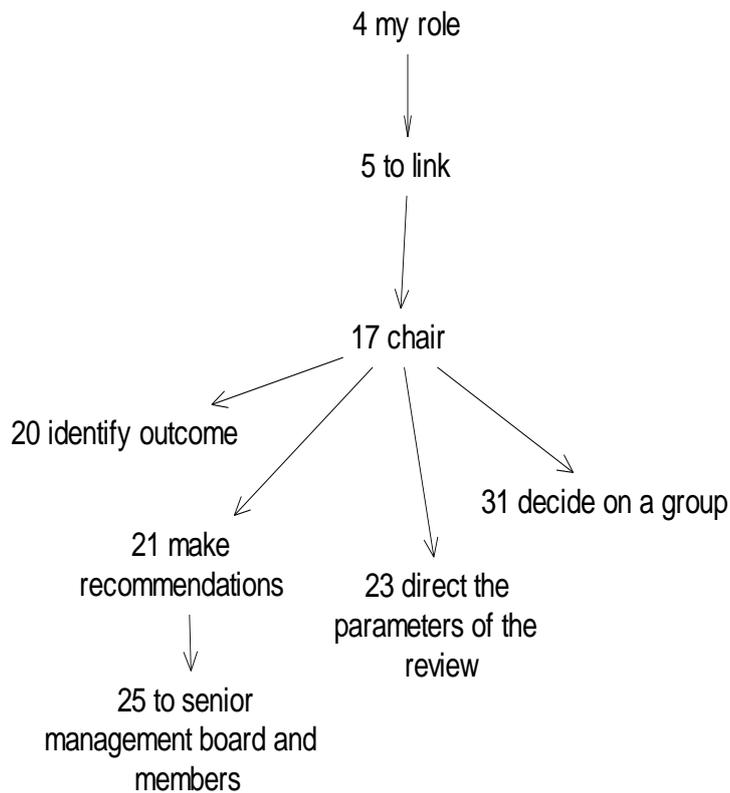


Figure 9-2 HA in Control

HA was able to entrust the day-to-day management of the service to his team: “I let people do their job”, remarking that he could “come to work at 6.30am and leave at 8.30am, and my business would run”. Part of why the management environment was set up and maintained in this way was because it mirrored a broader organisational model (See Fig.9-2):

part of the organisational culture that adopted a global view of the council as a joined up organisation (concepts 19, 24) (Field notes December 2012).

19 this way of
operating is part of
the organisational
culture

24 based on global
view of the council

Figure 9-3 Embedded Practice

Within the stability and routines of the managing processes, HA imbued a degree of flexibility into challenging and testing by providing “broad brush strokes“(concepts 14, 26, 27, 30) (See Fig.9-3).

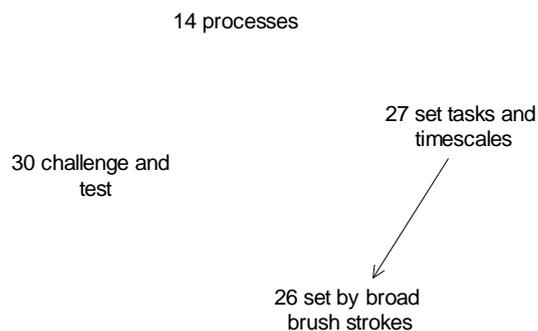


Figure 9-4 Processes

The way in which HA cognitively framed successful and effective service delivery was externally manifested in the systems he set in place and reinforced by achieving desired outputs: a stable management structure able to adapt to circumstances even if he were not present, budget savings achieved, and enhanced service with fewer staff.

HA also focused on the “challenge and test” side of his work by examining ways to improve, and asking “why are we doing it?” Lowndes noted “Embeddedness is not always an obstacle to institutional change” (2005:299) and here it provides a structure for HA’s creative approach as he explained:

[I] looked at the job descriptions and rationalised them. Morale was low, [I] talked to [the staff], looked at what they were doing. [We] saved time by not doing certain things. Over 18 months, one third [of staff were] gone, nothing broke and there’s a buzz in there.

HA exercised a high level of discretion: he understood his role (identity), knew and understood what change would be required from a cognitive basis, and what it was ‘*about*’. His organisational legitimacy provided him with the ability to create an environment that matched his internal understanding of what an effective change management structure should be. HA displayed a minimal level of disturbance to his organisational equilibrium. He had plans and strategies in place to address the changes he faced. HA considered there was flexibility and structure in the processes, management and staffing resource to satisfy his need for order and therefore he had the optimising environment that enabled him to engage in anticipatory sensemaking. HA created an environment which he viewed as having resilience in the face of continual change, there were connections to decision makers.

Taken-for-granted routinisation and familiar processes had flexibility build in through HA's "broad brush" approach, offering staff a discretionary level of management within bounded frameworks to respond to change.

In the next example, EM resolved her lack of control by focusing externally and working around the issues she faced.

9.2.3 Higher Level of Disequilibrium and Regaining Balance

EM viewed her inability to influence change as disequilibrium. Her previous ways of working were no longer applicable and she was unsure how to move forward. The following vignette offers some background to the change episode (Map Appendix 22).

EM had been made redundant twice before so considered she was not fearful of change as others might be. EM had completed a Master's degree in economics, and had also completed an intensive course on collaborative partnerships. EM spoke passionately about the work she had been doing in influencing change outside the organisation, and across the organisation in areas where she felt able to operate. In the interview EM didn't want to arrange her concepts in the map as hierarchical; she described them as circles emanating from her work as a focus and drew a shape (represented in Fig.9-6). She was one of only three research participants who wanted to alter the layout of their concepts. Time prevented EM from rearranging the concepts in this way. (EM Field notes November 2012)

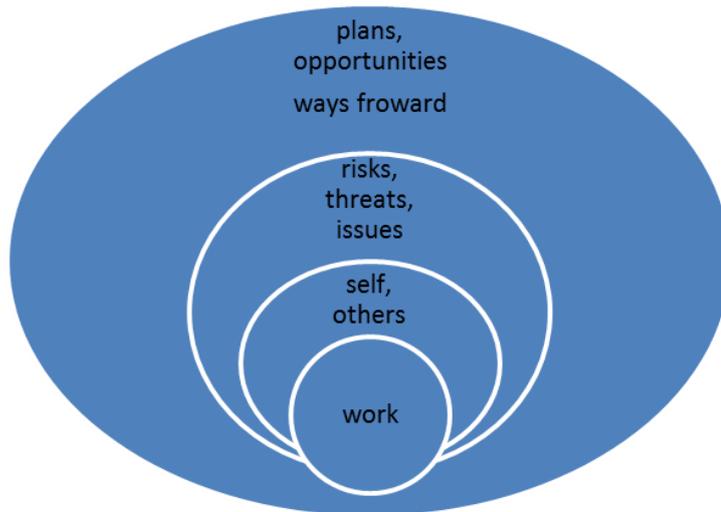


Figure 9-5 EM's Alternative Map Layout

Context

EM experienced disequilibrium when she was unclear about how she could carry out her work within the confines of the new role she had been given. As the result of a recent restructure reducing her ability to influence decision making and present different options for change, EM felt she had an expertise that was now being blocked. Considering this was detrimental to the service and the third sector partnerships she had developed, EM's approach to the barriers she faced was to work around them.

One of the concepts EM produced in her map of change was "Lost Access" (See Fig.9-5). EM's interview revealed this referred to a situation where she lost ownership of her role because of a reorganisation of her area of work. This loss of ownership was her inability to influence the decision making process in a way she had been able to, prior to the reorganisation. EM then became locked into vicious cycles (See Fig.9-5) (Concepts 31, 48, 50,

51, and 52) informing her perception that the decision making process was failing. This failure was linked to a lack of conceptualisation (Concept 28), causing a process/change blockage (Concept 37) as a result of a lack of risk (Concept 36), understanding (Concept 35), confidence (concept 33), and understanding of different options (Concept 34). The lost access related to EM's inability to offer this conceptualisation because she was now out outside the decision function.

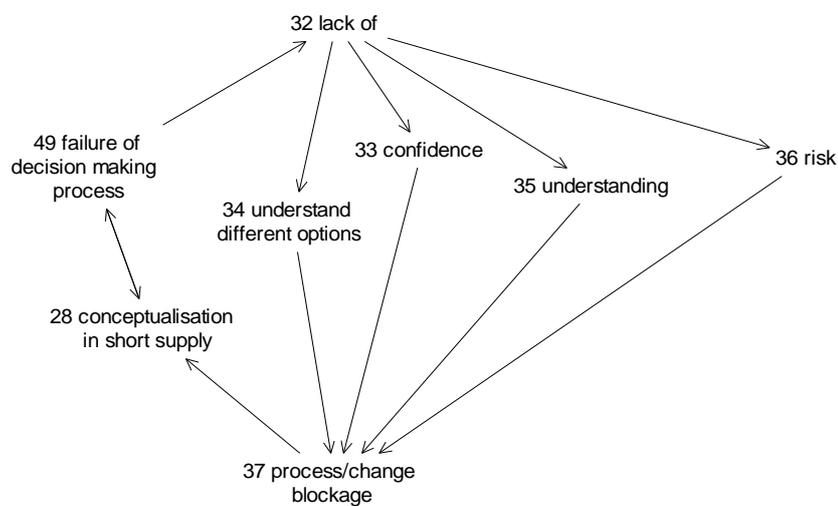
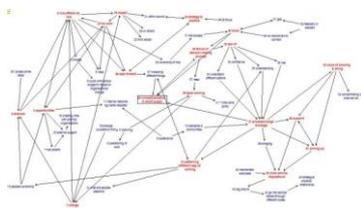


Figure 9-6 EM and Lost Access

(Full map Appendix 22)

Response

EM considered she had a contribution to make in creating an optimised organisational and personal environment, yet did not have the organisational power in directing change. To regain a level of equilibrium, EM identified options for addressing the structural barriers she faced. To counter the paucity of available options, EM cognitively reconfigured how she perceived her work could be carried out: repositioning her work and modelling different things was a way to counter opposition. EM looked for support from individuals within the organisation, and with external organisations. Getting people to adopt different ways of working engendered new alliances, and these created new spaces in which to move forward (Concepts 12, 15, 2, 23, 26 and 27). As a result, a new virtual loop was created (See Fig.9-6), recognising developing opportunities in a new and dynamic environment EM considered she could influence.

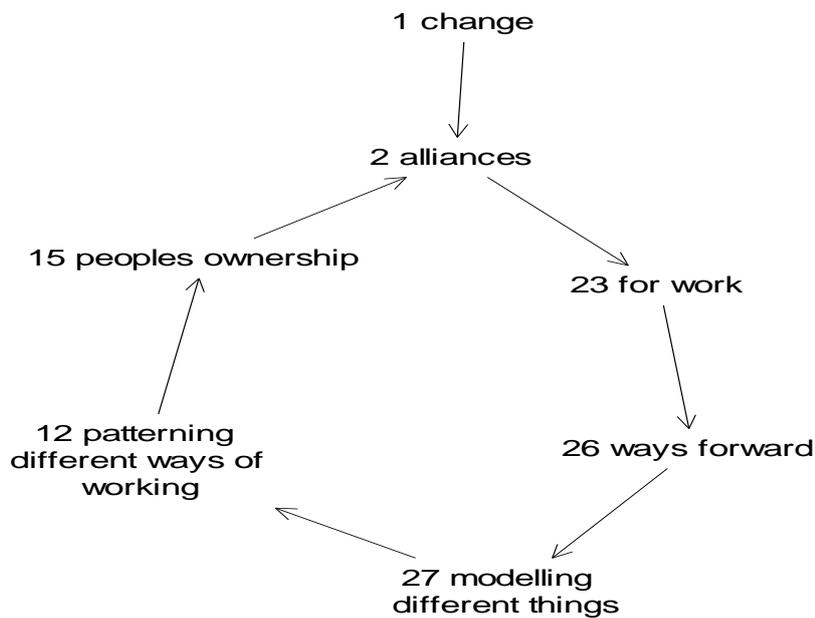


Figure 9-7 EM Virtual Loop

9.2.4 Disturbed Equilibrium and Active Reconceptualisation to Regain Balance

CH's sense of disequilibrium was triggered by a restructure, the introduction of a new Chief Executive and a lack of understanding about what he could contribute to the organisation as it developed. He actively reconceptualised his knowledge structures to generate a different and more empowering orientation towards his altered environment (Map Appendix 23). This vignette provides some background detail.

CH described the organisation he worked for as providing a range of services to the community and businesses, dealing with the voluntary sector and regeneration across the area of [name], summing it up as "life is [being] in contact with the local authority from being born to when you die". CH coaches individuals in other local authorities, having a leadership and management qualification. The change episode CH identified

was his involvement as part of the agenda to develop a skilled workforce to drive change forward. However, when constructing his map, CH generated concepts to describe his personal experience of feeling marginalised in a recent restructure, and how he was “hanging on by his fingernails”. CH considered his role was to utilise his experience as a skilled facilitator and to absorb the skills of consultants currently being used to implement the organisational change programme. The remit from his manager was to develop a more interactive approach to change. (CH Interview notes July 2012).

CH informed me he had been under pressure from his line manager not to attend the interview with me because of pressure of workloads, so he scheduled the meeting to take place in a local pub during his lunch break. CH presented a passion for the organisation, and showed emotion when he spoke of service to the local residents and businesses. CH also lived in the area so the local authority served his needs as well. CH commented on the mapping process as “therapeutic”, (CH Field notes July 2012)

Context

CH had gathered a series of disconfirming clues, signalling to him a disconnection between his role and how the organisation was being redirected. In the midst of a restructure that had left him ‘marginalised’ (Concept 46), ‘hanging on by fingernails’ (Concept 47), and with the ‘pressure of not being able to leave age wise’ (Concept 49), CH’s state of equilibrium had been disturbed by a power shift, creating a sense of vulnerability and a disconnection with organisational leadership.

Response

CH was able to pinpoint two critical junctures or turning points enabling him to regain control of his environment and create a sense of improved equilibrium (See Fig.9-7). The first

sensemaking shift occurred when CH altered his own perception of the Chief Executive (Concepts 25, 26 and 56). This altered state arose from his realisation that “*learning to play the game*” and what that entailed (Concepts 1, 2 and 11), was important if he were to survive in the organisation. In tandem with CH’s own realisation that he needed to act differently, he also observed the Chief Executive realising his autocratic style was no longer sustainable. On recognising the Chief Executive was considering change, CH identified particular options he could cognitively adopt (Concepts 26 and 27) in order to build trust in him (Concept 60). These were internal options and were not discussed directly with the Chief Executive. CH then deliberately sought to empathise with the Chief Executive’s position (Concept 56).

Realising the Chief Executive didn’t have all the answers (Concepts 58 and 59), which was another pivotal point in his restructuring of his internal knowledge structure, CH considered new options to re-engage at a strategic and operational level were now feasible, and he would work with the Chief Executive, rather than against him. In altering his perspective, CH subsequently perceived the personas or actions of others differently. This altered state generated new opportunities and directions for CH to pursue in order to achieve his desired equilibrium where he “got a voice again” and could influence and orchestrate the changes taking place (Concepts 39, 12 and 61).



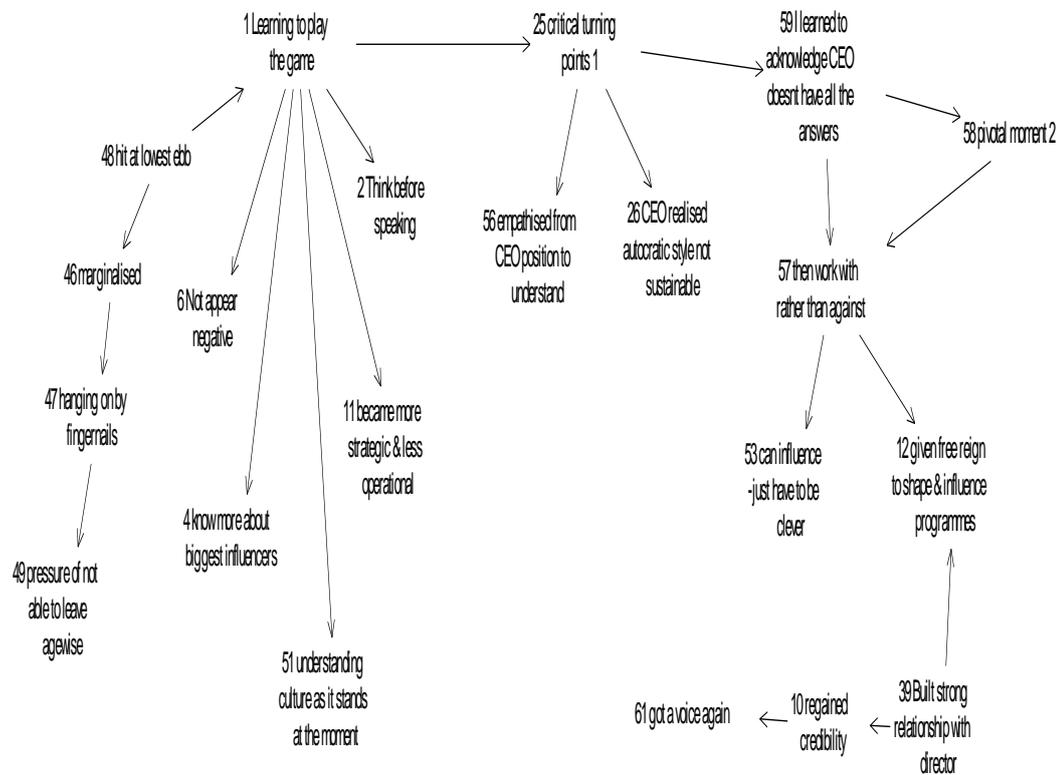


Figure 9-8 CH Critical Junctures

(Full map Appendix 23)

9.2.5 Disturbed Equilibrium and Balance is Unrestored

In this example, the disequilibrium experienced by BE was such that he had secured a post in another organisation and was leaving the organisation within two weeks of this interview taking place. The following vignette provides background information.

BE classified himself as a “knowledge worker”, providing research, data analysis and policy frameworks to services across the local authority which had a large remit (240

business units) that offered services, many of which were not forward thinking, and it operated a crisis management function. BE considered the most significant change episode affecting him was general financial austerity: “massive downsizing”. This impacted on BE because the priority to maintain frontline services meant the central core of support from knowledge workers was lost, and he wondered who would then carry out the forward thinking centrally. BE had been given a short-term contract and was now leaving the authority after successfully gaining a post in another local authority. BE felt empowered to influence change through subtle challenge. He would find out who delivers particular services and challenge them to think of alternative approaches or widen their thinking; “let me unblock your blockages”. Developing officer skills to be able to deliver effectively to Cabinet Members was also another means of exerting influence. In this change episode, BE’s priorities were to leave and go somewhere where he could better use his skills and experience. (Interview notes October 2012).

BE was able to look across the organisation because of the work he did with different directorates and teams. He was looking for meaning in the changes taking place but could not find it. One part of his map was about what he considered missing and where his sensemaking was situated. BE didn’t consider himself a change agent but at the end of the interview called himself a “blocked change agent”. BE felt depressed about how cynical and negative his map was, and had to reiterate his context: he was leaving and going through a grieving process (his admission), and was now analysing it in terms of moving forward (Field notes October 2012).

Context

BE was unable to find the level of resonance between his internal expectation of how successful decisions are made, and what was taking place in the workplace. With an identity rooted in a research-based and academic background, BE considered the analysis for change and implementation was “knee-Jerk” and “driven by financial objectives” rather than a

“rigorous evidence-base” (concepts 10 and 11). The disconnection between BE’s internal and ‘plausible’ understanding, where his role and contribution was clear, and the new environment, was such that the only option he was able to generate was to leave the organisation.

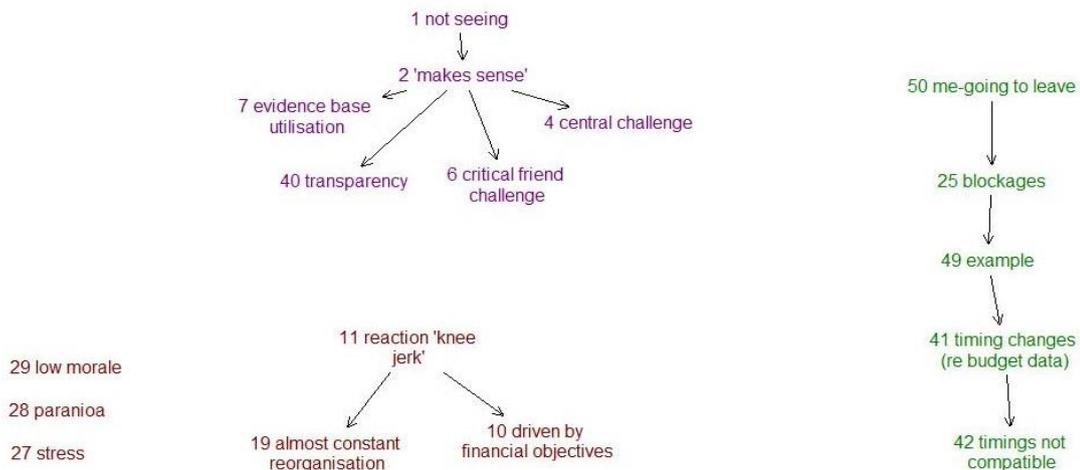


Figure 9-9 BE Disequilibrium and Response

(Full map Appendix 24)

Response

Excerpts from BE’s map (See Fig.9-8) illustrate how his argument for leaving was constructed from a sensemaking focus. First is the experience of change (Concepts 10, 11 and 19). This does not match expectations based on internal knowledge structures (Concepts 1, 2, 4, 6, and 40). Then, there are the physical effects of disequilibrium that BE can see (Concepts 27, 28 and 28). Finally, he provides reasons for leaving (Concepts 50, 25, 49, 41 and 42). The option of leaving was informed by what BE could *not* see happening

(Concepts 50, 1, 2, 4, 6, 7 and 40) and these concepts were the ones he considered would assist him in making sense of the change, recognising the right actions were being taken: challenge, transparency and use of an evidence base. Instead he perceived almost constant reorganisation (Concept 19) and negative emotional behaviour (Concepts 27, 28 and 29). The gap between internal expectations (What BE expected to take place, based on his internal knowledge structures) and the reality of the external environment, was too wide for BE to accommodate without jeopardising his sense of identity so he considered leaving was his only option.

In searching for meaning, BE found insufficient cues to create a level of resonance between what he understood and what was taking place, and he could generate no alternative options within the environment that would enable him to operate effectively. In deciding to leave, BE viewed this as an option to achieve an aspirational level of equilibrium within a similar structure but in a different environment. The changes BE considered he would have to accommodate were detrimental to his sense of self-value, requiring a shift in equilibrium he could not justify or consider sustainable. BE's cognitive consideration of the changes he experienced led him to a decision to leave the organisation. BE's actions may be interpreted as a lack of engagement with organisational change. However, according to Weick's explanation of enactment as a manifestation of sensemaking (1995), BE has drawn on his knowledge schema of a knowledgeable agent and defined his situation as "blocked" (Field notes October 2012). His response was to leave an environment that constrained him in the way he described in his map (See Fig.8-10). This perceived lack of action may be

considered as a conscious intent to do nothing because it is possible to have meaning without action, but not possible to have action without meaning (Weick 1995).

From these examples, summarised in Table 6, it can be demonstrated that the extent to which equilibrium has to shift in the process of equilibration, in order to create or maintain balance, denotes the level of cognitive change to be undertaken. The degree of shift in equilibrium is influenced by three factors. The first is intensity of experience, and with three of the knowledgeable agents, the change episodes highlighted different levels of intensity: CH hanging on by his fingernails, EM losing access to the decision making function so she was unable to present options for change, and BE finding the change so difficult to adopt, he had decided to leave the organisation altogether.

The second factor is the participant's individual level of equilibrium. HA was experienced in managing change, and viewed it as part of the routine of providing services "It's not change for change sake...quick wins, we set financial targets. This way of working, people felt comfortable and embrace it" (Interview notes December 2012). HA's level of change equilibrium was high, with a diverse range of knowledge structures serving to enact a resilient environment. HA's identity and intentionality were not threatened by the change episodes he talked about and therefore disturbance was minimal. EM was also experienced in managing change but the restructuring of her area of work affected her ability to influence changes taking place, so she produced cognitive strategies to regain a sense of control by realigning her understanding of relationships and networks to achieve the results she desired.

In the third example CH, an organisationally referenced change agent, was also very experienced but in the change episode he discussed, change had a personal and intense impact when he recognised the tensions between himself and the Chief Executive, threatening his ability to function effectively. CH actively changed his perspective to regain a sense of control and balance.

9.3 Defining Levels of Equilibrium

Although the previous section provided examples of knowledgeable agents engaged in equilibration, it could be argued they were simply reacting to change without personal autonomy or discretion: through automatic reflexes in the case of CH, or HA operating as the hierarchically based rational change expert. It might also be argued that EM's approach to developing new networks and relationships had no link to any overarching intentionality. EM's approach may be interpreted as a random alternative act, and that all these examples simply show situated reactions rather than cognitive agency.

In this section I respond to the argument by explaining how knowledgeable agents develop and demonstrate different levels of equilibrium. They engage with change in order to learn and create meaning, and to expand their repertoires of knowledge structures, driven by an aspiration to increase control over their environment. The resultant higher levels of equilibrium result in an equilibration process graduating from high levels of accommodation to high levels of assimilation. This eventually opens up a creative space for

future planning. The three levels are classified as *situated*, *intermediate* and *multi-frame equilibration*. It is argued these levels create differentiated levels of cognitive agency.

The cognitive maps and interview data illustrate knowledgeable agents operating at each of these levels: PA was developing an understanding of how the organisation worked as a relationship between political and operational priorities (Appendix 21), WI was transitioning from an operational to a strategic perspective, managing the tensions of day-to-day processes with creating change strategies to shape the future intent of service delivery. HA had extensive experience of managing change projects and had developed a range of knowledge structures he could draw upon. There were process frameworks to satisfy current objectives, leaving HA with opportunity to mentally map out new strategies. In the examples I provide to illustrate the three levels of equilibrium, I differentiate them by considering them in terms of the sensemaking process: examining what they offer as explanation of context, equilibration, intentionality, knowledge structures. I then begin to define what each of the levels of equilibrium means, from the examples given. These are then summarised at the end of the chapter.

9.3.1 Situated Equilibrium

PA's ability to influence and create change in a purposive way was limited by the context in which he operated. With little practical experience of initiating or implementing change, PA's knowledge structures were primarily theoretical (Map Appendix 25). The vignette provides additional background.

PA had worked for the local authority for less than 10 years. He had a generic job description in facilities management and described the organisation as providing recreational facilities and outdoor spaces for local residents close to their homes. The change episode PA was involved in was the transformation of a public space. It was a major restoration project to the value of £7m and PA focused on the sustainability aspects of the facilities being developed as well as energy costs and the legal and health & safety obligations the council had to satisfy. When I asked PA how he made sense of the change process, he said he was unable to. Everything was moving at such a fast pace, managing the change had not been thought about, and he was of the view he needed to have done more shadowing of experienced staff before he was given a team of staff. PA admitted he was trying to be proactive and manage the succession planning process, starting with making a list of duties carried out by team members. For PA, a priority was focused on his perception that “politicians need to be kept happy” and the authority had a strategy to meet the requirements of Elected Members.

This was a complicated maps and PA talked himself through the connections between concepts, as if it was not an automatic awareness of how the organisation worked. (PA Interview and field notes January 2013)

Context:

Recent cuts to PA’s budgets resulted in fewer staff and role mergers. His development was based on “learning from mistakes made on other projects ...Learn quickly from mistakes you’ve made, learning off [one’s] own back and seeking support from colleagues but it’s not forthcoming”(Interview transcript January 2013).

Equilibration:

PA recognised he was constrained by a structure that “doesn’t take on change...we’ve continued to do it in the same way as always”, and he had limited scope to change it. “I have

to run decisions past him [his manager] before he'll agree or not". PA identified the areas where he could exert a change, as in creating a successful succession planning process:

"What I did with my staff, made a list of what they did...what was high, low, long-term priorities on their side. [That's] something I'm doing again with one of my staff who is leaving next year, so I can get that appreciation and understanding before she leaves".

Intentionality:

PA's focus, desire to achieve, was in developing positive relationships and he was clear about the benefits to be achieved: "Relationship management is key, and how you deal with the different partners, council, external, team members. The better they are [relationships], the more successful you'll be in bringing in change".

Knowledge Structures:

PA had observed other knowledgeable agents whom he considered successful, identifying the strategies they adopted and the outcomes achieved. PA's sensemaking emerged as he defined his knowledge structure by rehearsing aloud using the conditional tense when constructing his map (See Fig.9-9):

Leaders should be driving it from the top...

Style of management you adopt should be different in different projects...

We should be able to use that resource...

We should be able to prioritise ...

That sort of strategic overview is not as focused as it should be... (PA Interview transcription January 2013)

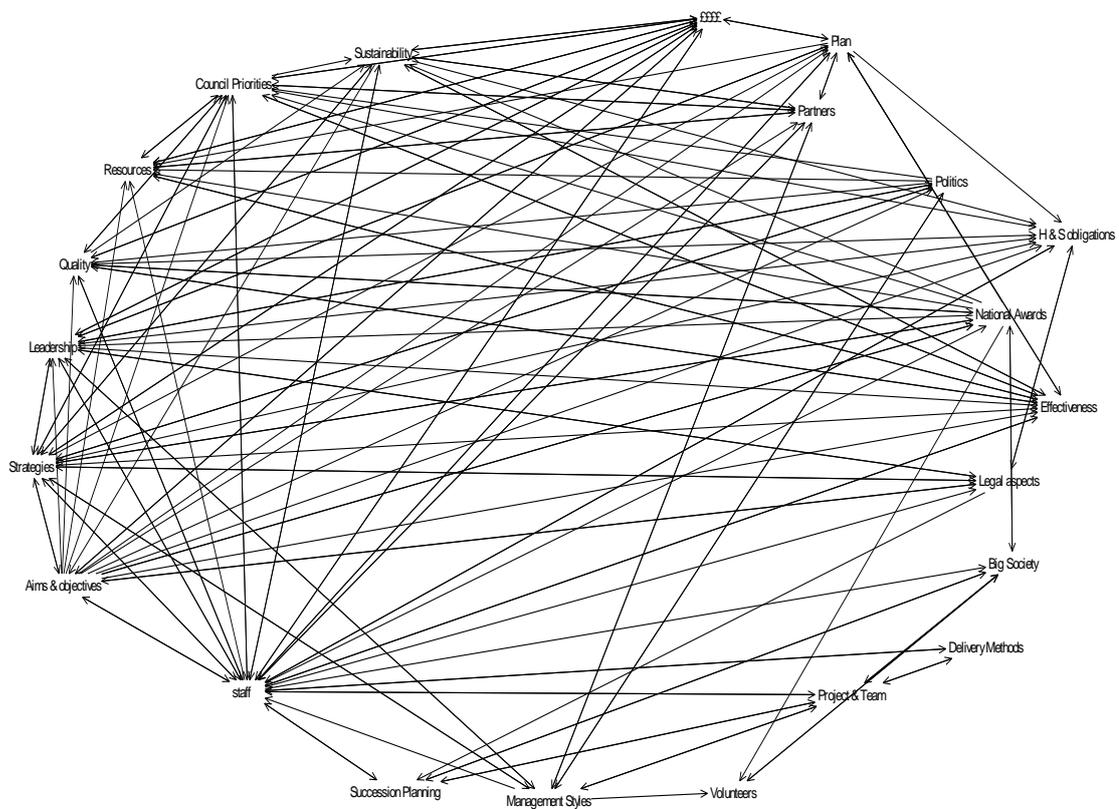


Figure 9-10 PA's Complicated map

(Full map Appendix 25)

Defining Situated Equilibrium.

When I was analysing PA's map, because the analytical reports showed no clear differentiation in key concepts, I began to remove concepts in reverse hierarchical order until I could reveal some of PA's prioritising. A story began to emerge as the narrative and map began to fit together, revealing essential connections. My analysis of the map (Appendix 8) shows the five concepts PA started with, when drawing his map and how he began to develop theoretical cognitive strategies. PA's level of change equilibrium is minimal because his frameworks are more theoretically than empirically grounded and change experiences are limited. Therefore, if PA were to experience change which was significantly different to his current situation, there would be a high level of disequilibrium.

This intra-subjective level of understanding denotes sensemaking at an individual level with very limited exchange and interaction of ideas. In addition, PA reported he received no feedback (cues) in terms of where success resulted in any of his former projects. It was only the mistakes that were identified "He'll [the manager] let you know it was the wrong decision, and should have had a conversation about it". Models and practices of successful change were not experienced, only observed in the actions of others. There was minimal discretion to act independently. This lack of diverse knowledge structures, linked to vicious feedback loops and with little opportunity or space to create familiar processes to provide cognitive security, PA's level of equilibrium is constrained by his situation.

Having defined situated equilibrium as operating at a theoretical or conceptual level of understanding, with limited empirical knowledge, the intermediate level of equilibrium

marks a level of transition. In WI's case, the transition is from operational to a more strategic, longer-term perspective, but the level itself may be considered more broadly as a transition from domain to domain: in BE's case, the transition to a new organisation might generate an intermediate phase of equilibrium. SA might experience intermediate equilibrium when the restructure with an external organisation takes place, and two separate cultures have to merge. It is important to note therefore, that all the examples are indicative of levels of equilibrium in a given context. Multiple identities can mean individuals exhibit all three levels in different aspects of their lives, and none are fixed states, dependant as they are on environment and their interaction with it.

9.3.2 Intermediate Equilibrium

Earlier in the chapter, I identified WI as experiencing disequilibrium during his transition from an operational manager to adopting a more strategic role (See Section 9.1.1). The transitioning is echoed here as WI exhibits a level of intermediate equilibrium, whereby he has constructed a range of knowledge structures, but is still operating in contexts where the knowledge and understanding he has accumulated, is insufficient to be able to fully assimilate the effects of the altered environment. WI still has to accommodate new knowledge and experiences before he is cognitively in control.

Context:

WI had recently been appointed to head up a new merged team of specialists, as well as being instructed by the Chief Executive to start developing relationships with Elected

Members to gain support for longer term strategies. He admitted the competing demands of developing a cohesive team, building political relationships and scoping a vision for longer term change was challenging at a personal and professional level. WI needed to work more strategically but was drawn into the demands of operationalising a cohesive team approach which included setting priorities and a clear vision of how individual and team responsibilities meshed (Interview transcript, November 2012).

Equilibration:

There were three main areas WI focused on to create control. They are shown in separate clusters in Fig.9-10. The first was about clarity: clarity on the business strategy enables WI to challenge the team where there are competing individual and previous team interpretations of what the strategy should be, to begin to unite disparate views. Clarity on the business strategy also aided WI's own sensemaking "I like to know where people fit in, how they fit in individually and collectively within the business plan and how the team relates to others". Where there were challenges to the new direction, WI was able to define what the business outputs should be (Concepts 7, 51 and 52). Business strategy clarity meant WI could define what the business outputs should be when questioned (Concepts 7, 16 and 24).

The second area focusing on WI's sense of developing control was in building relationships with Elected Members. Concepts 5, 33, 34, 35, and 36 demonstrate how WI was focusing on longer term objectives by working on strategies to create trust and challenge in his relationship with elected members. He identified the subtleties of political relationships required a nuanced use of language, presenting options and consequences as

an argument focused in particular directions to achieve certain outcomes: “Pragmatically, it’s not the line of least resistance; it’s just trying to get solutions and get an outcome”.

The final area WI concentrated on was managing and anticipating (Fig.9-12 Concepts 6, 22, 23, 25, 42 and 48). With his attention on workforce planning, WI had to both look for immediate solutions and outcomes at a pragmatic level (such as in the example of uniting his team with a clear strategy), as well as focus on long and medium term pressures. He also had to address the issue of working with a Human Resources perspective, where there was a lag in the development of personal development reviews and job-descriptions in keeping up with a more pragmatic and dynamic landscape (WI Interview notes November 2012).

Intentionality:

“I have to revise, counsel, and influence. I am integral to that process and have a role to engage with staff, shareholders, “[Its] part of my job”.

Knowledge structures:

WI developed a repertoire of knowledge structures to respond to the changing environment:

1. Skills base:

WI had accumulated skills and experience in technical environments, in influencing and engagement options, and language schema. This accumulation was not an unconscious act but active cognitive agency.

2. Reflexivity:

WI refined previous knowledge structures to make them applicable in current situations.

3. Social Interaction:

New connections in communities of practice were created to learn from others and share effective change strategies: “There is cathartic comfort in knowing other managers share similar dilemmas. No magic bullet and we share peer-proved discussions, analysis”. (Interview notes November 2012)

4. Analysis:

In analysing current situations, WI identified the need to challenge and to find new and appropriate ways of communicating.

5. Conceptualisation:

Change was conceptualised as something WI could control through skills development “What can I do well as part of a learning approach?” (Interview notes November 2012)

6. Self Efficacy (Bandura 1982)

WI had a belief in his ability to produce the level of expertise required in particular situations: “You learn how to use language and nuances. As you develop that working

relationship, some of the barriers start to come down and they [Elected Members] start to give you insights". (Interview transcript November 2012)

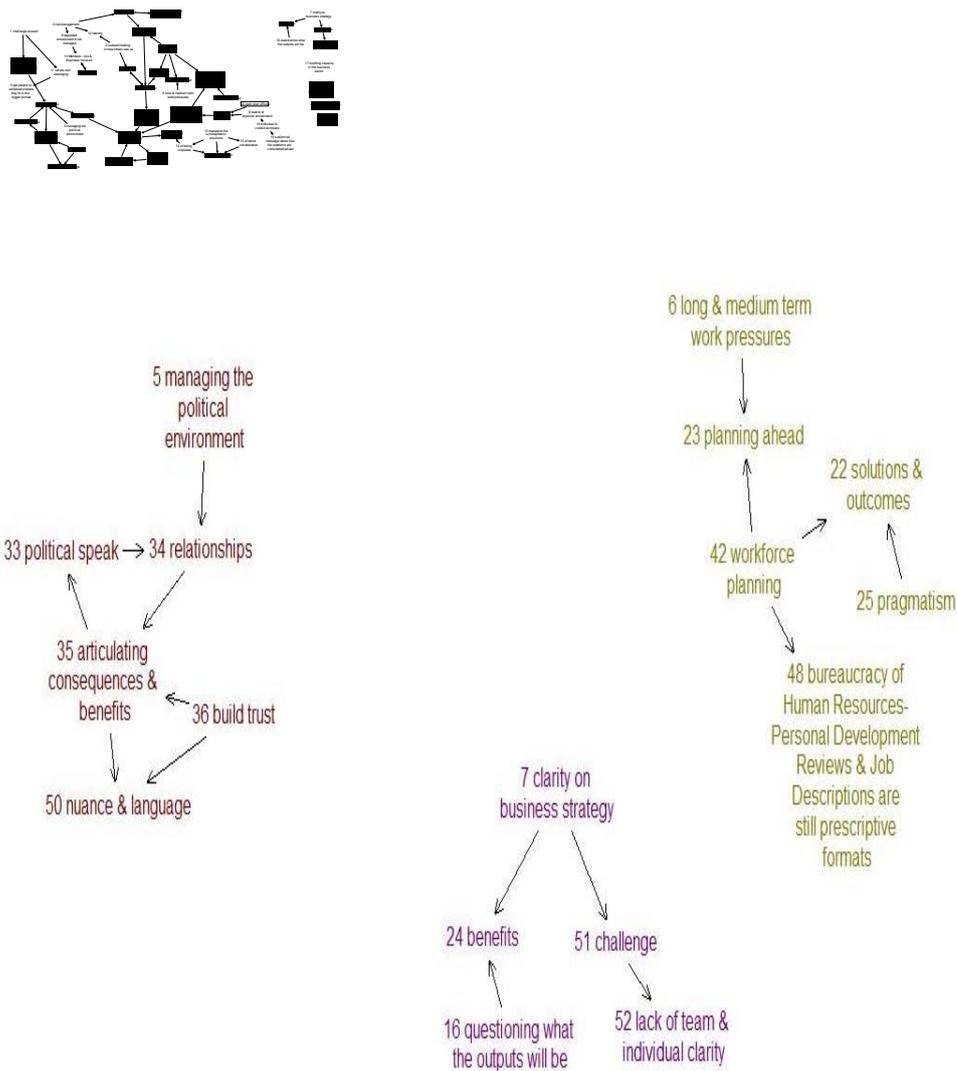


Figure 9-11 WI Intermediate Equilibrium

(Full map Appendix 29)

Defining Intermediate Equilibrium

WI exhibited a capacity to manage a range of change scenarios, i.e. his level of change equilibrium provided a greater degree of tolerance to change than those with a situated level of equilibrium. His ability to balance his expectations of change and new knowledge was as the result of extended and varied knowledge structures

WI explained how change created experience, and experience developed skills and knowledge. In tandem he realised a new organisational identity such as that of a senior manager, demands a different perspective to positively influence others and ultimately change the environment. He had moved from a perspective concentrated on technical aspects to that of an influencer, as this quote shows:

When you're a junior [manager], you look at things with more technical black and white terms... As you get more senior, you have to engage and build trust...I'm far more confident [now] about challenging... you learn how to use language.

However, he had not yet achieved a level of equilibrium that afforded him the ability to create an environment in which his level of control was fully optimised.

9.3.3 Multi-frame Equilibrium

In this final example of equilibrium, I consider how HA presents a range of different knowledge structures in responding to change, exhibiting a low level of disequilibrium. My field notes (December 2012) record HA as having difficulty in being able to identify concepts beyond the first tier of hierarchy, because he implemented his processes so routinely. I

asked questions about how he broke down the main concepts but he was still unable to say. On my suggestion, we began to identify and list concepts and options based on the answers HA gave at the beginning of the interview. When we reached the linking stage and defined how he chaired meetings, HA became more fluent. (Map Appendix 20)

HA used typified scripts in structuring day-to-day operations, images from different contexts (rail ticket example) were adapted to provide a new knowledge structure to consider how the work for which HA was responsible, could be streamlined and made more efficient. Engaged in anticipatory sensemaking (Klein et al 2007), HA was looking at different ways of reducing budgets and streamlining services.

Context:

HA was in a strategic role, needing to reduce waste and optimise available resources.

Equilibration:

HA had an extensive portfolio of functions to manage with a team of managers running the day-to-day operations and HA became involved when exceptional circumstances arose, as they did on the day of our interview (Vignette Chapter 7). According to HA, the aim was to continue to plan for service provision that could be enhanced where possible (Interview notes December 2012). "I feed into my management team and they manage it. I just pull it all together...I come to work at 6.30. I know I could leave at 8.30., and my business would run. My team knows what is required". Having set and embedded this management process,

left HA with time and capacity to direct his focus elsewhere, exploring the rigour of processes:

Insurance claims [against the council. I sat with [our service partner] and I don't think they challenge enough. I've looked at what other authorities do. I've taken 50% of the budget out so we have to do it. (HA Interview transcription November 2012)

He was also questioning certain routine practices, triggered by his experiences and knowledge structures: "From a management course, they provided the example of ripping tickets in half at railway stations – [rail staff] has always done it. That stuck with me... [I] looked at job descriptions and rationalised them". HA's intentionality was about his belief in his ability to manage effectively and to create order in managing: "If I can see it, I can manage it... I like things to be in order"

Knowledge Structures:

HA displayed a number of knowledge structures during the interview (See Fig.9-11). There were problem-solving knowledge structures: two major incidents had occurred in the area on the morning of the interview, as well as a logistics problem. HA had to implement alternative traffic solutions, and gave his drivers cash from his own account to pay for fuel (See vignette Chapter 7). HA applied an association knowledge structure: he used an observation from a management course about ticket collectors ripping tickets in half and wondering why they did it. The image had always stuck with him as a prompt for questioning why things are done, and on that basis he reviewed job descriptions and rationalised them. HA associated success in the organisation with four components: having a sense of direction:

“to get better service”, understanding the importance of front-line staff “If [you] upset front-line staff, it can have a major impact and effect service delivery, and sickness levels which can cost us a fortune”. The third component was process: “Ask questions, evaluate and decide as a group...We challenge one another, test what we set out to do”. In order to carry out these processes effectively required mechanisms: “forward planning... setting financial targets... identifying quick wins”.

Finally, there were process knowledge structures in place for the team and how they should work, and for HA in reviewing processes and challenging them e.g. the insurance claims being made against the council , and the replacement of light bulbs at pedestrian crossings, which have already been discussed. In structuring his environment in this way, HA established control by training staff to work to particular standards or outcomes within autonomous settings, enabling them to challenge and test decisions and processes (concepts 18, 19 and 30). HA recognised his role as the link and designer of processes and systems between his team, senior management board and members, and an improvement group (concepts 17, 18, 21 and 23-26). Agency was evident in the planning and implementation of the right sort of team structure as HA recounted how he set up a new structure, and communicated how and what he wanted:

I inherited [12] managers. Now I've got 4. I integrated services and some [managers] had to go...people I've got now I recruited and put in place. [There was] a gap between what I do and operations management...I learn to let Managers manage the work. They need to understand the outcomes I want. (HA Interview transcription November 2012)

Having established an environment that could cope with change without him having to accommodate new experiences, HA articulated anticipatory knowledge structures: in planning for the future, he brought in systems thinking consultancy, and based on that knowledge he invested in cognitively structuring actions to provide financial and resource savings in the longer term.

Defining Multi-frame Equilibrium

The repertoire of cognitive frames HA developed informed how he thought about change and how he generated purposive action. The repertoires also constituted the basis of organisational narratives, scripts and routines as HA provided sensegiving to those with whom he worked. In setting agendas and influencing people, this knowledgeable agent exhibited a power to influence in the ways he structured the environment, created relationships and networks imbued with meaning and a sense of identity for others. In turn, this created a space in which individuals were empowered to act. In acting, individuals understood what was expected, their purpose and boundaries, ultimately developing their own knowledge structures. By creating spaces of empowerment, HA also created space for him to review and reconfigure appropriate schema to inform actions in the current and future environment. This conveyed and informed a leadership role.

Knowledgeable agents with multi-frame equilibrium present a diverse range of knowledge structures across different temporal contexts, established through multiple or intense experiences of disequilibrium, subsequent sensemaking, perceived and documented success. HA had considerable cognitive and practical experience of addressing and managing

At this level of equilibrium, knowledge structures span current and future dimensions, cognitive models are grounded in experience or intensity providing low levels of accommodation, and environments are structured according to those models. In addition, sensegiving is an important factor in creating appropriate environments for minimalising disequilibrium, and identity is expressed within environmental structures.

9.4 Parameters of Equilibration

In this section, I have provided a typology of the three levels of equilibrium, defining the characteristics of each, based on the empirical study (See Table 8). I presented the typology in a relational setting. Having introduced situated, intermediate and multi-frame levels of equilibrium, and provided examples of how they influence options and decision making, this section identifies characteristics of each as a means of differentiation. Within each of the levels, there are indicators relating to repertoires of change schema, the extent of assimilation and accommodation of change, time-space dimensions, power and discretion.

9.4.1 Classifying Levels of Equilibrium

In classifying the characteristics of each of the levels of equilibrium, I have summarised the data at a generic level. In explaining the significance of the characteristics, I present a definition of what they mean.

Table 8 Characteristics of Levels of Disequilibrium

	Situated	Intermediate	Multi-frame
1-Change equilibrium consists of:	Limited repertoire of knowledge structures	Developing repertoire of knowledge structures	Extensive repertoire of knowledge structures
2-Scale of cognitive change	Extensive accommodation	Movement across the spectrum according to circumstance	Limited accommodation
3-Scale of cognitive refinement	Limited assimilation Self-efficacy limited	Movement across the spectrum according to circumstance Building a sense of self-efficacy	Extensive assimilation High level of self-efficacy
4-Information search informs:	Sensemaking	Sensemaking/Sense giving	Sense giving
5-Context	Immersed in the immediacy of the change	Awareness of future opportunities but currently undefined	Judgement and assessment focused primarily on future options
6-Discretion	Discretion perceived as limited	Influence creates influence	Ability to generate empowerment and provide levels of discretion to others

1. **Change Equilibrium**: This category identifies the range of change options available to the knowledgeable agent in responding to change. Range is defined by the breadth of options in any situation that has contextual similarities to the current source of disequilibrium. The level of similarity is defined by individual boundaries.

2. **Scale of Cognitive Change**: is defined by the degree of accommodation required to make sense of the altered environment. This varies according to repertoire of knowledge structures, temporal context and intentionality.
3. **Scale of Cognitive Refinement**: this is the corollary to the scale of cognitive change. If there is extensive accommodation i.e. experience and expectation create extensive dissonance, at the level of cognitive change, the result is new knowledge structures have to be constructed to find meaning in the new experiences.
4. **Information Search**: informs the sensemaking intent. The search for cues and anomalies in the new data and experiences serve different end purposes according to the response to change. For those who have limited repertoires, knowledge structures are applied to their own individual sensemaking. Those who have greater change repertoires have a level of expertise in dealing with change. Part of their role is then as sensegiver, in providing meaning for others to satisfy their own objectives of creating greater control over an environment. Getting others to see that vision and adopt it, increases control and optimises the environment in favour of intentionalised goals.
5. **Context**: this defines the change horizon the knowledge agent is able to scan. It is linked to knowledge structures and is about peripheral change vision. Those with limited repertoires are focused on searching in detail for sensemaking cues at a local level. Those with more extensive repertoires, need only look for outline shapes and cues to identify appropriate responses, and can therefore look beyond the immediate situation and anticipate future changes.

6. **Discretion**: cognitively associated and defined. Discretion is linked to the availability of appropriate change options for this change episode. Appropriateness is defined by its adjudged success in other scenarios and a judgement that the necessary resources can be replicated and utilised.

9.4.2 Relational Equilibrium

In introducing this chapter, I stated equilibration is a process of balancing expectation and experience. I have demonstrated how exposure to change generates different levels of equilibrium. In this final section I propose a relational framework between expectation and experience across the three levels of equilibrium. I consider the framework serves to reiterate the complexities underpinning the sensemaking process. The format for the framework is based on the situated, intermediate and multi-frame levels of equilibrium, and distinguishes the effort required in achieving equilibration across different levels of equilibrium (See Table 9).

Table 9 Equilibration -Effort Required

Level of Equilibrium	Range of Knowledge Structures	Expectation based on current range of Knowledge Structures	Equilibration-Effort required
Situated	Limited	High level of disequilibrium	High
Intermediate	Substantial	Limited disequilibrium	High for a short period
Multi-frame	Extensive	Low level of disequilibrium	Low

There may be a tendency towards applying a hierarchical structure to these levels of equilibrium, but it is not my intention to create that relationship. It is important not to conflate the growth of these three equilibrated states with organisational role hierarchy. Alterations to change equilibrium were not always triggered by professional or organisational change experiences. For some of the individuals interviewed, life-changing personal events like major illness, family trauma or experiences gained in non-professional environments, were pinpointed as having a major effect on their capacity to deal with change within the organisation. As such off-the-map accounts emphasise, any account of change provides only a snapshot of a moment, and by their definition, moments are part of something bigger.

An example of a knowledgeable agent with multi-frame equilibrium was SA (See Appendix 28). His example argues in favour of not associating a hierarchical relationship to levels of equilibrium. He made the point that it was the people on the front line making the contribution to change. "People ask me why I'm doing what I do, "you should be moving up the ladder". SA answered

I like to do the change. I don't feel that the higher up I go, I'll be able to make such an impact...It's almost like if you're sitting up there, you shouldn't be worrying about what's happening down there. I think that's where we lose it (Interview transcript December 2012).

What these findings show is exposure to change and the ensuing sensemaking can build the "requisite variety" of which Weick speaks (1995), but is contingent upon context, reflexivity and purposive intentionality, rather than an organisational role.

Conclusion

In this chapter I set out to explain the process of equilibration. I identified and described three levels affecting responses to change: situated, intermediate and multi-frame. I defined characteristics recognisable within each of the levels and then proposed a framework to identify the effort required in the equilibration process, according to those levels. This chapter provides evidence of the complex and dynamic network of connections between iterative cognitive sensemaking and change scenarios. My findings for this chapter are summarised in the following statement: Within a specific context, a knowledgeable agent displaying a multi-frame level of equilibrium is likely to demonstrate a lower level of disequilibrium than those with intermediate or situated levels. I emphasised the point that this is not a hierarchical structure of equilibrium, but one of immersion, reflexivity and adaptation. Based on the premise that the environment is constantly in a state of flux, and it is how the individual perceives the environment that defines change, knowledge structures are developed according to a number of factors: context, intensity of the change experience, equilibrium influenced by exposure to diversity, challenge and a reflexive capacity to adapt and learn from previous experience.

Equilibrium is measured on a spectrum. It begins with a conceptual or theoretical knowledge structure (PA). The intermediate level of equilibrium exhibits a transition or tension between environments, temporal contexts or experiences (WI). At the other end of the spectrum is the individual exhibiting multi-frame schema equilibrium (HA), who can

operate in two temporal contexts simultaneously, giving priority to anticipating future trends while managing day-to day sensemaking demands.

It is feasible to construct conceptual knowledge structures that offer a theoretical understanding of how disequilibrium can be resolved, thus creating a desire or intentionality to act. However, without experiential learning, these concepts are unrefined. The greater the extent of exposure to change scenarios, the more extensive the range of knowledge structures and cognitive options can be developed, by a purposive and reflexive knowledgeable agent.

10 TEMPORAL CONTEXTS AND INTENTIONALITY

In this chapter I consider the final two transitions in the sensemaking process: temporal contexts and Intentionality. As with the other empirical chapters, I have provided an explanation of how the analysis and interpretation was completed to link the abstract concepts of the analytical framework with the empirical data.

The chapter is structured in three sections: the first explains and illustrates the analytical and interpretive process; the second section provides an explanation of how the temporal nature of sensemaking is evidenced. The final section focuses on the most abstract of the transitions, that of intentionality, explaining how it is expressed and interpreted explicitly.

10.1 Analysis and Interpretation

10.1.1 Searching for evidence of temporal contexts

The cognitive maps were initially examined and coded for any references to the concept of time. This included considerations of relationships to change episodes. Concepts from maps such as “*current targets and goals*”(SA), “*relationships ending*” (HAR), “*post-hoc rationalisation*” PAD), “*period of stability*” (SAI), “*timescale*” and “*want it done now*” and “*quick wins*” (YV), “*key milestones* “,”*start with what you are hoping to achieve*” and “*time constraints*” (SH), were all identified because they indicated connections with time-space, part of the contextualisation of sensemaking. One way in which I analysed and further defined the concepts included coding

against relationships: these were relationships to measurement (timescales, periods, ending, milestones, and constraints), speed (current, now, quick). The concepts were additionally analysed in periods of time (See Table 11), examining what temporal perspectives were considered in relation to when individual change episodes were taking place. As an example, SA (See Appendix 28) identified a change episode that was to take place at the beginning of the following year. I coded this as a future perfect orientation as he was aware of his current situation and the power and influence he could utilise (Concepts 8, 10, 11, 12, 20) but was also looking to the future, and how he could maintain his authority and influence “I know I do get valued by a lot of people, there’s a lot of work goes into that recognition...if they (change implementers) look at us as individuals, I’d say I’ll have a job tomorrow” (Interview transcript December 2012).

Other research participants reflected on their position as the change was taking place around them and weighed up the pros and cons of future possibilities. The coding combinations I used for the cognitive and temporal contexts are identified in the matrix (See Table 10). Temporal changes relate to real time but cognitive change reflects the ways that research participants cognitively moved through temporal zones as they considered change episodes taking place either in the past, present or future. In the examples to follow, there is evidence of knowledgeable agents working across historical and recent past, recognising how they influenced current change, reflection on the past and future from a current understanding of change, and in the

final example, a knowledgeable agent considers the future based on what he understands about change now.

Table 10 Temporal Context matrix

Cognitive	Past and Future	Present (including perfect)	Present and Future	Past and Future
Temporal	Pre-Change	In-Change	Post-Change and 1 year Post-change and 5 years +	

I then allocated the initial concepts of time and context to the matrix as a means of identifying impact, utilisation and influence. I used the maps and transcripts to select the most detailed or clearest evidence of examples of how temporal contexts were bound up in the sensemaking process. These examples are identified as individual and organisational ‘marking out’, and retrospection and anticipation. The categories illustrate how knowledgeable agents move across the temporal span in reflexivity and projection of ideas, learning from the past to understand the present and influence the future.

10.2 Temporal Context

In a sensemaking approach, context is internally and externally referenced. It is the point of internal realisation for the knowledgeable agent, when she becomes aware the external environment has altered in some way. Context is also a junction where past, present and future time dimensions conjoin to influence what cues are identified and how they are

interpreted. In this section, I consider knowledgeable agents CO and OL once more. Earlier in the chapter, I detailed OL's account of reinventing herself. The identity OL presents now is understood across a temporal context. Past experiences and knowledge inform and shape the OL who is engaging in the here and now, while intentionality creates the link between past, present and future through the essence of identity being sustained, influencing how OL wants to shape the future. OL demarcates that flow of time in a specific way to make sense of what she is doing.

I use the term 'temporal context' to indicate both cognitive and temporal consciousness of context, in the sense of being in a particular situation at a particular time. This is not necessarily the 'here and now' but may be the 'here but projected to a future here', or reflexive consideration of the actions taken and knowledge gained from a past time to the present. How we make sense of the present is dependent on our relationship with the past and the future. Internal context defines the ways in which time and experience are bracketed, marked and referenced in some way. External context is the environment knowledgeable agents create, and which then serves to constrain or enable their options for responding to change. These are the tags and brackets marking out transitions in movement time-space (Dervin 1983). In this section, I identify three ways in which knowledgeable agents define a context for sensemaking, as a means of demarcating the constant flow of data surrounding them.

10.2.1 Marking Out Individual Episodes of Change

Two knowledgeable agents OL and CO demonstrate how they demarcated episodes of change.

Knowledgeable agent OL marked out change at a personal level by identifying the differences in her behaviour when she was younger, and her older self. The younger OL, aged 17 to 25 years of age “had quite an attitude. I made some mistakes and so I got another job and reinvented myself”. She considered reinvention as important, because from that experience, OL learned change happened through people, and social interaction skills were important in building networks to support change. OL understood how to treat people and to get them to help her when she needed it; it became cognitively embedded, partly through her innate character, but also “reinforced by the nature of going wrong when I was younger”. OL used this episode to differentiate between different phases of her life, and how each relates to different knowledge structures. The past knowledge structures generated to inform “reinvention” are still used to maintain identity, as OL works at optimising a state of overachievement and pleasing others.

OL had been influenced by the environment in which she was situated but was not constrained by it (Bevir and Rhodes 2003) because she was able to enact change by reinventing herself and creating a new context by getting another job. The transition from old identity to a new reinvented one was a means of understanding change in meaningful ways. OL had memories of the event, how she felt, what she learned and how she acted. All

of those elements formed a knowledge structure connecting her past to her present, and informed her relationships with those around her.

For CO, time was marked as a period between episodes of change. For her, the transition between the markers of the last restructure and now, when she was contemplating how she would respond to subsequent changes to her situation, was one of reflection, of separating out the physical and emotional elements of change, and designing options for responding to events.

In this quote, CO talks about how she and her colleagues shared an understanding of the change process. She confirmed she believed how she understood what was happening in the previous change process was still valid:

“it was a considered, shared understanding among a couple of close colleagues – not necessarily a wider discussion, but I had that perception and understanding early on in the change process and the way I feel about it now has strengthened that original perception ...what I’ve seen and view now does ring true with how I felt about it back then”.

In this next quote, CO explained how she actively focused on the experience of restructuring, in a way that didn’t impair her consideration of change as positive, despite some negative experience:

“I’m still positive about change because I can sort of remove the experience of going through a restructure from other processes. I can see ...maybe that was just not a very nice experience and comes with all sorts of baggage attached. So overall I think I’m

still positive about change but much more sceptical and perhaps not so trusting...and what the real motives are”.

What these examples are intended to illustrate, are not the individual experiences of OL and CO. In a sense, it is not necessary to know what CO’s original perception was, or to clarify what mistakes OL made that generated a transformation in identity. What is important is how both knowledgeable agents, defined their contexts on a temporal basis, internally and externally, and how that understanding created meaning for both of them, influencing how they subsequently reacted and responded to change. These demarcations created meaning by bracketing experiences into one knowledge structure connected in a network to different aspects of change: relationships to people, a sense of identity, community.

The sensemaking literatures identify temporal dimensions as important in bracketing the continuous flow of data to make it manageable and interpretable. In this section I have shown how knowledgeable agents define episodes of change on their own terms, beyond organisational timescales. These markers were used to denote transitions between phases of change, meaningful for the knowledgeable agents at an individual level, but some of them also considered it an important organising tool, so they could get a sense of cognitive location by articulating an end of one change programme and the start of another. This is an important sensemaking tool to co-locate individual and organisational temporal contexts at pivotal junctures in ever changing structures.

10.2.2 Organisational Marking and Bracketing

Organisational marking or bracketing denotes different aspects of change to the personal examples just discussed. Bracketing is a form of communication about transitions: from one discrete episode to another and from one set of priorities to another, but this time at an organisational level and the knowledgeable agents talk about the importance of creating observable, meaningful delineations.

The concept of 'settling' or creating a gap between episodes of change was raised by knowledgeable agents and key informants. OL viewed the idea of a gap or rest as important. In this quote OL argues that people need to recover from change before addressing the next one: "If [we] had an intense period of change , and its 'let's go, let's go', and then there's a tiny space to recuperate , even just a day, [we] need to tell people that's what it is –'we are recuperating , for the next thing' ".

In the same way space provides sense to a string of letters on the page by clustering and spacing them into words, the sense of wanting spaces between episodes of change was also considered necessary as a means of 'reading' the environment and one's place within it. Space is also referenced by SAI, who considered it provided a space of preparation for the next stage of change. She saw a need to develop staff and IT skills, carry out skills audits to find the gaps in knowledge and capability, and to develop morale, while another participant described it as a settling period, required for long-term vision and engaging staff (See Fig.8-1).

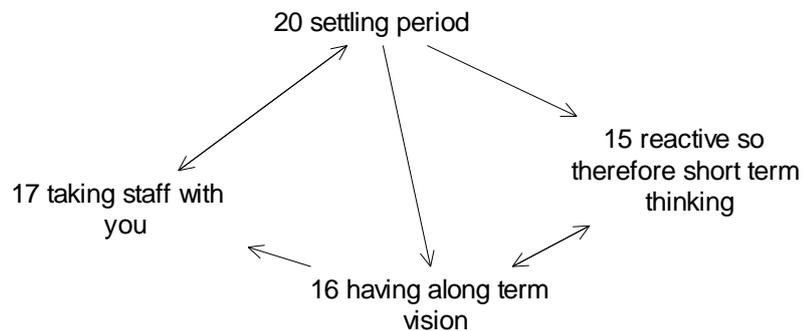


Figure 10-1 Need for a Settling Period

10.2.3 Retrospection and Anticipation

The final example of demarcating units of meaningful experience from the continual flow is through retrospection and anticipation. Past events and experiences inform current knowledge structures. Previous structures are revised, deleted or new ones constructed as a result of current data and experience. Future options and possibilities are projected from within the boundaries set by past and present.

RY provided an example of how he moved between three time phases when discussing his work in implementing a transformation project moving toward the end of a seven year implementation plan (Map Appendix 18). SA was anticipating the implementation of a restructure a few weeks after the interview took place. Before discussing the cognitive processes RY enacted, I have provided a vignette in which to ground the example.

RY had over 20 years' experience in local government but had only been with this authority for 5 years, and was planning to retire in 12 months' time. When asked to describe what the local authority did, RY expressed the view that it provided the infrastructure that "keeps the world turning". Ry was involved in managing a major outsourcing of street services to a private company that had been initiated in 2007, and by the time of the interview in 2012, had "passed the peak of change" as all the major changes in the project had been completed. According to RY, the project marked a change in philosophy in the local authority towards private sector partnerships.

RY adopted strategic and operational roles as demanded by the projects and in considering effective change, he said values had to be protected and stabilised, while systems, strategy, leadership, norms of practice and minds could be influenced or changed. This was a long interview (2¾ hours), in which RY detailed the context, chronology and broader political landscape of the change process he was involved in, as well as pen portraits of those whom he considered had paved the way for the current changes to be considered possible. RY read widely about change and strategy, and as a poker player, he admitted he pushed people to test their limits, boundaries, and excesses in order to achieve the bets outcome for him. Both RY and the research participant who referred him, described him as someone who turned things on their head top look for solutions. RY described himself a mechanic, in terms of his approach. He looked at risk in detail, and was not afraid to question decisions and ways of thinking. Ry considered the success of his change project was due to the work of those who preceded him, in establishing the groundwork, and also the fact he worked as part of a successful project management team of five, where all skills, experience and personalities were recognised for their unique contributions to the overall results. (RY Interview notes December 2012)

The three phases RY worked across were a first period going back over 10 years, a second period bracketed the processes and systems of implementation during the project, and the third was current day, but focusing on the future. RY had plotted out the events and circumstances enabling him to complete his project: he had inherited a situation where his

predecessors had moved the organisation in a direction enabling RY to implement a major outsourcing project. Identifying the cues and patterns of past events offers an insight into the options possible during the project implementation. RY talked about one of his peers challenging the normative view and he “broke the mould”.

Things they did, we stayed away from and did differently, so it was a great forerunner ... and [national project] was running so we drew a lot of knowledge from that (RY Interview notes December 2012).

In this example, it isn't the ground breaking project or those who instigated it, which created the meaning enabling RY to implement his current plans. It was RY's reflective and retrospective identification of a trail of circumstances he gave shape to, and created a plausible link between the past and the present. The cognitive stimulus of acting in a particular way, ten years earlier, gave rise to the response RY made, to the challenges he faced. That was the story he told himself and others.

An example of an anticipatory context is provided by SA, who was expecting to be involved in a restructure of his area and a merger with an external group and expected to begin in a few weeks' time (January 2013) (Map Appendix 28).

SA described the organisation he worked in as serving the residents by dealing with [their] issues, and “provide services to the taxpayers- our bosses”. The significant change episode affecting SA was planned for to take effect the following month, January 2013. It was a restructure involving the integration of an external organisation and the creation of a new division. Although SA couldn't envisage any significant change to his role, he did say there was a general feeling of uneasiness about what the change would bring. SA was one of a group of 6 who shared the same outreach job

description, but he considered he interpreted his role differently to the others. SA determined his role by what Elected members in his ward wanted done and how, the demands and issues of local residents, and how he managed the volunteers he worked with (SA Interview and field notes, December 2012).

While carrying out his day-to-day role, SA was also beginning to map out different personal future scenarios, evaluating their strengths and weaknesses. SA's cognitive strategies in considering his future were four-fold. First he was beginning to identify the resources he could draw upon or highlight. He identified he had the "recognition of the right people", who he could count on for support and he knew he was relied upon to deliver by Elected Members in his area.

Secondly, SA considered a range of possible scenarios and future projections including a 'gap' analysis: what would be missing if he were no longer working in the authority? SA considered the recruitment process and whether it worked in his favour or against him. What benefits would there be in being assessed individually rather than as a member of a group? Third, SA mentally mapped his organisational position: he was supported by a large group of volunteers who were creative and actively engaged in the community, he had established a good relationship with a lot of people across the organisation, and he worked with Elected Members in the area. Finally, SA considered what might happen in a future restructure and how it could influence the way he currently works.

I have to keep delivering...there's not an opportunity for me to slack off... people would suffer if I didn't do my job the way I do.

SA was analysing the context in which the restructure would take place, and identifying his place in it. That relationship was then used to identify options and scenarios in preparation for SA responding to changing event.

These discreet packages of time-space and events contain their own time-referenced knowledge structures, and the context influences whether there are retrospective or anticipatory considerations and search for meaning. WI and HA also provided examples of how intentionality and context transition. WI was conscious decisions he was making at the current time, might not involve him in the future, and so his time projections were part of his thinking. He considered that “In 5 years’ time it may be me wanting to leave, or my boss saying is it time to move on? So is this my last hurrah? ... That’s just the circle of life”. WI developed anticipatory options in a knowledge structure relating to organisational development that wouldn’t include him. Like WI, HA was also considering his current actions in terms of a projected future. Wanting to implement lean procedures, HA weighed up the longer term financial and resource advantages of current investments. By introducing new LED lights for pedestrian crossing beacons, he envisaged there would be less maintenance, fewer engineers required and longer bulb life. HA anticipated the future benefits mitigated the costs of substantial investment now.

10.3 Intentionality

10.3.1 Analysis and Interpretation

“A person’s identity ...is in the capacity to keep a particular narrative going...the individuals biography...must continually integrate events which occur in the external world , and sort them into the ongoing ‘story’ about the self” (1991:54). In this quote, Giddens refers to an understanding and appreciation of a secure sense of self-identity in ongoing societal engagement. The knowledge structures of intentionality shape and influence what we are aware of externally and how we relate. Intentionality is the means through which the knowledgeable agent expresses her sense of identity in a social context. .

Identifying intentionality as a critical element of sensemaking in an empirical context required extensive trawls of the data looking for concepts and transcript evidence that indicated relationships between the participant and the external environment. In a broad sense, all the data could be described as intentional as it illustrated representations or a relationship between the participants and the externally altered environment but in this study I focused on research participants’ sense of self. As a first step I coded all examples of a sense of self exhibited in the maps, arguing that the concept is a relationship between a mental state and an object, and therefore can only be evidenced through subject/object relationships including perceptions, memories, beliefs, imagination, feelings, experiences and desires (Malle and Knobe 1997).

Table 11 provides an example of some of the concepts identified in the first round of coding, and identifying where relationships were established through links to other concepts.

Table 11 Intentionality coding-1st trawl

Concept	Links	Map/concept No.
Personal aspirations	Look after my team, Creativity	BA- Concepts 1,6,2
Me	Lifelong learning approach, Solution focused with a bit of fizz	PH –Concepts 14, 18,16
Me feeling valued	Being able to do what is asked to a good standard	RE –Concepts 39, 33
Name and reputation	Achievement, uncertainty, understanding what needs to be changed	AME-4, 11, 27, 12
Self-awareness	Able to persuade and communicate, predisposition to do and achieve	AM – 7, 14,12

According to Husserl, the character of an act of mental intentionality is either empty (contemplating the possibilities) or fulfilled (from a position of knowledge or experience (Dreyfus 1992)). The second stage was to define the first set of concepts dealing with the subjective state into one of two categories; aspirational/possible (where concepts are 'empty' or unfulfilled) or linked to knowledge/experience (and therefore fulfilled). This was completed in parallel with reviewing the context and detail contained in the interviews, field notes and transcripts, searching for links and patterns, cues for interpretation between the examples until aspects of particular relationships became clear and formed credible narratives. I had to define the concept of intentionality in a manner that expressed a

deliberate or purposive ability to form relationships between the self and objects. The definition also had to include a temporal perspective to denote such deliberation, otherwise it could be argued that such cognitive actions labelled as intentionality may only be categories of reaction rather than specifically formulated and considered responses based on specifically selected knowledge structures. Empirical data that identified expressions of beliefs, desires, and ambitions was identified. By defining 'aboutness' as something that endures across temporal zones rather than as an 'in the moment' relationship, effective examples of intentionality had to show a relationship to temporal contexts as a relatively enduring relationship, indicating its importance and influence.

There were limited examples of clear relationships between the research participants and objects that indicated a deliberate or purposive sense of connection over time, that could be argued as evidence of intentionality and even fewer that provided a cogent and explanatory narrative. The examples selected are those that provide sufficient detail, a sense of the subject-object relationship and the temporal reference to continuity.

The evidence to substantiate intentionality as part of the sensemaking process is therefore sparse in comparison to other transitional phases but it is evident in the reflexive approach to sensemaking of some knowledgeable agents. Intentionality is expressed as an element of purposive intent, and in the examples I have selected, the knowledgeable agents were able to identify and articulate the reasons for their responses and actions (Giddens 1984:5). In this section, I provide and discuss examples of knowledgeable agent intentionality and how that influences the way they react to change. I examine intentionality

through two perspectives of identity: self-identity (seeing oneself), and identity and discretion.

10.3.2 Self-Identity

Identity is relational, and in this section I demonstrate how knowledgeable agents perceive themselves through different relationships. The first example of identity is manifested in an expression of work (Knowledgeable agent OL), the second is in shaping work to create a congruent environment (Knowledgeable agent AM), and the third is in representation of community (Knowledgeable agent SA).

Before discussing how OL expresses her identity, a vignette provides some context to her work. All of the quotes cited are taken from the interview notes, transcription and field notes of the cognitive mapping interview that took place in December 2012. (Map Appendix 19)

OL described the organisation she worked for as one that worked for Elected Members who are democratically elected to manage budgets for the services that the local community needs. The different functions are to be the best of each other, not silos. Priorities are regularly reviewed and everything should link to those priorities. Cabinet members run the day-to-day delivery. Officers advise, support and work with Cabinet Members”. Effective change is about having the right resources, having a need, “having the right time for change”. It is also about flexibility: working with what is given, piloting and trying new things. OL’s own view of change was that it was “exciting, with no idea what the solution might be” Our interview location was the Lord Mayor’s Parlour because OL had forgotten to book a room. When I admired the surroundings, Ol said that was part of her understanding of change: crisis management

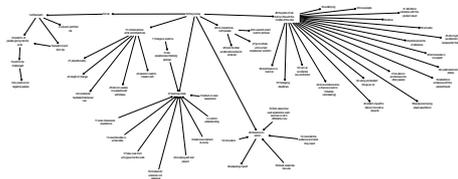
and unintended consequences can have great benefits. Sometimes ‘command and control’ was needed but longer term, need to be more open to what’s available and what is possible or seemingly impossible (OL Interview and Field notes, December 2012).

OL described her role as being across the operational spectrum: she was both operational and strategic, depending on “whatever I think it needs to be”. There were two areas of organisational change OL considered significant when the interview took place in December 2012. One was the Children’s Services Improvement Plan due to come online in the immediate future and secondly, OL’s involvement in a new communications network being introduced on the local authority intranet. This, she described as a “catalyst for making significant improvements in revolutionising communications”. In all aspects of her life, OL prioritised challenging herself to “try to absorb the best of style and persona that leaders portray”, and to read the “ebb and flow” of change in conjunction with a willingness to change.

OL referenced herself through the principles she adopted in anything she did, whether at home or at work. Being involved in influencing and designing change was something OL considered exciting, and being invited to engage at that level, was a reflection of the trust bestowed on her, “people trust me to do it”, and she was left to get on with tasks and projects in ways she considered appropriate. The principles OL adopted were to contribute over and above what was expected from the person giving her work, “to give it 110%. I aim to delight that person. I am the same at home.” It was important others were credited for

doing a good job, something OL learned from her own failures, although she did not specify what these were.

OL clearly articulated what she was *'about'* and how that influenced what she did and why. There was a sense of wanting to be flexible in adapting to change “I don’t want to be pigeon-holed. I am a chameleon. [I] need different styles for different situations”. The knowledge structure OL constructed to represent what she perceives as her identity, and the part of it influencing her actions and behaviours in the way she describes, is illustrated in the map she constructed (See Fig.10.2). In describing these characteristics of her identity “as the parts that run through the middle of the rock” (Concept 46), she was using the analogy of the letters in a stick of rock to describe how her identity was embedded in all she did.



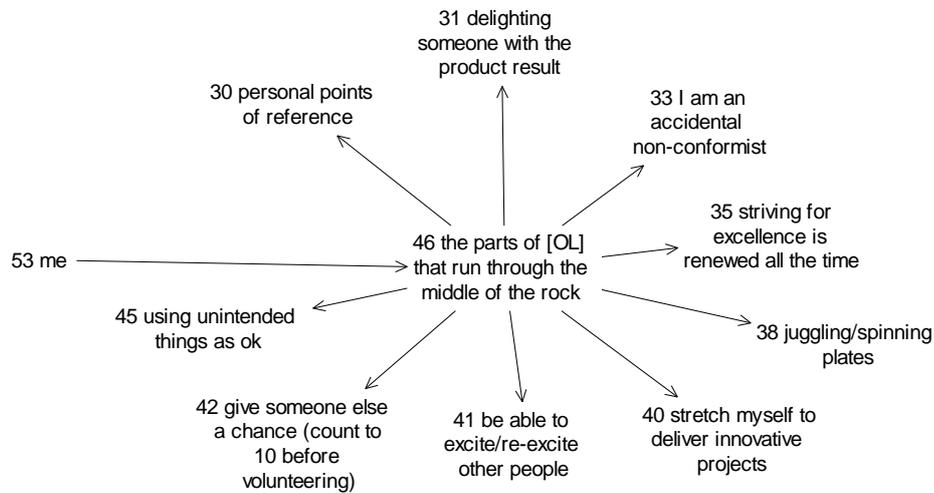


Figure 10-2 Knowledgeable Agent OL's sense of identity

(Full map Appendix 19)

OL had created a conceptual reality that expressed real world impossibilities, where for example, “110%” was meaningful. This mathematical metaphor was used to express something about OL’s identity, and what she wanted to contribute. As part of a conceptual reality, where ‘real-world’ boundaries did not constrain and 110% was a possibility, knowledge structures had been constructed and influenced by an intentionality borne of previous failures and “wanting to re-invent myself”. The re-invented OL identity was reinforced by others perceptions of her, and influenced through action “people trust me to do it”. Identity was expressed in over-excelling, delighting others with her efforts, and giving credit.

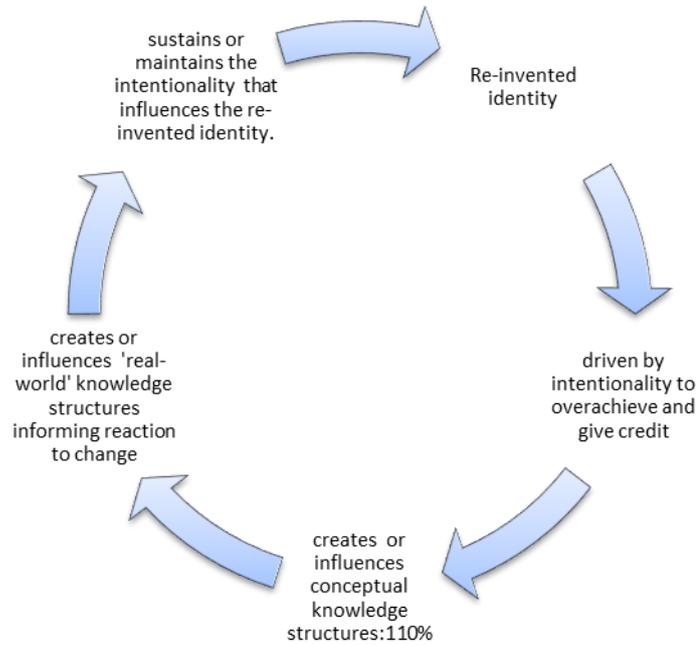


Figure 10-3 Connecting Identity and Intentionality

In OL’s reflexive awareness of identity, part of her identity was focused on aspiring to sustain a level of excellence: “striving for excellence is renewed all the time” (Concept 35). OL’s intention to act was *about* her ability to “be able to excite/re-excite other people” (Concept 41) and in wanting to achieve an inspired state: “to stretch myself to deliver innovative projects” (Concept 40). In engaging with people, groups or situations, OL’s intentionality was to preserve her identity and reinforce it through actions showing her sincerity (Concept 55), and her self-regulating standards of being able to delight someone with her work (Concept 31). Reflexive self- knowledge provided OL with clues as to how she could create the optimising environment to maintain and sustain her identity; by creating situations where she could act in ways where she felt in control and empowered, she satisfied an internal desire or intentionality to over-stretch and over-deliver in order to please others (Concepts 38, 40).(See Fig.10.3)

OL had many ways of describing the person she was: an accidental non-conformist, sincere, someone who liked to stretch herself to deliver new things, generous, and opportunistic (Concepts 33, 55, 40, 42, and 45). She recognised others saw her as trustworthy. In the same way that using the analogy of the stick of rock provided a means of articulating identity, these concepts provide examples of abstract intentionality and identity expressed in concrete terms

The second example of intentionality is provided by AM, and he expressed his identity in terms of desires and beliefs and how they drove his actions to create a particular environment. Explanation of the links between concepts is taken from AM's interview transcription (AM December 2012).

In this vignette, I provide background details, illustrating how AM thought about change:

AM stated he had a particular view of how schools and communities should work, and he thought he knew how they could work to best effect. As a strategist, AM's role was designing, structuring and influencing: "can't let chaos ensue and do nothing". He felt empowered to act in all circumstances except where the law prevents it, and acted to influence non-education areas impacting on education. AM recognised a "poverty of ambition, of finance and of experience in schools and in the area as a whole". He felt there was a need to push out and influence other areas and his priorities during the change episode he quoted, were to develop a forensic concentration on detail, to be "Gestalt" about where the service was going and how, not being worried about mistakes, not getting into a blame culture.

When constructing his map AM viewed the links between concepts as linear but he didn't think linearly. Some of his concepts were not connected and he saw that as part of his "disconnected" thinking, part of his creativity. AM spoke of being embarrassed

in focusing on him as a person, more than work and considered the map was “egocentric”. He talked about status and power vested in his ability to make the final decision and a need to engage with people to try and influence their views. In the end however, “there’s a bit of the psychopath about it, you have to ignore your own feelings about how you have hurt them by saying this is how we’re going to do it...to get things done”. (AM Interview and field notes November 2012).

In the excerpt from AM’s map (See Fig.10.4) (Full map Appendix 33), his reflexivity and rationalisation of what he does, clearly emanates from a sense of self-identity and intentionality. Archer’s view of the relationship between agency and structure as a dynamic connection between internal subjectivity and the external environment is played out here (Archer 2003).

AM’s internal drive or intentionality springs from his mission (Concept 1), in this case, his passion for education and learning (Concept 6). Passion is described thus: “There are things I hold absolutely central, and no amount of persuasion or fashion will move me away from holding certain beliefs ...I can’t overemphasise how important I think language and words and the ability to express concepts is”.

If AM is unable to create a level of congruence between his mission and that of the organisation (Concepts 2, 9, 10) then “[you] get dissonance and don’t get change, has to be coming together”. Once AM develops an idea to support the successful implementation of his mission, it has to fit with what the organisation is doing already so he has to enact some strategic influence to accommodate that (Concept 2). Strategy has to be creative if it is to have an impact on the success of the mission to improve the lives of residents: “it won’t be

bumping along in a tedious manner”. Creativity was an important part of AM’s identity. It fuelled his strategic ideas and how he communicated, as well as his thinking and sharing of ideas (Concepts 3, 11, 13), “ensuring they [people] share the mission and the vision” by showing “in your creative skills and communication skills, that you have this passion”.

His sense of integrity and honesty is an important part of AM’s identity (Concepts 34 and 22) and he displays it in the way he communicates with others (Concept 21). That honesty comes from his understanding of what is taking place. Here AM mirrors Weick’s “recipe” of sensemaking (1995:61) by identifying the critical nature of his own sensemaking “I have to know what I think in order to explain to others” (Concept 20). There is another example of AM’s reflexive awareness of who he is in his identification of “predispositions”. These predispositions are identified as “to do and achieve” (Concept 5, 12), “to laziness” and wanting to get things done as quickly as possible (Concept 16). The result of this awareness generates options for AM in addressing change:

I have to play the game of getting things done...as soon as I can I hand it over to someone else to do. That’s the predisposition towards action. I know it is in me and I can’t sit still on stuff too long but once the ball is rolling, I move onto the next thing.

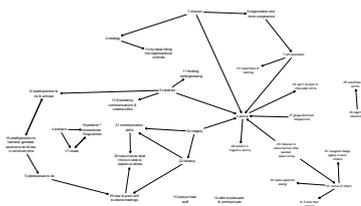




Figure 10-4 AM Expressing Intentionality

In the final example, SA expressed his identity in part through his relationship with the volunteers and elected members in his role-designated neighbourhood. SA identified his way of working as different to his colleagues based on his understanding of change and his role within it:

You have to change. If you don't change, it [change] will happen to you, as an individual, and in your outlook and perspective of what you see as the council. There isn't anything out there that isn't my problem, whether that's my outlook ...I don't think everybody's got the same outlook...It's not about allowing it to happen. It's making things happen.

Before examining how SA expresses intentionality through his relationship with the community and the volunteers with whom he works, the vignette, taken from interview and field notes, provides some context (Map Appendix 28).

SA determined his role by what Elected members in his ward wanted done and how, the demands and issues of local residents, and how he managed the volunteers he worked with. SA considered he played to his strengths: he was ‘more hands-on with the community’ than his peers. He felt empowered to act and influence change through his personality, his supportive relationship with his line manager and his experience of dealing with communities. SA described himself as a “self-starter, a completer-finisher, who, if made redundant, wouldn’t drop everything”. SA viewed any problem in his area to be his problem. He reflected on what he was able to do and if he didn’t agree with something he argued his position. The priorities SA set for himself were to solve problems as quickly as possible by ensuring departments react appropriately and quickly to problems, being responsive to people and providing feedback to communities and residents. SA didn’t see himself as a leader. “The Chief Executive is the leader. [I] try to make a difference. Others might see what I do as leadership”. SA’s phones rang constantly through the interview but went to voicemail. There was evidence in photos around the office, of events and activities with SA at the front (SA Interview and field notes December 2012).

SA’s relationship with his community, and the volunteers with whom he engaged, was central to how he projected himself in his role. In the following quote it is possible to see how SA constructed a distinctive identity in a community environment:

I’m one of those people. I hate things to linger and bugs me to the point where I have to deal with it...It’s a rarity for someone to raise an issue with me and not get a response...people expect it of me now. Even if I was told today I was going to be made redundant ...reality is I know I would finish off everything to the same level. That’s just the way I am.

In this quote it is possible to detect evidence of SA's ideal state being considered, motivating him to act in moving towards creating an optimised state, where everyone gets a response and all projects and tasks are completed. However there is an appreciation the ideal state is not one everyone is adopting: "I don't think everybody's got the same outlook". SA distances himself from others as a result of reflecting on and knowing his own identity. What he does, he does because of who he is and what drives him: "That's just the way I am". The next quote illustrates how identity influenced SA's creation of an optimising environment in which he enacted his desire to make things happen. The cues AM picks up as he enacts his differentiated role, sustain him, both in reinforcing identity and in the value of what he does.

"my role is done differently...my background is I ran [name] centre...and I really enjoy working with residents so maybe I do cross the boundary between [roles]...leading volunteers, I know I can do that, so I end up doing it".

There is an interrelationship between SA's ideal self and situated self, based on an intentionality, working to sustain internal and external expectations. Picking up the cues from feedback in the environment, generated by action SA perceives the community considers meaningful, reinforces self-identity which informs cognitive options to continue or maintain this optimising environment.

This section has illustrated various ways individuals express intentionality. From the empirical data, intentionality can be seen to provide focus for action, as part of a longer term vision, or a desire to maintain particular aspects of identity. Intentionality is about

building on and improving what currently exists, at an individual, organisational, or societal level by aligning aspiration and desire with action. Finally, from a sensemaking perspective, intentionality offers a sense of meaning and purpose in engaging with change. All of the above are supported by agency to work towards achieving or sustaining the relationship between the ideal self and the real self, and between the knowledgeable agent and her purposive connections with the environment.

10.3.3 Identity and Discretion

The sensemaking process is founded on discretionary cognitive agency, in the sense that a knowledgeable agent chooses to be purposive and reflexive, and elects to cognitively engage with change, either actively or passively. Discretion is expressed and represented in ideas or actions, therefore it is not possible to isolate or record cognitive discretion as it does not exist as an act in its own right. It is expressed as a choice, in terms of options constructed. The situated agency of the knowledgeable agent has a level of discretion extending beyond the current time-space frame, beyond the physical and structural institutional boundaries into frames of creative and future possibility. In this section, I propose to use examples from participant maps and interviews to tease out how individuals enact particular acts of cognitive discretion. They will show how identity influences intention, where identity is socially influenced in the boundaries and capabilities of the individual.

There are two examples of individual discretion, each demonstrating how discretion is bound up with identity. In the first example, AME understood discretion as a mental process of voluntary engagement (Map Appendix 21). In the second example, CO referred back to

her experiences of a previous restructure, recognising it had an influence on how she currently considers change (Map Appendix 27).

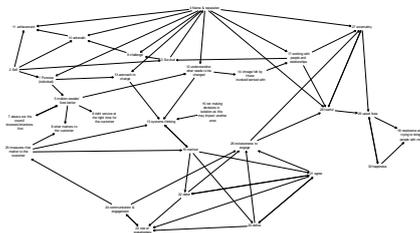
Before examining how AME's sense of discretion is informed by identity, I provide a vignette for context.

AME considered the organisation she worked for was one that tried to understand “what residents need and reflect that...to allow ...the area to grow and survive as a system”. The significant change that affected her was the Children's Improvement programme that she was involved in implementing. AME reflected on her role as “naturally to work with front-line staff, coming back and sharing data and conversations and her aim was to work with people to improve things, as a facilitator because “change needs to come from within”. In the change episode she referenced, AME wanted “it [change process] to be right” by making it as “organised and as easy as possible, to effectively manage “. Wanting the project to be successful, because none of her previous projects had failed, and wanting the project to work for local children, were also goals. (AME Interview notes November 2012)

For AME, identity and being aware of her capacity for cognitive discretion, to choose how she reacts to change, are conjoined in her knowledge structures. In the excerpt from her map, AME presented three interconnecting knowledge structures (See Fig.10.5). These represented an expression of her identity: the first knowledge structure revolved around a purposive intent to improve lives in a manner relevant to the user (Concepts 1, 5, 6, 8). The second knowledge structure was about purpose, survival, achievement and the excitement experienced through achievement (Concepts 2, 3, 11, 10), and the third focused on survival. Survival was based on having a name and reputation for achievement. Survival was also a challenge generating an adrenalin energy that contributed to the drive to achieve. Name and

reputation was a contingent part of her purpose in improving lives (Concepts 3, 4, 9, 10, 11, and 1).

For AME, discretion was embedded in her understanding of the capacity of individuals to make their own choices, and she voluntarily acted to become a “Facilitator of change...working hard to get people to engage...in the mind-set to open up to change”. To understand where discretion lies at a cognitive level, AME’s knowledge structure needs to be reflected upon. Discretion did not lie in AME’s decision to become a facilitator. That was an act of external, post hoc action. From a cognitive perspective, AME’s discretion was invested in the ways she constructed her knowledge structure, how she related her identity with intent to provide services for users in particular ways. This was AME reflexively appreciating her relationship to the external environment. Name and reputation formed an essential part of what Giddens regarded as a coherent self (1991), and AME used her discretion to ensure she acted in a manner appropriate to sustaining that identity.



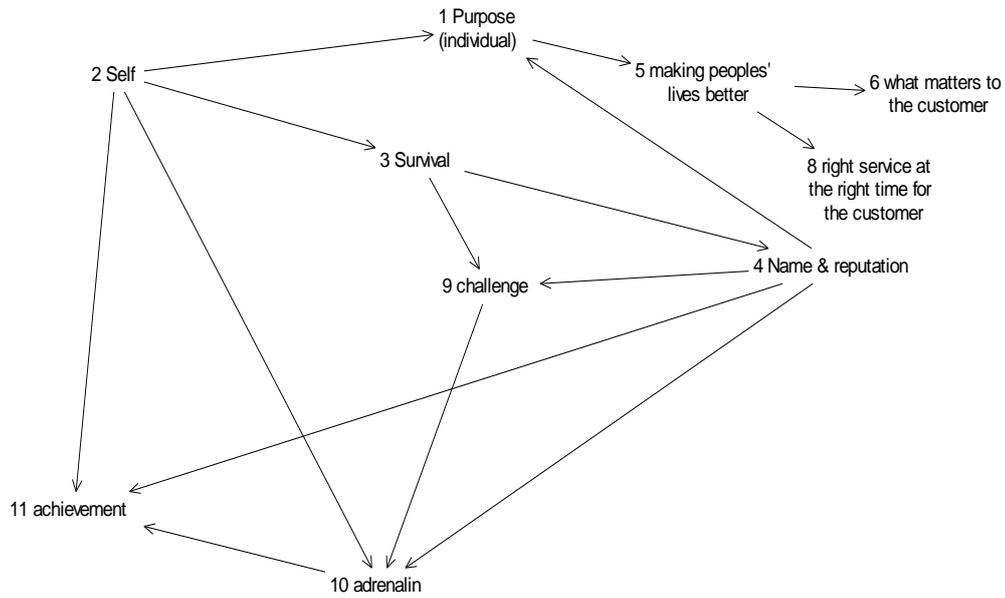


Figure 10-5 AME and Discretion

(Full map Appendix 21)

In this second example, CO had been through her first organisational change experience 12 months previously and was now expecting to be involved in another one in the near future.

CO had been working for the local authority since leaving university. She worked to a generic job description, so was used to working across the organisation wherever projects demanded project management resource. CO identified two episodes of change: the first was a restructuring process that involved a change of role from working in a scrutiny role to project management. The second example was of improvements taking place in Children's Services where she had a role to play in implementing change.

CO had used the restructure (her first) as an opportunity to change from her previous role by pitching herself at the interview, as having a broad skills base. In a discussion about empowerment, CO considered she was empowered in carrying out pieces of work because she knew what to do, and was supported, but as a generalist member of staff, she perceived she had no control, and felt disempowered regarding what projects landed on her desk as she wasn't able to proactively manage the flow and thus had to be in a reactive mode. The priorities CO set for herself in the change environment were to protect her mental health, to seek out opportunities and take ownership of them (CO Interview notes December 2012).

Discretion was not reflected in CO's map, but did form part of her thinking about how she embraced change, as she discussed in the interview (Interview notes December 2012). From a retrospective and reflexive consideration of the change experience, CO had identified what was important to her in terms of maintaining her sense of identity. Like AME, CO wanted to survive in the organisation, and her survival was *about* maintaining her mental health. She therefore made decisions based on that factor. In exercising her discretion, CO actively opted to not to think about the experience too much: [I] "tried to be a bit more laid back and wait and see"

The above quote seems contradictory when discussing discretion, as CO appears to have adopted a passive approach to change. From a cognitive perspective however, CO had made a conscious decision to distance herself from the psychological impact of an altered environment over which she had no control. Whereas her external power to influence was limited, CO enacted her internal discretion to sustain an environment of relative mental security: "I guess in some ways it was a bit of a survival tactic, to look after [my] mental health in the process...only recently the wounds began to heal".

In protecting her identity by withdrawing from the psychological uncertainties of change, CO separated the process from the structure of the organisation, viewing “the fairly stressed process as one of those difficult personal things you go through”, and then identifying how that changed her identity and ways of working through organisational change. Her identity and self-image was linked to a certain level of salary as an articulation of career progression.

“Salary was an important factor. I wasn’t so concerned about going up but we had the opportunity of going for a lower grade and I didn’t put in for that because it links back to progression and I would view it as a backward step”.

If her salary had been compromised, CO would have left the organisation, but her understanding of job satisfaction in terms of identity and career aspirations did reflect a level of re-interpretation of what was acceptable. ‘Acceptable’ as a concept, becomes less about “loving it all the time” and more about “feeling ok’ish”. CO was able to use her discretion to create an environment in which she could survive by modifying aspects of her identity. Similarities may be drawn here with street-level bureaucrats, whose coping mechanism of altering their conceptualisation of their job and clients served to deal with challenges in their environments (Lipsky 1980). Both were seeking out ways to survive and CO was applying a level of discretion to how she interpreted certain concepts, by adapting particular knowledge structures. This is an example of the interplay between assimilation and accommodation as CO identifies her levels of tolerance within current knowledge structures: Feeling ok about something rather than loving it can be absorbed into her current understanding of the environment but she considered accepting a lower grade of

pay was not feasible because that would affect the knowledge structure governing her understanding of “progression”.

In this section, I sought to explain and demonstrate the role of intentionality in sensemaking. It is an intricate and subtle influence at the empirical level. I examined it from a perspective of identity to draw out the complex aspects. Intentionality, as expressed through identity, enacts three roles in sensemaking. First, it expresses the knowledgeable agents’ conscious awareness of her socially enacted relationship and the dynamic interplay between them. Second, it influences what specific data is separated out from the flow as the individual strives for a state of greater discretion over her environment. Third, intentionality drives agency to be enacted in particular ways: to protect or enhance identity and environment.

As a result of the empirical data, I have developed a sensemaking definition of intentionality as follows. Intentionality is a deliberate and organised effort to relate to the external world. The effort is driven by knowledge structures encompassing essential facets of knowing oneself over time. Reference to a deliberate and organised effort reflects the demands intentionality places on agency to maintain ‘*aboutness*’. ‘External world’ alludes to the sense of identity shaped by individual interactions with a socially constructed reality. ‘Knowledge structures’ relate to the level of discretion each individual recognises in their capacity to act, and ‘knowing oneself’ is considerate of an internal consciousness of an aspired, evolutionary state, towards which the knowledgeable agent is orientated.

Conclusion

In this chapter I have argued that temporal contexts influence perceptions to change and that knowledgeable agents work across temporal zones in creating meaning from current changes to their environment.

The study and analysis of intentionality was highly iterative with the concept driving the search for evidence, yet also generating questions about whether it was relevant or was the data more about a broader consideration of identity. In developing and applying the sensemaking template, these concepts frequently replaced each other until the data highlighted their mutuality. The importance of the Intentional aspect of sensemaking lies in the accessibility it provides to further understanding internal beliefs and perceptions that influence how the environment is represented in knowledge structures, as well as the ways in which knowledge structures alter to achieve desires and intentions in an altered environment.

The sensemaking process recognises each of the four elements transition from one to another continually, as the knowledgeable agent moves through time-space, and experiences change. The transitional aspect is important because it recognises both the distinction of each phase, and the merging of phases, dependent upon variable influences and perception. Transitions also act to demarcate the ways in which knowledgeable agents break up the continual flow of existence into a series of delineated sections. Knowledgeable agents can then focus on these sections to extract cues, draw out memory traces they

activate, reflect on the connections between past, present and future and cognitively generate options for responding to the change experience. Both transitional elements have a critical role in generating options for active engagement with change: intentionality drives the knowledgeable agent towards action that supports a greater level of control over her environment. Context influences equilibrium through the knowledge structures selected to make sense of what is occurring in the environment.

In the course of these three empirical chapters I have used the original sensemaking template, a conceptual model drawn from the sensemaking and agency literatures, to structure and explain the sensemaking process. The sensemaking process (See Fig.7.6) represents the culmination of theoretical knowledge and empirical data. Using episodes of change selected by the knowledgeable agents, that formed part of a broader and longer organisational change agenda, I have identified previously tacit processes of cognitive orientation. As individuals sought to make sense of, and respond to their own altered environments, the complexity of equilibration, influenced by intentionality and unique temporal contexts, meant knowledgeable agents drew upon and activated a rich variety of knowledge structures as they sought to maintain, sustain or regain control.

11 DISCUSSION AND SUMMARY

“Exploring institutional change in ‘normal times’ is important because it draws our attention to the many small steps, that over time, contribute to the making and breaking of path dependency” (Lowndes 2005:299).

This interpretive, qualitative study examined non-critical sensemaking and sought to identify cognitive sensemaking in a public administration setting. This precursive or anticipatory process adds to our understanding of the organisational change process and identifies how meaning making can improve engagement by understanding how connections “among/between people, places and events in order to anticipate their trajectories and act effectively” (Klein et al 2006a:71).

The study examined the messy and complex (Pettigrew 1985) nature of organisational change through a sensemaking approach. The initial objective was to ascertain the constitutive elements of the organisational change ‘black box’ by identifying the previously tacit, difficult to articulate internal knowledge and concepts (Polyani 1967) Individuals apply in reacting and responding to changes in their environment. The second objective was to identify where and how individual variances in responses to change took place.

The findings respond to the first research question by highlighting four main elements to the cognitive process of sensemaking: Equilibration, Intentionality, Temporal contexts and Knowledge Structures. These elements are dynamic and inter-relational, creating continuous prominent or backgrounding transitions relative to the demands and context of change

taking place. The second research question sought to determine process variances and the results indicate there are three levels of equilibrium affecting the level of effort required in balancing expectations. The findings also identified a range of knowledge structures being applied to make sense of the continuous stream of data in which we are all immersed, to clarify, communicate and shape the data to enact agency. In addition, the methodological design sought to evidence how knowledgeable agents apply facets of the sensemaking process from a decentralised perspective rather than hierarchically differentiated (Balogun 2003, Balogun and Johnson 2004, Berger and Meng 2014).

11.1 Research Findings

In this section I discuss each of the findings in turn, relating them to the research questions and to the literature. I also identify some aspects of the study that were unexpected.

11.1.1 The sensemaking process

I demonstrated how individual knowledge structures were evidenced in analysis of cognitive maps and transcriptions. I categorised these as having three sensemaking purposes: in creating transformative ideas and perspectives, in filtering specific data from the continuous streaming, and in amplification where the purpose was to clarify, differentiate and isolate meaningful data so it could be better understood and disseminated. Through the examples I selected, I was able to show how knowledge structures were drawn upon in individual sensemaking and adapted to specific environmental changes, used to

cognitively explore change options and to share, challenge and adopt new ideas. The development of this cognitive sensemaking process speaks to the criticisms directed at sensemaking that the concept of process is insufficiently explained (Sandberg and Tsoukas 2014).

The findings showed how different temporal contexts also influenced how change is perceived, and how the philosophical concept of Intentionality drives and informs what knowledge structures are referenced in creating meaning. Part of the fragmentation in the sensemaking literatures focused on where sensemaking activities were temporally located (Gioia et al 1988, Dervin 1983, Weick 1995, Snowden et al 2007). From the empirical analysis I produced a matrix indicating how knowledgeable agents referenced all temporal contexts in identifying and creating meaning from their self-selected change episodes. The matrix differentiates between change related contexts before, during and post-change references, and cognitive considerations of temporal relationships. In the cognitive category, individuals draw on temporally referenced knowledge structures containing memories, experiences, beliefs, aspirations and knowledge. Knowledgeable agents moved between past, present and future in different combinations and the movement was influenced by levels of reflexivity during interviews, what stage of the change process they were in and the extent to which they expressed desires and intentions.

Research has provided evidence of the importance of sensemaking in organisational change, with particular focus on specific roles such as organisational leaders and middle managers and in influencing strategic decision making (Bartunek et al 1991, Balogun and

Johnson 2004, Snowden and Boone 2007, Rouleau and Balogun 2011). Middle Manager studies have concentrated on strategic change environments (Maitlis 2005, Hope 2010, Maitlis and Sonenshein 2010, Rouleau 2010) thus concentrating knowledge of sensemaking at the higher and strategic levels of the organisation. In developing this sensemaking process I have shown that sensemaking operates beyond strategic and managerial roles. It can influence how the organisation operates through micro processes of accommodating new knowledge structures that generate new approaches (Klein et al 2003) (Chapter 8), to maintain or go beyond organisational boundaries temporally and cognitively (Berger and Luckman 1966, Giddens 1984) (Chapter 10), set examples for others to follow, generate collaborative and challenging environments and discussions relative to differing levels of knowledge and skill (Equilibrium in Chapter 9). The sensemaking process illustrates how individuals adapt to change or adapt organisational systems through cognitive processes and structures (Di Maggio and Powell 1991:26-27) to satisfy their own objectives which may or may not be organisationally compatible.

In the main sensemaking literatures focus on different aspects: Weick considers sensemaking as a social activity (Weick 1995), Snowden considers it as a means of problem solving and decision making (Snowden and Boone 2007) while Dervin adopted a methodological perspective. In the cognitive sciences Klein et al developed cognitive models (Klein, Moon and Hoffman 2006b), and Pirolli et al concentrated on data gathering and measurement (Pirolli and Russell 2011). This study has indicated that there are strands of all of these considerations in the sensemaking process: knowledgeable agents shared ideas, understanding, perceptions and solutions to problems (chapter 8.4), solved problems and

identified how to move forward with new strategies and processes (Chapter 8.2). Cognitive models have been evidenced in the knowledge structures of research participants through their cognitive maps and throughout the process a range of data gathering applications have been identified (Chapter 8.5).

Some of the major fragmentations in the sensemaking literatures are questions of temporal orientation (Weick 1995, Dervin 1983, Klein, Snowden and Pin 2007) and whether sensemaking itself is an individual, social or cognitive process (Weick 1995, Maitlis 2005, Pirolli and Card 1999, Klein, Moon and Hoffman 2006b). The findings from this research demonstrate that in drawing upon knowledge structures, research participants operate across different temporal dimensions to make sense of now. Knowledge structures are established out of past experience and knowledge yet refined through current events and projected into future contexts to shape options and choices. Retrospection in this study indicates a process of applying knowledge structures that are changing all the time where even those knowledge structures that appear to be 'set', such as those relating to identity, continue to be influenced by current experiences and are reinterpreted continuously, as in the case of Knowledgeable agent RY (Chapter 10.2.3). Thus retrospection denotes an encompassing of both present and future in the way it makes reference to established knowledge structures.

The research draws together retrospection and intentionality in sensemaking: Retrospection considers past experiences (immediately past or longer term) with both current knowledge and understanding, and future wishes and desires, influencing how those

'past' knowledge structures are being shaped and understood. Running as a strand through these experiences bound in knowledge structures is a relationship between the inner self and outside world: identity boundaries being set in terms of what level of change is acceptable without compromising a sense of 'self' (BE needing to leave and CO identifying level of salary with self-worth) (Weick 1995, Maitlis 2009). The relationship is expressed as identity; the core of this knowledge structure is continually redefined according to circumstances but continues to endure as 'Identity' where certain elements cannot be violated although certain changes can be assimilated. Therefore sensemaking questions what can be assimilated from current data without compromising elements of knowledge structures that are central to identity i.e. the absolute relationship between the individual and the world, and the relationship between retrospective, current and future perspectives of the relationship between the real and ideal self (Chapter 8.3.2 outlines how CO used a typified script to adapt to the external environment but still maintain a plausible sense of 'self'.

In determining whether sensemaking is individual, social or cognitive, the research findings have suggested it is inclusive of all those facets of sensemaking. By acknowledging the social influences in building individual subjective knowledge structures and identifying how they are cognitively used to make sense of the environment, there is evidence of individual creativity as individuals participate in influencing and constructing the environments and changes they seek to understand. This double construction of meaning, both social and personal, is enacted through cognitive processes to clarify and communicate what is taking place.

11.1.2 Levels of equilibrium and equilibration

The availability and applicability of change -related knowledge structures influences the level of disequilibrium experienced by individuals. Approach to change: positive or negative engagement *and* the provision of knowledge structures that generate options to respond to it in a way that serves individual goals and self-actualisation (Rogers 1961) create different equilibrate experiences. I have italicised the word 'and' as a note of caution. It would be easy but inappropriate to make the assumption that engagement is influenced by certain types of knowledge structures or vice versa. On a general conceptual level that may be so, but in this specific context, I cannot argue that case on the data available. The data does appear to show specific examples where individuals have learned from and adapted their perceptions and understanding of change from previous experience (Knowledgeable agents AM, OL, CH, and SA). This case-based reasoning approach makes links between previous experience and current issues through sophisticated processing skills (Aamodt and Plaza 1994).

In focusing on the knowledgeable agents and the contrasting levels of disequilibrium or dissonance when the relationship between internal expectations and external experiences was disturbed, the data demonstrated three levels of equilibrium with each requiring differentiated levels of sensemaking in the process of equilibration: Situated, Intermediate and Multi-framed.

The three types are relational: one individual can experience any one of the types in a given change scenario dependent upon their levels of knowledge, skill and capacity for reflexivity. When Giddens talks about knowledgeable agents, he does not detail levels of

knowledge (1984) but asserts that all individuals understand what they are doing from a point of practical consciousness (tacit knowledge which agents use) or discursively (agents are able to express knowledge discursively) (Giddens 1979:5). The sensemaking process differentiates levels of knowledge. Each knowledgeable agent can experience all three levels according to the situation, their reflexive ability to select and draw upon appropriate knowledge structures and the opportunities and experiences that have contributed to their knowledge sources. The results of the study show all of the research participants displaying knowledge about their relationship with the altered environment but this is differentiated through context (the temporal dimensions in which the change occurs and the individual's ability to reflect across temporal contexts in a reflexive way), knowledge of the organisational and external environment and understanding of self and understanding as expressions of intentionality, as well as the levels of equilibrium enacted in the situation.

11.1.3 Knowledge structures

Knowledge structures are the easiest of the sensemaking concepts to detect in the data as they are represented in the cognitive maps. There is evidence of different types of knowledge structures being applied such as procedural and operational ones in which knowledgeable agent portrayed their understanding of how the organisation interconnected, conceptual structures and those relating to an understanding of self, particularly recognition of one's own level of self-efficacy (Bandura 1993). The latter was identified by a number of research participants as they identified how they observed successful leaders (Knowledgeable agent CO) or those with effective influencing skills

(Knowledgeable agent PA). Some of the knowledgeable agents displayed evidence of meta-cognitive knowledge: higher order thinking where they understand how they know what they know: DEI used triangulation methods to test her assumptions of situations, DE knew where in what way his skills were limited and therefore built a team around him that had the skills and knowledge to supplement what he could do. There was evidence of individuals building conceptual knowledge structures, where networks of concepts were linked in networks of understanding that could be applied to broader aspects of change or organisation such as the general effectiveness of recruitment and selection processes, or the emerging role of local government.

There were interesting examples of knowledgeable agents searching for data within the organisation and outside. These examples fit with Pirolli and Card's Information foraging theory (1999) where there was an appreciation of the need for additional knowledge, clear ideas about where and how it could be found and the benefits gained in finding it: understanding the changing landscape, the impact of new policies on the individual and the organisation, shared understanding, possible solutions. There was only one knowledgeable agent (DEI) who explicitly referenced a cost-benefit perspective (Russell et al 1993, Pirolli and Card 1999), by stating that all her networking was carried out in her own time rather than as an organisational activity. The collection of knowledge structures in the study have provided indications of concept formation and development, problem and solution representations, metaphorical representations of meaning, cycles of understanding, levels of knowledge and inferences.

11.1.4 The Knowledgeable Agent

Characteristics that shape our understanding of the Knowledgeable Agent in the thesis belong to a genus rather than any individual, because gradations are recognised and activated in different contexts. There were different intensities of experiences, scales of change and focus that would not be captured in any one individual. The importance of pursuing the idea of an agential genus rather than specific identities speaks to the multi-identities recognised by Weick (1995) and Snowden (2005) and the temporal context. Knowledgeable agents operate in “the continual flow of conduct” (Giddens 1979:55) and at times of disequilibrium, control is diminished. In episodes of change, when control and therefore the power or will to act is diminished, agential capacity may also be diminished (Giddens 1984). In these instances, agency has a transient aspect according to capacity and context.

Knowledgeable agents showed how structure was required to provide a bounded environment in which options were focused on achieving a limited and accepted set of objectives. Here I am thinking particularly of knowledgeable agent HA who developed a set of processes, and style of management and leadership that empowered his staff to work effectively in his absence. The scripts he put in place provided a level of knowledge to his managers enabling them to act effectively, and provided a space for HA to consider options through future-orientated anticipatory thinking (Klein et al 2007, Gephart et al 2010). In this sense, structure can be considered as empowering, across different temporal contexts.

What the sensemaking process has highlighted is that episodes of change generate different enactments of agency according to levels of disequilibrium. Disequilibrium can be reduced through the development of complex knowledge structures able to assimilate the demands required of the equilibration process. A sensemaking organisation supporting the creation of complex and diverse knowledge structures in its knowledgeable agents can address the public leadership needs identified by Pedersen and Hartley: "to decode, challenge and develop varied sets of value, goals and knowledge systems"(2008:335-337). Decoding, adaptation of values, goals and knowledge systems can synthesise with a sensemaking process in supporting the development of options to achieve diverse and sophisticated knowledge structures. Underpinned by the recognition that there is a sensemaking tolerance in values and beliefs, the knowledgeable agent has capacity to adapt to new situations without jeopardising the essential focus of their ambitions and intent.

11.1.5 Unexpected aspects of the research

There were many aspects of the study that were unexpected but here I have selected three aspects that raise further questions as a result of the research:

The first relates to the debate about the duality and dualism of structure and agency.

During the analytical stage of the study, when attempting to locate acts of cognitive agency, I was reviewing the opposing arguments between Giddens consideration of the duality of structure and agency (Giddens 1984), and Archers morphogenetic approach (1982) in which she argued that structure and agency were each vested with distinctive properties

and needed to be considered as separate entities in order to study and explain how they interact with each other (1996).

The question arising from this is whether the sensemaking elements can be applied to structuration theory with the hypothesis that structure and agency are rooted in the (same?) individual knowledge structure, becoming defined as one or the other at the point when the individual agent selects a given knowledge structure and applies it, either as agency in 'acting otherwise' (Giddens 1984), or as a structure that bounds action. The four sensemaking transitions can be identified: the knowledge structures of the knowledgeable agent, the consideration of temporal constructs when Giddens considers structure can be shaped by previous agential action of others, rather than simply the current actions of this agent where action is defined as "a stream of actual or contemplated causal interventions of corporeal beings in the ongoing process of events-in-the-world" (Giddens 1979:55). Giddens acknowledges intentional agential activity is guided by beliefs and desires through reflexive activity but in defining how it is expressed, has focused on it as an unconscious need for security in familiar routines. From this basis, there appears to be the possibility of exploring duality and dualism through consideration of equilibration, examining how structure is expressed and applied or adapted and changed through agential action. I question whether this is a topic to be considered from an organisational studies perspective or whether it sits within a psychological or philosophical experimental dimension.

The second aspect concerns cognitive agency.

When I set out to explore how individuals make sense of change, I designed for, and was expecting to find a sensemaking process constituted of a number of stages. Post-hoc I rationalised these as transitions more than stages because of the dynamic nature of the sensemaking process. I had expected the process to orientate towards physical acts of agency in searching for data and materials, interacting with others to share knowledge and understanding, and to be able to articulate new ideas and interpretations in social contexts, which would be consciously planned at a cognitive level prior to action. I did find all of those elements but more interestingly I identified a more highly abstracted meta-process of cognitive agency through which the sensemaking process was articulated. The results of this study evidenced cognitive agency as conscious action and reflexivity at a cognitive level: searching for cues and patterns in order to create meaning, creating new or novel links between current knowledge structures to generate new perspectives and options, moving across dimensions of time to abstract knowledge from previous experience and working out how that can be adapted or adopted for current and future problems, challenges or opportunities.

Cognitive agency is complex and sophisticated, relational, and multi-variate, illustrating different gradations of reaction and response. The data provided examples of automaticity in some sensemaking (thinking specifically of knowledgeable agent HA and his initial difficulties in articulating how he worked-Chapter 9) which some may label as instinctive, intuitive or non-agential. I would argue such examples are expressive of deeply established knowledge structures. Based on Nonaka and Takeuchi's (1995) ideas about converting tacit expert knowledge into explicit knowledge, I think there is scope to explore how

organisational and social practices maintain institutional norms, rituals and symbols by using a cognitive mapping approach.

The final aspect concerns the interdisciplinary nature of the research study.

This aspect raises the question of how the research study may have been different if I had actively considered an interdisciplinary approach at the start of the study.

My interdisciplinary approach to this study was somewhat unintentional and arose because I viewed the research question as the driver for shaping my research design and methodology. That is not to say that my approach was reactive and unplanned as this was not the case (. There was a certain degree of signposting from the type of research question I asked and how I asked it that led towards qualitative, interpretive approaches. In parallel to this planned approach I was also aware that as the research developed, I needed answers not readily available for instance in the literatures of organisational sensemaking and so I had to explore further afield in cognitive development and artificial intelligence studies. In realising the challenges of this approach I became aware of the concept of bricolage and Lincoln's idea of the bricoleur allowing the research to shape the methods to be used (Lincoln 2001). I didn't adopt this approach intentionally but acknowledged how the process of construction and reconstruction of frameworks for presenting a plausible argument were being negotiated through interaction with the data, in communities of engagement and with the research questions. There is a high philosophical content to the bricoleur research approach (Kincheloe 2001). If I had understood my research technique in this context at the beginning of the study, I would have allocated more time to exploring and grounding

assumptions and ontological basis of the concepts I had assumed were clear and unequivocal such as the use of the terms 'react and respond' (See Appendix 35), rather than leaning towards Morse's criticism of mixed methods and interdisciplinary approaches as "violating basic assumptions" (Morse 2005).

11.2 Research Questions

In this section, I reflect on the effectiveness of the research questions and to what extent their composition influenced the study.

11.2.1 RQ1. What are the cognitive sensemaking processes that influence the creation of responses and reactions to change?

The first question in the study sought to determine how individuals cognitively enacted sensemaking as an anticipatory act to external engagement with altered environments. This was the key question in a study intent on identifying sensemaking processes that were specifically located. I wanted to investigate the (previously tacit) sensemaking processes that acted as a precursor to understanding individual relationships with the environment *prior* to formulating responses or reacting (Ancona et al 2005). I identified four key elements forming a dynamic and interactive sensemaking process: temporal contexts, knowledge structures, equilibration and intentionality.

The rationale for the format of the question was to be able to explore sensemaking in a public administration setting and to keep the scope of the investigation as open as possible

to new findings. For instance I wanted to depart from the sensemaking studies that adopted a role-based or hierarchical format in order to examine the boundaries set by participants in terms of organising (Weick 1995) and I veered away from a processual approach (Dawson 1994, 2014) for the same reason. The sensemaking literatures referred to processes but the different disciplines focused on it in a variety of ways: Dervin espoused a methodological focus in understanding gaps in individual knowledge (Dervin 1983), Weick considered there was an ongoing process of organising data, cues and patterns (Weick et al 2005), 1995, Kurtz and Snowden 2003. The use of narrative as a process for understanding was identified by Cornellison et al (2008), Abolafi (2010) and Snowden (2010).

The format of the question orientated the study towards a qualitative approach because it was about emergent ideas arising from a desire to understand the process of organisational change from a cognitive perspective. In keeping the research question broadly focused I considered I was declaring my intent to move away from more normative approaches, and to be led by the research participants and their experiences, thus demanding methods that would offer the same flexibility and freedom of expression, but without generating levels of automaticity in the responses gathered (Bargh 1994). I recognised there was a risk in selecting this strategy as participant foci may have been too disparate to provide any meaningful data. For that reason, I narrowed the focus from the broad concept of organisational change to that of planned change, arguing (implicitly) that it provided more opportunity for detailed examples of individual engagement with change (whether positive or negative).

The broad scope of this research question was useful in marking out the capacity for findings that moved beyond contexts of crisis or role derived sensemaking and it offered the space to explore areas of sensemaking relatively unconnected to a local government setting such as Human and Computer Interaction. What it did not address was the particular context and the particular group to be studied. Although the generative question was simple and interesting, it also transmitted an intention towards discovery rather than assumptions about what might be discovered, an important feature of my approach. The generalist, tentative nature of the question, specifically constructed to accommodate shifting ideas and reprofiling of theoretical considerations, also created challenges in assessing the size of the project, and in keeping the broad focus, issues about units of analysis, design and methods, how to access data and how to analyse it, were time-consuming. The critical oversight was in not refining the question contextually, and articulating the relevance of the study in the field (Flick 106).

11.2.2 RQ2: How and where are these processes differentiated in individual sensemaking?

In the second research question, I sought to elucidate where, within the sensemaking process, variations to reactions and responses to organisational change were located. This question focused on levels of differentiation. The study identified three levels of equilibrium, influencing the extent to which knowledgeable agents experienced dissonance or disequilibrium. The ways in which participants cognitively operated across the different temporal contexts and the context of change episodes in different temporal contexts also influenced how change was experienced and understood. Retrospection (Weick 1995) was

recognised not as a referral to memories, beliefs, experiences that remained static and isolated, but as past events reframed in knowledge structures that incorporated meaning taken from the present and the projected future.

Levels of equilibrium were shaped by the extent of appropriate knowledge structures that could be drawn upon in a change episode, the reflexive ability of the knowledgeable agent to recognise cues and patterns, as well as movement across temporal zones in developing and increasing sensemaking.

This question concentrated on identifying and explaining individual approaches in engaging with change, but it also created challenges when discussing differentiated equilibration. The initial ideas and understanding of equilibration and its role in balancing internal and external worlds came from Piaget's work on cognitive development (1952). When the data revealed elements of demarcation among individual levels of equilibrium, I had to be able to explain its theoretical antecedents to establish it as part of the sensemaking template. Being led by the emergent data, this example illustrates why and where intra-disciplinary research was necessary. Searches for an explanation of continuing cognitive development and optimisation led to examination of neuroscientific research.

The findings evidenced differentiated processes of sensemaking in the configurations of knowledge structures each participant drew upon in understanding change, in the temporal constructs through which they selected and viewed change episodes, in the levels of equilibrium they maintained at the onset of altered environments , and finally in how they expressed intentionality in beliefs, desires and intentions.

The second research question encountered the same issues as the first: an absence of detail defining the particularity of the study (Geertz 1973). There were a number of elements that could have been defined in the early stages –interpretive and sensemaking approaches, local government setting, cognition. The second question provides the opportunity for presenting sub-sets of questions related to cross-cutting themes and emerging concepts. This was an area where my understanding of how the study was beginning to take shape, was implicit rather than explicitly expressed in the format of the questions.

Research questions are an explanatory short cut when presenting research to others, locating the field and focus of interest, defining the boundaries of the study and indicating progress towards a detailed account. I now realise that the lack of detail in my questions created a sensemaking gap for readers and audiences to whom I presented, thus diminishing the quality of the feedback to an extent.

On reflection I would have developed a sub-set that reflected cross-cutting themes and emerging concepts in order to provide boundaries and direction, as the study developed and took shape. This would have given an indication of the scope of the project, and avoided considerable down-sizing of the project scope and data in the final months.

11.3 Contribution to Knowledge

11.3.1 Contribution to Methodology

In recognising the gaps in the sensemaking literatures, as well as the challenge of drawing a fragmented and cross-disciplinary literature (Brown et al 2015, Maitlis and Christianson 2014) into a cohesive framework, I adopted an end-to-end approach in searching for the cognitive processes locked within the different disciplines: asking how is knowledge generated, adapted and influenced. The findings have illustrated the effectiveness of using a multi method approach which supported the introduction of a cognitive mapping method to a new application. Rather than use mapping as a decision making and strategic tool I applied it in identifying subjective understanding of change and creating a representation of such beliefs so they can be analysed and shared. In a socially constructed world, cognitive maps provide an understanding of the boundaries within which research participants operate, and to what extent factors outside the immediate change episode can influence perspective and understanding of a changing environment.

This contribution is important in two ways. First, it provides a new way of gathering rich data in an organisational setting with individual research participants. A new collaborative relationship is facilitated through mapping and the power differential between interviewer and interviewee is more balanced. The use of cognitive mapping as a novel approach to exploring individual sensemaking in a local government setting offers benefits for the research participant and the researcher. First, it offers the opportunity to witness individual

thinking processes in action as research participants make sense of a new activity: having to apply conscious attention to the task, asking questions to clarify, seeking approval in 'doing it right?', and in defining the boundaries for discussion. Second, the interview is more interactive because each interview is unique and so there is a sharing of knowledge about how best to apply the method to each situation. The interview is collaborative because the data is immediately visible as the map is completed. Power is balanced between the expert mapper, and the research participant who is an expert about her experiences, which the researcher wants to identify.

The use of cognitive mapping as a non-linear representation of knowledge is effective in identifying and representing interrelationships, cause and effect relationships and how different knowledge clusters link together to form a knowledge structure of change. These links and relationships sometimes only became apparent during the mapping process as the map was developed. Cognitive mapping offers opportunities for reflective analysis by the research participant before being signed off. The cognitive map has an immediacy and accessibility, allowing the individual to understand what the map portrays from their expert perspective. It creates a strong sense of ownership of the data. Unlike a narrative method, the boundaries of meaning and context are clearly defined in a cognitive map by their presence on the map itself. What is there has been consciously identified as part of individual knowledge structures. By adapting the cognitive mapping process (Bryson et al 2004, Ackermann and Eden 2005) to a one-to-one method for representing knowledge structures of change, the method has demonstrated complexity with a relatively simple graphic representation and provided a protocol for implementation.

The value of the mapping method is the speed at which it can be completed in relation to the quantity of data it supplies. The electronic version of the map is dynamic and can be manipulated to illustrate different relationships and connections. As a research technique, mapping works best when used in conjunction with other methods to provide detail and clarity as well as context. Cognitive mapping technique has benefits over similar techniques such as Q-methodology (Brown 1980) in that it has a more participatory relationship between researcher and participant, and does not constrict the selection of concepts to an externally generated list or selection. The creativity is not in the method itself as that is not new, but in its application in a new setting, thereby increasing diffusion and adaptation and in crossing disciplinary boundaries, contributes to innovation (Wiles et al 2010, Xenitidou and Gilbert 2010).

The gap in the literatures point to the need to extend sensemaking knowledge through studies of non-crisis situations that are not strategically orientated as there is a rich source of such studies already (Weick 1988, Gioia and Chittipeddi 1991, Rouleau 2005, Rouleau and Balogun 2011, Maitlis and Sonenshein 2010, Combe and Carrington 2015), of examining micro-accounts because they have important organisational consequences (Brown et al 2015), and of using innovative research methods (Maitlis and Christianson 2014). This thesis therefore contributes to the sensemaking methodologies by providing empirical evidence of the effectiveness of applying cognitive mapping in conjunction with other methods to examine individual sensemaking in non-critical examples of change. It connects the different sensemaking approaches in order to identify a cognitive sensemaking process set against a public administration context interpreted by individual research participants.

11.3.2 Analytical contribution

There are two contributions to analysis in this study. The first is the use of mapping and the second is the construction of a sensemaking analytical template.

The analytical contribution of the use of cognitive mapping as a method for analysing data, and the use of concept maps as an analytical tool, is based on an appreciation of research in the following areas: I used the cognitive maps to identify individual sensemaking process whereas cognitive mapping is generally applied in strategic decision making and policy development contexts (Ackermann & Eden 2005a, Ackermann and Eden 2011). I also used concept maps to identify the links and connections between the elements and gradations of the sensemaking process where it is more commonly exploited in measuring and developing knowledge in learning and development environments (Kandiko and Kinchin 2012).

Through constructing an analytical sensemaking template I have provided a comprehensive means of identifying cues and signs when collecting and analysing data that focuses attention on both thematic and individual case analysis. It offers a matrix for combining the former and the latter in a systematic manner so as to generate explanations for what is taking place in the research setting. The sensemaking template both designates the boundaries of contextual frames of knowledge gathering and is also influenced in its final structure by the empirical data. It complements an interpretive study by enabling explanatory and thematic analysis and the use of typologies in classifying the resultant data and findings.

From a methodological perspective, the literatures identified a variety of methods and units of analysis used according to the different disciplines, each requiring different skill sets. The artificial intelligence and cognitive disciplines use cognitive task analysis (Pirolli and Card 2005, Klein et al 2006b) while Weick, Snowden and others used narrative methods to analyse and identify sensemaking in crisis situations and as a means of decision making (Weick 1988, Snowden 2010, Abolafia 2010). Finally, Dervin devised a sense-making methodology to identify gaps or discontinuities in knowledge using an interview based platform for investigation (Dervin and Frenette 2003). In their review of sensemaking, Maitlis and Christianson (2014:106) list sensemaking research methods that include interviews, observations, auto-ethnography, as well as conversation and discourse analysis but no mapping techniques. Cognitive scientists use cognitive modelling and controlled experiments (Cairns et al 2008) or cognitive task analysis (Crandall et al 2006). Use of narrative in sensemaking studies is established (Czarniawska 1997, Snowden 2005, Abolafia 2010). Maitlis and Christianson (2014) noting that mixed methods had declined, urged the use of new methods to study sensemaking.

The use of cognitive mapping in a mixed method design is used in a new context and on an individual rather than group basis. It seeks to identify knowledge structures rather than the normative decision making application. In conjunction with the sensemaking template, I argue this approach is an important contribution to analytical sensemaking adds to the current

Using cognitive mapping as an analytical tool provided immediate and initial connections that could be evidenced by participants themselves and the analytical tools indicated causal or feedback loops, dominant concepts and hierarchical conceptual systems. In using concept maps as a means of considering how and where processes from individual maps can be connected, I was able to map out and succinctly summarise converging and diverging themes and processes. An additional benefit of using concept maps to analyse data is that they act both as a prompt when coming back to the analytical process, and can map developments in researcher thinking and understanding across a period of time. Additionally, they provide a record of initial ideas and patterns that were discarded, and which may now provide further consideration, in other words they act as a safety net of former ideas and thought processes.

11.3.3 Theoretical contribution

The contribution of the thesis to current knowledge is in generating a sensemaking process that offers a means of surfacing and understanding cognitive agency in organisational change. This previously implicit process of engaging with change environments influences how knowledgeable agents react and respond to the disequilibrium they experience. The theoretical findings contribute an element of redress to the criticisms focused towards organisational sensemaking's oversight in articulating process (Sandberg and Tsoukas 2014) by revealing previously tacit and subjectively constructed knowledge structures of organisational change as well as the boundaries and interrelationships they generate. The sensemaking process provides a starting point for recognising and articulating

the knowledge that knowledgeable agents bring to change agendas, from their personal experiences, to creative, reflexive and interpretive skills detected in their actions, narratives and networks of action. The sensemaking process has revealed sophisticated levels of understanding of change as well as the cognitive skills, and the intricate balancing of competing interests that knowledgeable agents realise, when enacting cognitive agency.

The sensemaking framework is one that can be understood and adopted in practice, to recognise, search out and generate opportunities for sensemaking and sensegiving at an individual and organisational level. It breaks down the complexities and transience of the different elements of cognitive sensemaking, the levels of differentiation, and how and in what ways sensemaking can be influenced in planned change scenarios. The theoretical antecedents of the framework are identified and it is supported by empirical data. The latter provides a rich sample of individuals gathering, using and sharing data to build understanding of a socially constructed environment in which individual socially constructed worlds are subsumed. Finally, by examining knowledge structures, the framework identifies the skills, knowledge and reflexivity applied by individuals to create and share meaning of what is taking place. The consideration of temporal contexts contributes to an understanding of sensemaking as more than retrospective (Weick 1995). Sensemaking across different temporal zones was identified as a disparity within the sensemaking literatures (Dervin 1983, Weick 1969, 1995, Pirolli and Card 1999, Klein et al 2007, Corley and Gioia 2011). The results of this study illustrate the different ways in which knowledgeable agents move across temporal zones to understand the present and project into future options and scenarios, which again influence present understanding and action.

There is more work needing to be done to clarify the nature of intentionality in sensemaking. Although there is evidence that shows relationships between the internal self and the external world, which are forged into a sense of identity and how these knowledge structures of identity can alter according to context, there is more to be done in designing a method to study intentionality in an empirical setting to examine how it is expressed conceptually. There is a need to further apply the process framework with a singular focus on each of the elements to clarify conceptual definitions, influence, range of influence and contextual variations.

11.4 Implications for policy and practice

There are practical implications arising from this study. Middle managers and organisational leaders have frequently been the source of sensemaking research (Bartunek et al 1999, Balogun and Johnson 2004, Rouleau and Balogun 2011, Combe and Carrington 2015). This research indicates that knowledgeable agents operate across the organisation and their access to data that informs sensemaking is important in the dissemination of information and sensegiving (Bartunek 1999). The networks and sources of data used by knowledgeable agents were varied and extended beyond organisational boundaries, generating a range of views and perspectives. Therefore it is important that the organisation provides or supports knowledgeable agents in generating a consensus in contextualising change processes: temporal contexts (beginning, continuation, cessation etc.), identifying options for engaging with change (challenge, creativity, enhancement, review etc.), building knowledge structures by presenting opportunities for engaging with complexity.

Recognising the language and actions of sensemaking in the organisation through as they are manifested in social and formal networks can aid in pinpointing sensemaking and sensegiving arenas as areas of influence. It is also important to recognise that challenge is an important part of the sensemaking process as it enables individuals to refine and articulate their understanding. It is a more nuanced concept than simply refuting change strategies. Challenge may be manifestations of disequilibrium and require reassurance, answers to questions or an improved appreciation of the purpose and desired outcomes of the change initiative.

An appreciation of how micro-cognition can influence or impact on the trajectory of change initiatives is important in managing expectations and expected outcomes: realising the complexity and range of individual knowledge structures that are brought to bear in understanding what is taking place requires reflexivity, recognition of individual sensemaking skills and contextualisation in order to capitalise on the capacity for influence that knowledgeable agents can generate. The findings provide opportunities for exploring alternative accounts of local government service delivery where knowledgeable agents are redrawing boundaries, applying their local knowledge and adopting multiple sensemaking processes. In enabling sensemaking and sensegiving, research participants have articulated how they negotiate and access resources through their understanding of the organisation and how it works for them. This non-hierarchical interpretation of decentred agency offers a contribution to understanding of how new styles of governance are being developed.

Finally, the research findings illustrate how marking out of change initiatives can influence how individuals consider them. Those involved in designing and implementing policy can contextualise it temporally as an organisational marker, thereby creating conceptual links to towards or away from previous initiatives. If this is a continuation or sub-process of a wider policy initiative, discourses and narratives providing a sense of continuity offers cues and connections in recognising and developing appropriate knowledge structures. Where previous initiatives are being discontinued, reflexive and discursive abilities are required to communicate new perspectives and stories, again marking out cessation, detailing why and what is stopping, and providing definitions of new language with contextual relevance. It is important to seek out examples of appropriate organisational behaviour to induce amplification, and filter out the latent background noise of previous change processes.

The practice implications of this research point towards the development of sensemaking and sensegiving skills across the organisation such as the facilitation of sensemaking conversations formally and informally, recognising and satisfying the need for different forms of sensemaking data, and developing and managing sensegiver opportunities by using the skills , knowledge and capabilities of knowledgeable agents to design, disseminate and implement effective change in order to improve public administration.

11.5 Strengths and Limitations

One of the strengths of this study is the breadth of interdisciplinary literatures and theories, associated with a range of varying epistemological perspectives. The advantages of

such an approach offer multiple perspectives and interpretations for examining literatures, theory, and in formulating research design. Operating at the boundaries of different disciplines, within the gaps of these different fields of exploration, are opportunities for creating innovative conceptual links, extending horizons of what is possible or plausible to consider as explanation or cause, and means there is more opportunity, and to a certain extent, confidence, in arguing against disciplinary assumptions and boundaries. An example is the populist Weickian argument that sensemaking is always retrospective. In contrast Emirbayer and Mische's (1998) sociological exploration of agency identifies differentiated temporal contexts in sensemaking, perspective, while future orientated sensemaking was used to understand future change and "new realities" (Gioia and Chittipeddi 1991, Gioia et al 1994:442). Ethnomethodological studies of institutional rhetoric examined prospective sensemaking (Gephart 1978, Gephart et al 2015) with Clarke identifying "fantasy documents" "used by experts in "prediction" (Clarke 1999:158). I would use this approach in future research but focus more time on laying a foundation of defining concepts, and clarifying points of dissention between the disciplines.

An additional strength of the study was the drive to create a holistic perspective of sensemaking. This relied on drawing together macro, meso and micro sensemaking literatures to identify how the process of meaning making was treated through cognitive (Klein, Moon, Hoffman 2006, 2007, Pirolli and Card 1999), individual (Dervin 1983, Balogun and Johnson 2004, Snowden and Boone 2007, Berger and Meng 2014) and organisational accounts (Weick 1993, 1995, Weick et al 2005, Weber and Glynn 2006). This search for

holism moved between data and theory across qualitative and quantitative disciplines to represent the story of knowledge elicitation, creation, application and dissemination.

The research design, using multiple research methods provided opportunities for triangulation and generated an extensive empirical data collection. It was also highly participative with change episodes self-selected by research participants and roles self-identified in an attempt to present a less structurally bound and more agentially focused study, acknowledging what Caldwell calls “distributive models of expertise...and knowledge creation” (Caldwell 2006:151). Cognitive mapping and the use of taped semi-structured interviews were successful in representing knowledge structures and complexity in understanding change but they were also resource heavy in an inductive study as the analytical software did not read across maps so the search for common themes across maps had to be completed manually, and transcription time was lengthy.

My use of a taxonomic approach in classifying the variety of ways knowledgeable agents searched for organised and made sense of the continual flow of data that surrounded them. This may attract some criticism regarding the limited size of sample and the quantity of empirical evidence generated to populate it, resulting in hierarchical relationships that are unsophisticated in description. Criticisms may also be levelled at the technique as reductionist: in the sense that the heuristic reduces or shortcuts the ability to exhibit differing dimensions of sensemaking activity and cognition evidenced in the data. However, the device is a useful way of categorising data in a meaningful and concise manner.

There were limitations to the cognitive mapping process. The mapping data can be considered sparse if not used in conjunction with other methods to supplement or explain connections and concepts. According to Mannion et al, there is a danger that maps, although subjective views of reality can be considered as final and absolute (Mannion et al 2004). In the same vein, they are not models of cognition indicating how individuals think (Axelrod 1976, Eden 1992) but are representations of tacit knowledge at one time in a particular setting. Some readers found the maps hard to read or understand, and to link the thumbnail extracts with the complete maps. Additional data was supplied to support explanation of map excerpts through vignettes, field notes and transcriptions. In future research I would attempt to work with a smaller sample and complete more maps with individual participants so stories of change can be developed and identified.

Another limitation relates to the sampling strategy. Because of the austerity budgets resulting from the economic downturn, the research organisation underwent an extensive redundancy programme in which those aged 55 and over were able to opt for early retirement. Although purposive samples cannot guarantee a fully representative sample, this disproportionate age and service length representation which may be argued to affect outcomes. Researcher bias in identifying and determining knowledgeable agents is open to criticism in terms of how the term 'knowledgeable agent' was explained to key informants and research participants, and in negating to ask those who were offering referrals to more adequately describe the characteristics against the sampling framework.

I acknowledge that the challenges of adopting an interdisciplinary approach where some concepts have not been sufficiently defined, where the concept of a knowledgeable agent in an empirical setting could be more clearly defined, and where challenges in using cognitive mapping are acknowledged, challenges the opportunities for transferability (Lincoln and Guba 1985) as they limit the connection with disciplinary familiarity that is required in embracing outcomes. However I would argue that it is the processes and classifications that offer transferability to a wide range of public administration and wider settings and these have been augmented but not totally mitigated by detailed descriptions of the research process, peer review, member checking and in refining plausible arguments for presentation to play “each method off against the other so as to maximize the validity of field efforts” (Denzin 1978, p. 304).

11.6 Future research and conclusion

This was a study of micro-processes, but the data also held evidence of larger scale perspectives, as knowledgeable agents identified the scale of episode they wanted to map out. Some focused in on daily routines and one to one interactions, while others adopted a more strategic view across the organisation, and to external relationships. The data already gathered could provide the basis of further research into the meso and macro considerations of the sensemaking process. Using the sensemaking analytical framework and cognitive mapping in a mixed method approach in other research applications would acknowledge Maitlis and Christianson’s encouragement of researchers in comparing “multiple instances of sensemaking” as well as using new methods to provide new

theoretical insights and generate different questions (2014: 107). Researching how the findings could be applied in a practice orientated setting would identify how practitioners can capitalise on the sensemaking skills and capabilities of knowledgeable agents in designing and implementing organisational change more effectively. It is a matter of research rather than a cut and paste exercise because as Corley and Gioia point out, theory and practice can inhabit “different worlds” (Corley and Gioia 2011; 21-22) requiring dynamic interpretations and applications of theoretical findings.

In this research project I have adopted an inter-disciplinary approach to identifying how knowledgeable agents react and respond to altered environments. There is a rich vein of knowledge to be investigated and adapted to further our understanding of change in the public administration arena. At the micro-processing level, cognitive science and HCI studies adopt a cognitive approach to decision making, problem solving and have developed models of autonomous agency, all of which can usefully inform such research, offering new perspectives, new discourses of cognitive agency and the search for knowledge. Cognitive development studies offer insights into the relationship between the individual and the environment and how the different temporal contexts of change episodes and processes can affect the process of equilibration.

Summary

Sensemaking is considered “extraordinarily influential” (Brown et al 2015:265) and has been extensively explored in organisational settings. From examining how individuals enact their environments (Weick, 1995, 2005, Maitlis 2005), to wider consideration of how

sensemaking occurs in organisations (Gioia and Chittipeddi 1991, Gioia and Thomas 1996, Sonenshein 2007, 2010, Mantere 2008, Rouleau 2007, Snowden et al 2007, Gephart et al 2010, Rouleau and Balogun 2011), perspectives all considered how sensemaking is created (Gioia and Poole 1984, Weick 1995, 2005, Kurtz and Snowden 2003). The role of sensemaking in crisis situations also provided a rich seam of research (Weick 1988, 1993, Gephart 1984, 1993, Maitlis and Sonenshein 2010). Cognitive sensemaking was studied by Elsbach et al (2005) from group and organisational perspectives.

In the Artificial intelligence disciplines the cognitive aspects of sensemaking were being identified and modelled (Walsh 1995, Klein et al 1989, 2006a, 2006b, Pirolli 2007, 2010, Pirolli and Card 1999, Pirolli and Russell 2013) with links being made to associative tasks like tagging (Dumais et al 2000).

This study contributes to the literature by providing an increased understanding of public sector sensemaking (Carter and Colville 2002, Hartley and Rashman 2002) in non-crisis, decentred and shared networks. The results highlight a breadth of knowledge identified and enacted by knowledgeable agents through knowledge structures which they adapt or create and apply them to new current and future contexts. In supporting Giddens view (1984) that all individuals exhibit a level of knowledge, this is differentiated, and the associated transformative agency can be argued to begin at the cognitive level.

EPILOGUE – RESEARCHER SENSEMAKING

In writing a sensemaking thesis, I have reflected on my own sensemaking throughout the doctoral experience. This section records some of the sensemaking activity of which I became aware, as I sought to understand organisational change at the micro level. My sensemaking was triggered by the disequilibrium required of the doctoral researcher in searching for originality in her contribution to knowledge.

The first example is that of reflexive 'noticing'. For me, it meant stepping outside of the research process to observe how my ideas developed; the actions I took to manage 'me' and my work, and how the feedback I received supported my doctoral skills. I realised I frequently used metaphor as a tool for creating connections between concepts. Taking knowledge from concrete examples, I was able to examine the qualities of more abstract concepts. Supervision sessions sometimes became metaphorical hunting grounds as my supervisors and I embraced this way of exploring concepts I had not yet sufficiently formulated to be able to express explicitly. These exchanges gave me opportunity to refine what I understood and what I conveyed.

Sometimes, connections and findings from the data were created at random times. Not yet fully formed, these thoughts had to be recorded immediately, or the transient thought would be lost. I was aware that mentally, these connections were strong, but expressing them formally was sometimes difficult, and Kerouac's "struggle to sketch the flow that already exists intact in the mind" (1959) resonated strongly.

The second example is a process of what participant OL called “a tiny space to recuperate” and others called ‘settling’. On the occasions when conceptualising ideas and writing evolved into a frustrating battle between the need to produce work, and the gap in understanding (of what words to use, of structure, of what the data was telling me), I distanced myself from the immediacy of the work, and distracted myself with ‘easier’ tasks. By creating a mental space like this, I became aware of a level of sub-conscious analysis and reflexivity taking place. Unfettered by timescales and pressurised concentration, my data was working its way through my knowledge structures, sifting for fit, for patterns of association and anomalies. When I returned to the work, there were elements of clarity, a changed perspective.

This process highlights the cognitive and research management aspects of researcher development. Interpretive analysis is an immersive approach. The act of analysing operates at different levels and the emerging skill of the researcher lies in recognising her limitations of the moment. Limitations expressed as frustration require managing. Task substitution leaves space for a more peripheral level of focus, reduces the ‘imposter syndrome’ doubts (Clance and Imes 1978) that creep in at these times, and provides an active management approach to managing the challenge of research. At first my cross-disciplinary approach to the research was an unintentional search for sensemaking cues. Now I have formalised it cognitively as an intentional act of searching for an innovative perspective, not just to research, but to broader questions and considerations, and it is only by following different routes that learning is expanded. I am happy to accept the occasional wrong turn, and the equivalent of the theoretical cul-de-sac, in exchange for the excitement of new territory.

That is cognitive agency: “the capacity to transpose and extend schemas to new contexts”
(Sewell 1992:17)

The final example of sensemaking has a more reflexive content. I have had five supervisors over the course of my studies and each brought a different cognitive dynamic to our doctoral research relationship. Their approaches helped me to construct new knowledge structures, to revise previous ways of thinking, and to enact my own agency in moving to my sphere of contribution honed from my relationships with them, with texts and with experience. Even after they moved on, they left a legacy of supervisory perspectives and specialisms unique to each of them. These are triggered when I reflect on their key contributions of problematisation, structure, conceptualisation, challenging normative approaches, and rigorous application of process.

One of the most valuable experiences in this research process was learning to work in conjunction with my own knowledge structures. I gradually became more confident in my ability to articulate ideas and connections previously on the peripheral edges of my thinking processes. Rather than struggling to define what felt nebulous but also important in the moment, I mentally moved away and let the thoughts permeate through my schema, until a more readily accessible concept or schematic emerged. This way of working became a very powerful cognitive process to adopt, reducing the doubts and frustrations of problem-framing and problem-solving in inductive reasoning settings. Another sensemaking tool I adopted in the latter stages of writing up my findings was the use of metaphorical reasoning in identifying the relationships of abstract conceptions like ‘change’, ‘agency’ and

'perception'. I drew on concrete metaphorical relationships to ground the abstractions in meaningful ways.

As a concluding consideration, I come back to Lynch's classifications of map design (1960:46-48) to consider my own PhD map and its distinctive characteristics.

Paths: For me, the paths I took were a combination of my own hunches, and the influences of my supervisors, exploring new frames of analysis, rejecting some and embracing others. There were no dead-ends as each path contributed clues to reaching the final destination.

Edges: Research edges became clearer and more defined as I set the boundaries of my subject area, designed the empirical study and sought out the main themes in analysis. What always seemed like hard edges to battle against were the 'out there' conceptual ideas that beckoned but remained painfully indistinct until synaptic gaps were breeched, components connected in different ways, and sense began to emerge. Struggling with the data about equilibrium was one such episode. I was certain equilibrium was an important factor in the sensemaking process but identifying how it affected reactions to change in such diverse ways was hard to relate in a plausible way until I eventually found differentiated levels of equilibrium.

Districts: These are scholarly communities, either local peer networks or schools of thought that I as a researcher enter into, and within which I share some "common, identifying character" (Lynch 1960:47). These districts alternate with edges to provide a

sense of structure and demarcation. They also provide a means of identifying oneself to the academic community as an interpretivist, or a mapper.

Nodes: Lynch describes nodes as “the strategic spots in a city into which an observer can enter, and which are the intensive foci to and from which he is traveling(sic)...junctions, concentrations which gain their importance from being the condensation of some use or physical character ”(1960:47). These are the critical junctures in the research process and are different for each of us. They are the moments when I created a means of presenting the data in a meaningful way, and subsequently when I decided to jettison it again because I was attempting to cram too much into a thesis structure. There were other points, when I could look out across my thesis and see a clear and logical path from question to findings, alternating with views that were misty and unclear. The final node is that intense period of concentration before submission when the aim is to succinctly draw together and define the map as coherently as possible, defining the boundaries, highlighting the landmarks (findings), showing the paths of method and analysis, that were informed by the districts I had entered and influenced my orientation.

Landmarks: for each doctoral researcher there are significant points of progress or frustration which are unique and personal, but in terms of those that resonate more broadly as “clues of identity and even of structure” (Lynch 1960:48), I refer to Thompson (2015b). Thompson identifies four landmarks in doctoral progression: identifying the research question, identifying and shaping appropriate literatures, managing and analysing the data,

and then finally drawing it all together in a meaningful narrative representing contribution and personal development.

APPENDICES

Appendix 1 –Case Study context

Case Study Context

In 2012 the National Coalition Government and Local Government were facing the continuing effects of a global economic downturn that had begun in 2008, resulting in austerity budgets and extensive reductions in public spending and public sector resources. From its election in 2010, the Conservative and Liberal Democrat Coalition had set austerity budgets to instigate £81bn of budget cuts in a four year period to 2014, including 490,000 public sector jobs (Lowndes and Pratchett 2012)

In tandem with the demands of addressing the economic downturn, Local Government was also in the process of implementing the Coalition Governments legislation and policies to change local governance arrangements. With the introduction of the 'Big Society' ideology and the Localism Act 2011, all Local Authorities were having to rethink service delivery as part of a longer term strategy to generate greater citizen empowerment by moving away from a centralised approach to governance and instead, placing decision making at the heart of local communities and neighbourhoods (Sullivan 2012). This devolution agenda offered communities and individuals the opportunity to actively engage in influencing the shape of local service delivery. Enabling and empowering individuals and communities to act together to become more self-reliant was framed in the Big Society narrative that was an intrinsic part of the societal and cultural shift espoused in the localism agenda: fostering the power of

volunteering, community involvement, cooperation and local decision making (Macmillan 2013).

However, the results of the austerity budgets were considered to have had greater impact on more deprived authorities (Hastings et al 2012) and critics of the Localisation Agenda and the Big Society initiative questioned how local authorities could address local needs while having their budgets cut. The latter was seen as something of a cynical ploy to provide local services through a volunteering capacity.

Within this broader economic and political context, the case study Local Authority was experiencing many of the issues faced by all local authorities across the board at this time: developing a long-term strategy for delivering sustainable and effective services while at the same time, dealing with the issues of escalating budget cuts with subsequent reductions in staffing and resources. The pace and shape of the economic recovery was uncertain, with concerns of a 'double-dip' recession triggered by continued spending cuts, uncertainty in the housing market and construction industry, the slowing of exports and lower consumer spending (O'Connor 2012). There was continuing pressure on already stretched public services and welfare provision, with research suggesting that greater impact was felt by more deprived local authorities (Hastings et al 2012).

Questions of where and how critical services were to be maintained were exacerbated by increasing demands for social and welfare services as unemployment rates rose and the effects of austerity witnessed an ensuing increase in crime rates and levels of poverty (Lowndes and Pratchett 2012).

The Local authority selected for the case study is a deprived and densely populated urban area in the Midlands region of England. In 2012 it provided services for a population of over 300,000 people (██████████ Trends 2012). The population is ethnically diverse with a younger population than the national average and a higher than national average level of European Union immigration. Health levels including life expectancy are lower than the national average and deprivation and teenage pregnancy levels are higher than the national figure.

Employment is concentrated in manufacturing, health, retail and business and administration but opportunities for employment are decreasing as there are low levels of entrepreneurship and low GCSE attainment levels with 25% of the population having no qualifications. There is a net migration from the area, as well as a high percentage of travel to work in other areas. Figures up to June 2012 show 74% of the working population active and unemployment stands at 12.8%, both figures lower than the national average. Additionally, there are low levels of employment in higher level occupations and higher rates of employment in lower level employment when compared regionally and nationally. The number of people seeking Job Seekers Allowance (JSA) is double the national average (7%) and in one ward, 23% of young people in the 18-24 age-groups are claiming JSA.

Ofsted deem Social Care within the local authority to be failing and a new partnership arrangement with an external partner to address the issues identified by Ofsted includes appointment of a new director appointed by the partner organisation.

The aspirational potential of young people in the area were deemed to be some of the lowest in the West Midlands, when considering educational, housing, employment and social factors (Ambitious Minds 2012).

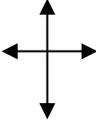
The case study was selected for three main reasons: first, on the basis of the typical nature of the issues of the restrictions imposed by austerity budgets and the parallel need to implement the Coalition Government's Localisation Act and agenda. Second, in [REDACTED] the Authority had begun to implement its long-term strategy for adapting and modernising how it delivered services by signing off a [REDACTED] year, £[REDACTED]m strategic partnership with an external partner, to transform business and delivery functions. This long-term investment in change across the council served as a positive indicator of planned change processes being enacted. Third, the location of the Authority provided an appropriate geographical location for the researcher to complete her empirical research effectively, on a part-time basis.

Appendix 2 Sampling Framework

Roles & indicators:	Organisationally referenced – positive engagement	Organisationally referenced – passive role	Organisationally referenced - Enforced role (Passive/subversive)	Undefined by role or organization – positive engagement	Active resistance to change to maintain status quo-explicit	Active resistance to change to maintain status quo-subversive	Active resistance to change initiative - explicit	Active resistance to change- subversive	Passive resistance to change
Engagement in the process or policy	Defined by role	Defined by role	Obligatory/ Defined by role	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary /situational
Consideration of what is required	Automatic role/ Conscious interpretation?	Automatic role/ Conscious interpretation?	Automatic role / Conscious interpretation?	Conscious	Conscious	Conscious	Conscious	Conscious	Conscious
	Reflective /Forward looking?	In the moment? Forward	In the moment	Reflective / forward looking	In the moment /reflective	Reflective / Forward looking/	In the moment /reflective	Reflective/ Forward looking/	In the moment /reflective

Roles & indicators:	Organisationally referenced – positive engagement	Organisationally referenced – passive role	Organisationally referenced – Enforced role (Passive/subversive)	Undefined by role or organization – positive engagement	Active resistance to change to maintain status quo-explicit	Active resistance to change to maintain status quo-subversive	Active resistance to change initiative - explicit	Active resistance to change- subversive	Passive resistance to change
		looking?				In the moment?		In the moment?	
Role	Defined by organization/	Defined by organization /defined by self?	Active /passive /subversive	Taking responsibility /defined by self	Taking responsibility /defined by self	Taking responsibility /defined by self	Taking responsibility /defined by self	Taking responsibility /defined by self	Passive /defined by self
Influence (Stems from)	Organisationally derived / personal reputation	Organisationally derived / Personal networks and status	Organisationally derived / Situational?	Empowered –self or uses organisationally derived	Organisational role /self / situational	Self	Organisational role /self	Self	Self
Sense making	Organisationally derived / Self-knowledge /other sources	Organisationally derived /awaits demand /problem /dislocation	Awaits instruction /awaits demand /problem /dislocation	Uses variety of information networks	Self /organization /variety of sources	Self /organization /variety of sources	Self /organization /variety of sources	Self /organization /variety of sources	Awaits instruction / variety of sources

Roles & indicators:	Organisationally referenced – positive engagement	Organisationally referenced – passive role	Organisationally referenced - Enforced role (Passive/subversive)	Undefined by role or organization – positive engagement	Active resistance to change to maintain status quo-explicit	Active resistance to change to maintain status quo-subversive	Active resistance to change initiative - explicit	Active resistance to change- subversive	Passive resistance to change
	Multi-referenced	Ego centric outcomes considered	Ego centric outcomes considered	Multi-referenced outcomes considered	Ego centric outcomes considered	Ego centric outcomes considered	Ego centric outcomes considered	Ego centric outcomes considered	Ego centric outcomes considered
Language	Interpretation	Copied	Copied /alternative interpretation	Alternative Interpretation	Alternative interpretation	Alternative interpretation	Alternative interpretation	Alternative interpretation	Copied
	Managing uncertainty	Ignoring /manipulating / Feeding uncertainty?	Feeding on uncertainty to position of being static	Managing uncertainty	Feeding on uncertainty	Feeding on uncertainty	Feeding on uncertainty	Feeding on uncertainty	Feeds on dominant processes and behaviours
Attribution of responsibility	Organisation /self	Organisation /others	Externalized (fault of others)	Some part to play	Externalised - organisation	Organisation /others	Organisation	Organisation /others	Organisation

Roles & indicators:	Organisationally referenced – positive engagement	Organisationally referenced – passive role	Organisationally referenced - Enforced role (Passive/subversive)	Undefined by role or organization – positive engagement	Active resistance to change to maintain status quo-explicit	Active resistance to change to maintain status quo-subversive	Active resistance to change initiative - explicit	Active resistance to change- subversive	Passive resistance to change
Trust	Organisation /Leaders	Distrust of organization /leaders Higher trust in other source	Distrust of organisation /trust in organisation	Trust in (something /someone) etc.	Distrust of organisation	Distrust of organisation	Distrust of organisation	Distrust of organisation	Distrust of organisation
Assimilation/Accommodation	Assimilation	Accommodation	Non-accommodation	Assimilation?	Non-accommodation	Non-accommodation	Non-accommodation	Non-accommodation	Non-accommodation of some elements?
Correlation between distance from development of policy to active engagement in implementation	Development /Engagement 								

Notes:

“Enforced role” interpreted as selected by the organisation (non-voluntary) and outside of normal role, or within normal role but change role required to be a priority.

“Passive” defined as: actively adopting a passive role.

“Role”: may be sub-divided into role definition or role enactment

“Language”: where the language of policy and implementation is considered the dominant discourse.

Appendix 3- Respondent participation in research methods

	Research participants	Status	Cognitive maps	Semi-structured Interviews	Taped Interviews & Transcriptions	Field notes	Vignettes
1	HAR	KI	✓	✓	x	✓	
2	HE		✓	✓	✓	✓	
3	BA		✓	✓	x	✓	
4	DEV	KI	✓	✓	x	x	
5	AM		✓	✓	✓	✓	✓
6	WA		✓	✓	✓	✓	
7	WI		✓	✓	✓	✓	✓
8	RA		✓	✓	✓	✓	✓
9	DEN	KI	✓	✓	x	✓	
10	SH		✓	✓	✓	✓	
11	AMA	KI	✓	✓	x	✓	
12	FI		✓	✓	x	✓	
13	GA		✓	✓	x	✓	
14	SHA	KI	✓	✓	x	✓	
15	YV		✓	✓	✓	✓	✓
16	OL		✓	✓	✓	✓	✓
17	AME		✓	✓	✓	✓	✓
18	RY		✓	✓	✓	✓	✓

	Research participants	Status	Cognitive maps	Semi-structured Interviews	Taped Interviews & Transcriptions	Field notes	Vignettes
19	DEI		✓	✓	✓	✓	✓
20	RE		✓	✓	✓	✓	
21	SAI		✓	✓	✓	✓	
22	AL		✓	✓	✓	✓	
23	CH	KI/KA*	✓	✓	✓	✓	✓
24	CO		✓	✓	✓	✓	✓
25	LO		✓	✓	✓	✓	
26	EM		✓	✓	✓	✓	✓
27	SA		✓	✓	✓	✓	✓
28	KA	KI	✓	✓	x	✓	
29	HA		✓	✓	✓	✓	
30	BE		✓	✓	✓	✓	✓
31	PA		✓	✓	✓	✓	✓
32	PAD	KI	✓	✓	x	✓	
33	ME		✓	✓	✓	✓	
34	AY		✓	✓	x	x	
35	PH		✓	✓	✓	✓	

Appendix 4 - The Invisible Gorilla Experiment

(Simons and Chabris 1999)

Participants were asked to watch a video of 6 people passing around baseballs. 3 people were dressed in white shirts and 3 were dressed in black. Participants had to silently count how many passes of the ball were made by those players wearing white shirts. During the video, an individual walked into shot, faced the camera and stayed on screen for 9 seconds. Half the number of participants watching the video and counting the passes had not seen the gorilla on screen. The experiment reveals how a concentrated focus blocks out other data, and that we are unaware that other data exists.

Each video tape, of 75 seconds duration, showed two teams of three players, one team wearing white shirts and the other wearing black shirts and they all moved around, relatively freely, in an open area in front of three lifts. The members of each team passed a basketball to each other in an order that was repeated each time: player 1 passed to player 2, who passed to player 3, who passed to player 1 etc. The balls were bounced or thrown and players waved their arms or dribbled the ball, only occasionally looking at the camera. After 44-48 seconds one of two unexpected events occurred: either a tall woman holding an open umbrella walked from off camera on one side of the action to the other, left to right, or a woman wearing a gorilla costume followed the same route. Both occurrences lasted 5 seconds. During both events the players continued their actions during and after the event. Before viewing the tapes, observers were told to focus on the either the team in white or

the team in black shirts. The observers had to keep a silent mental tally of count of the total number of passes made by the team or separate silent tallies of the number of bounce passes and aerial passes made by the team. After watching the tape, observers had to immediately record their count(s) on paper. They were then asked if they saw anything else happen during the activity:

The Umbrella Woman was noticed more often than the Gorilla overall (65% versus 44%). This relation held regardless of the video type, monitoring task, or attended team, suggesting that the Umbrella Woman was either a more visually salient event than the Gorilla, more consistent with observers' expectations about situations involving basketballs, more semantically similar to the attended events, or all three. However, when observers attended to the actions of the Black team, they noticed the Gorilla much more often than when they attended to the actions of the White team (Black 58%, White 27%). By contrast, attending the Black team versus the White team made little difference in noticing the Umbrella Woman (Black 62%, White 69%). The Gorilla was black, whereas the Umbrella Woman wore pale colors that differed from both the Black and the White team...it appears that observers are more likely to notice an unexpected event that shares basic visual features in this case, color—with the events they are attending to. (Simons and Chabris 1999)

Appendix 5 - Ethics submission

Section 19.9: Potential Risks and Safeguarding Measures

Research Staff:

Participants may view activity as therapeutic and express desire to continue with further interviews. The researcher will explain the process of the mapping exercise and the beginning and end of the interview, and that self-referral is only applicable at the initial interview stage. Explain research categories for selection for additional interviews

In the event of an individual becoming distressed or demanding to continue the process, the researcher will end the interview, inform the participant that their involvement in the research will be concluded and the matter will be reported to the key contact. In the case of any distress, the researcher will locate a manager or colleague to assist the individual

Research participants

They may be instructed to withdraw or forced to withdraw due to unforeseen demands or pressures. Rescheduling interviews for the individual at a later period in the research schedule can mitigate the situation, discussions with the project sponsor/key contact may provide additional short-term support for the individual/team so that interviews can be completed or continued.

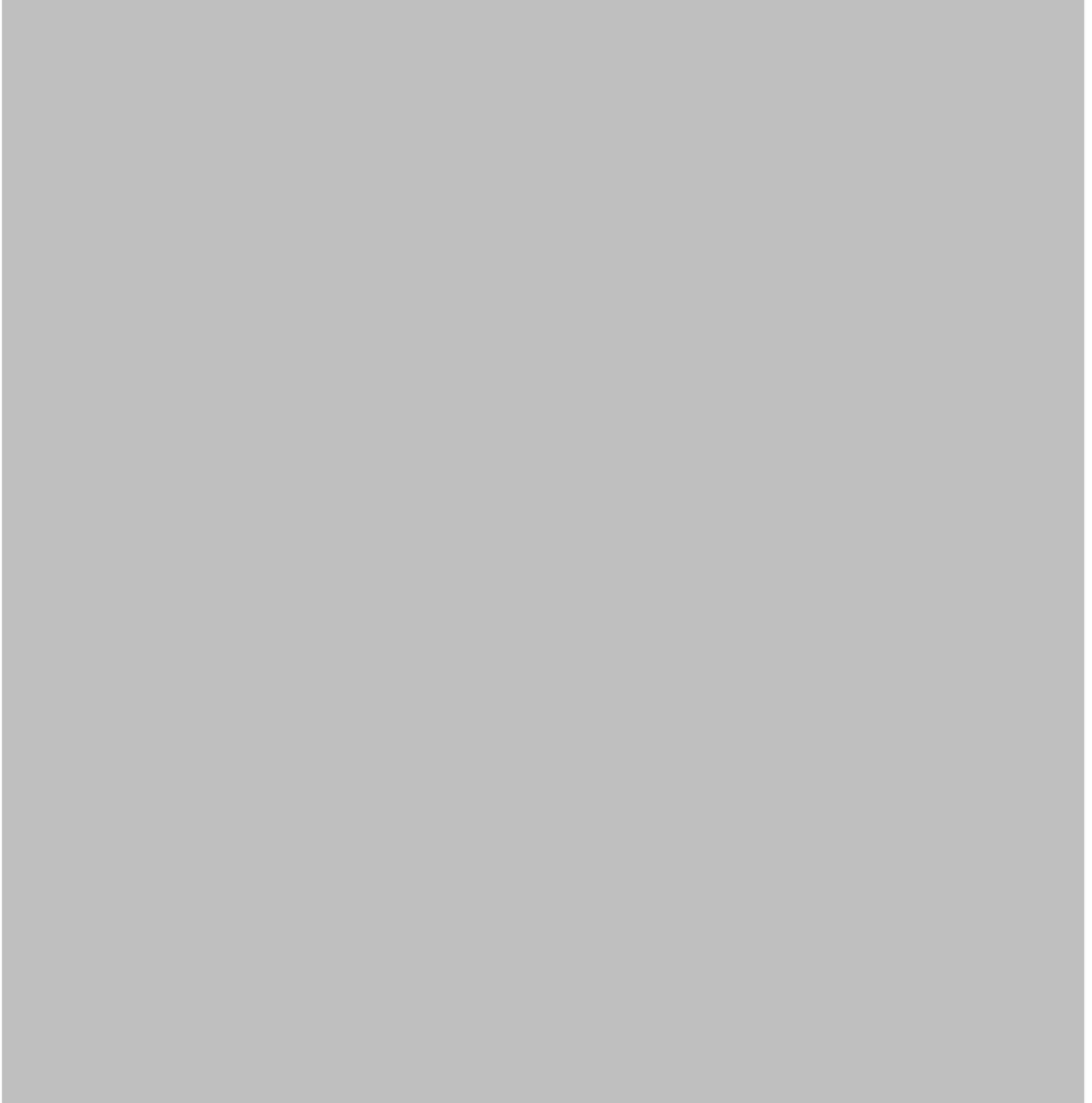
If the participant has to withdraw, any signed off data will still be valid. Any maps not completed will not be used but will be stored until the research is completed.

They may influence participants to withdraw or have the authority to curtail/deny access to researcher.

The researcher would mitigate the risk by requesting an interview with the individual in order to explain the research project and allay any fears or misconceptions about content, analysis or data gathering that may be present.

If there is evidence that the individual is influencing research participants unduly, the matter will be discussed with the key contact to gain alternative authorisation for participant attendance.

Appendix 6 - Ethics Letter of approval



Appendix 7- How to Read a Concept Map

Concept maps were developed as learning and development tool (Novak and Musonda 1991) based on a cognitive psychology approach to development (Ausubel 1963). They are used primarily as learning and evaluation tools. The system is based on concept of learning occurring as the result of new information being assimilated into existing conceptual frameworks. These conceptual frameworks are knowledge structures.

The concept map consists of 2 concepts (specific ideas) that are linked to make a proposition. Each proposition is a statement of meaning (See Fig.1)

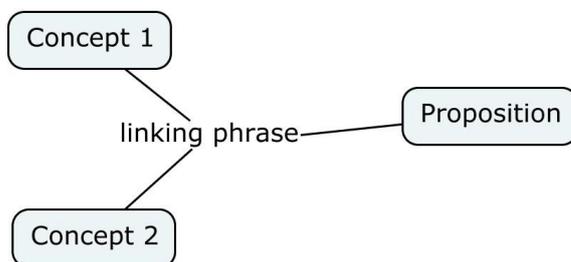


Figure 1- A proposition

A concept map is made up of a number of propositions to illustrate a knowledge structure- a personal view, consideration or understanding of any phenomenon or idea (Novak 1998) (See Fig.2).

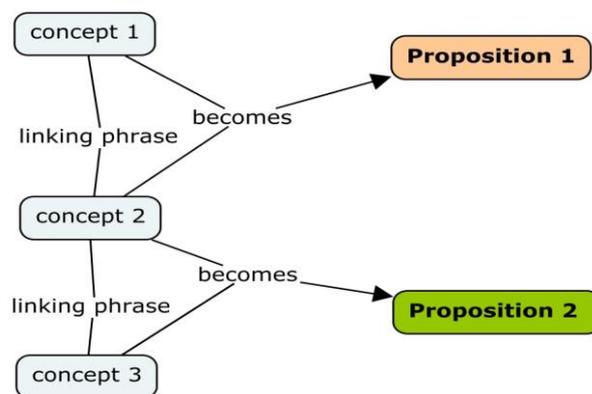


Figure 2 - Knowledge structure

Every two concepts and their linking phrase form a unit of meaning and should be read as such, as though there was a full-stop after each proposition. Linking phrases usually include a verb.

Where a proposition is connected to more than one concept, each set of two concepts and linking phrase are separate units of meaning that form a set of propositions.

Fig.3 illustrates a number of elements of a concept map, which are read from top to bottom. Where a concept links to another concept which is hierarchically higher, the linking arrow has a directional head.

The following statements are included in the map in Fig.3:

- Disequilibrium triggers sensemaking
- Sensemaking involves finding cues and patterns
- Sensemaking is part of the process of equilibration
- Equilibration involves assimilation and accommodation
- Cues and patterns create meaning from changes to the environment
- Changes to the environment cause disequilibrium

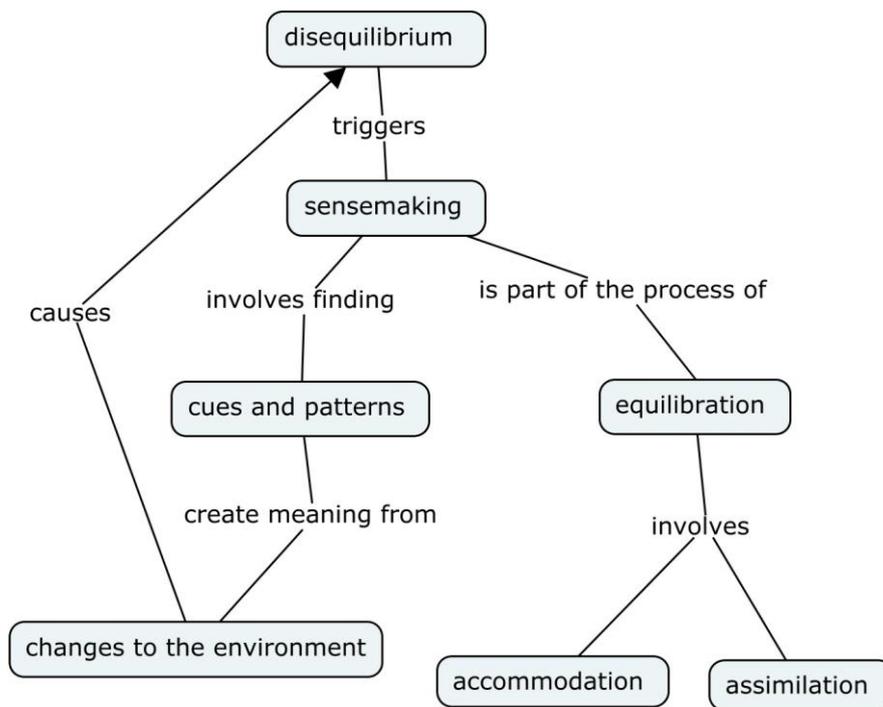


Figure 3 - Building a concept map

Fig.3 shows the proposition of ‘equilibration’ spans across the concepts of assimilation and accommodation. Also illustrated is the cause and effect argument of “changes to the environment causes disequilibrium, so there is a link with an arrow pointing upwards.

Appendix 8 - Possible Mapping Techniques

Technique	Use	Rejected
Self-Q	Self-administered Ranking of pre- prepared concepts	Limited participant –researcher interaction
Decision Tree	Used in decision modelling	Did not reveal cognitive process of decision making sufficiently
Dendrograms or tree maps	Hierarchical clustering of information	Inappropriate for the setting. Future based options appraisals
Repertory Grids	Means of recording individual perceptions of selected topics	High skill level required for analysis Limited participant-researcher interaction
Concept Mapping	Illustrates conceptual knowledge and relationships between concepts and schema	Appropriate model but application is time consuming for beginners and considered too much of a challenge as an introduction to mapping
Mind Maps	Visual representation of subsidiary concepts to a primary central concept.	No facility for recording complex relationships

Appendix 9 - Software assessments

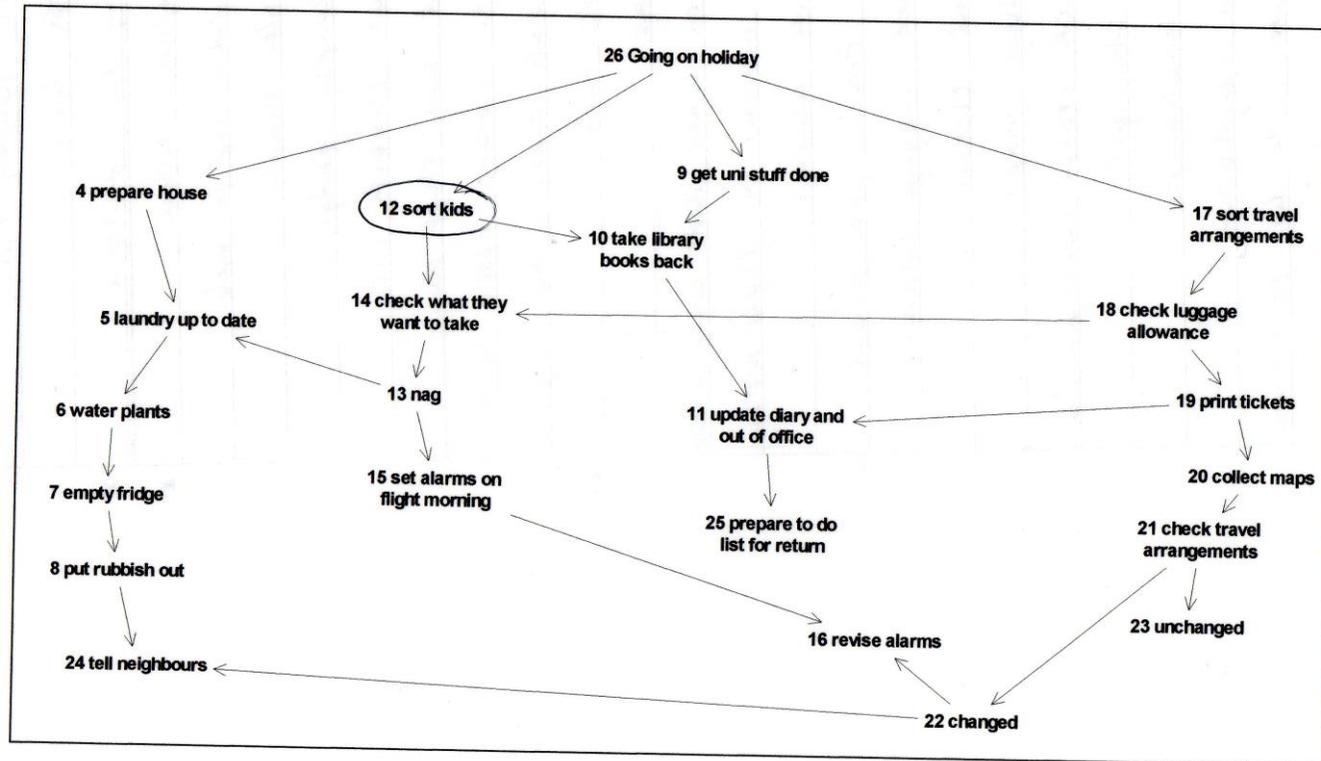
Method	Tools	Support	Lead Expert	Comments		Cost / benefit
Cognitive mapping	Decision Explorer (supplied by Banxia)	One-day training course using software .	Eden & Ackermann Bryson et al 2004	Link to Weick Provided references to explore validity testing of analysis and technique Easier to use than Cognizer. Can use as low-tech Training available	Used by DMU but not recently. Uni of Manchester –Prof Graham Winch. Emailed 12/11/10 Forwarded request to E. Maytorena to contact me (Expert user) See Edkins et al 2007 re method of mapping s5.5	1 x Academic licence = £295 1x Academic rate training course = £395
Cognitive mapping	Cognizer 1.1	Demo programme and on line tutorial	Mandrake Technology Prof Gail Clarkson Leeds University Business School	References Ackermann Analysis provides e.g. - No. of constructs, -No of constructs selected, - No of links , -Map density Enables cause map comparisons (calculates a distance ratio (DR) between them		1 x user academic pack=£250
Sense making	Timeline interviews Negative questioning		Dervin, Ohio State university		Qualitative-interview	No financial cost. Time resource expensive

Appendix 10 - Coding using metaphor –‘communication’.

Codes and metaphorical equivalents	Filtering	Amplification	Transformation
Associations	“my ideas fitting into organisational confines” (AM) “Have to know what I think in order to explain to others” (AM) “Patterns and congruence” (AM)	“Illustrate by communications and creative skills” (AM)	“Communication skills” (AM) “Delivery wins support” (SA) “Analysis” (AM)
Interruption/ Resonance	“Something will settle” (AM) “Organisation and my congruence” (AM)		“Expectations of what I can and can’t deliver” (SA) “Thinking talking sharing” (AM)
Time (tempo)			“Opportunities seen and taken” (SA)
Distance/volume		“Impact on community” (AM)	
Blockages	“Systems prevent efficiency” (SA)	“Choosing to ignore hurting other peoples’ sensibilities” (AM) “Lack of trust in others to achieve” (SA)	“Deliver different things” (SA) “Go through hoops after idea” (SA)
Acoustics		“Able to persuade and communicate” (AM)	“Volunteer energy” (SA)

Appendix 11 - Benign Cognitive Map

Cognitive mapping example—Going on holiday

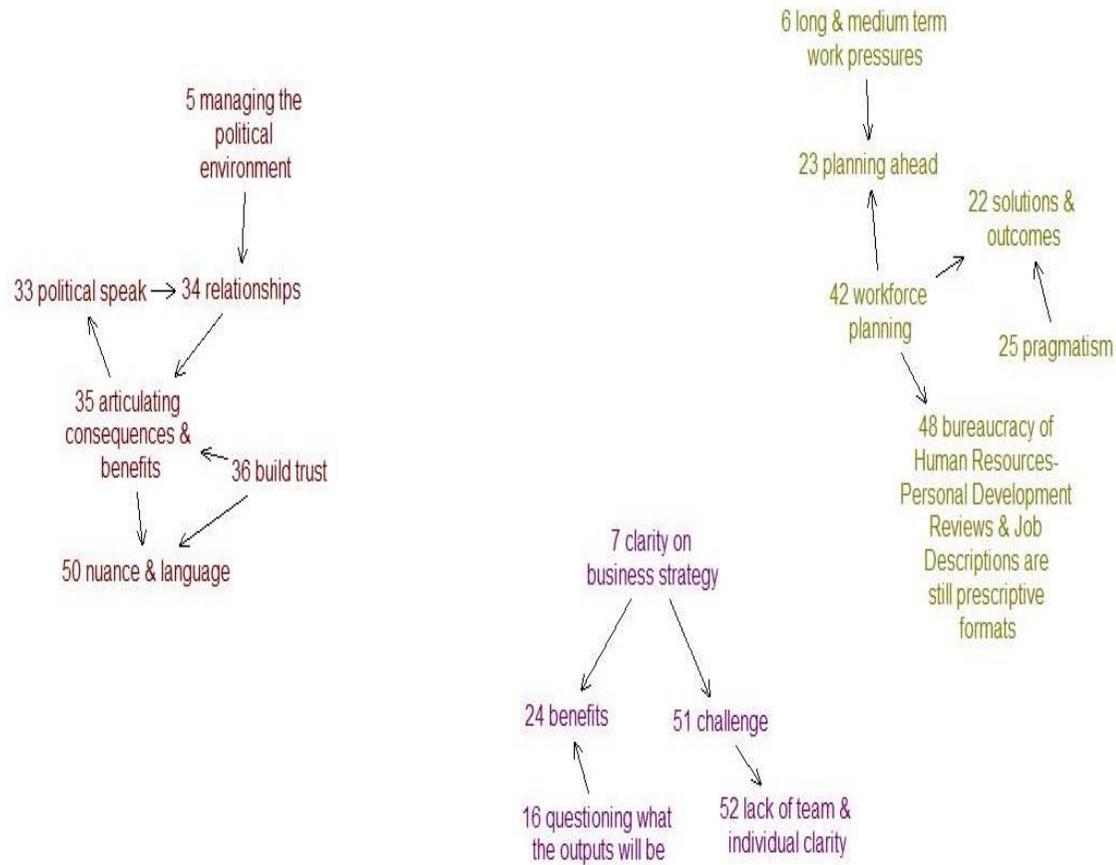


Appendix 12 - Analysis across a Cognitive Map and Transcript

1. Mapping Concept	2. Interview/Transcript	3. Concept as part of a knowledge structure	4. Data excerpt	5. Broader conceptualisation
A. £££	<p>Funding influences future work programme.</p> <p>Budget cuts require staff to take on roles resulting from staffing reductions</p>	<p>Link financial resources to legal requirements to ensure risk and liability is not increased</p> <p>Reduced '<i>pots of money</i>' impacts on aims and objectives, strategies, leadership and quality</p>	<p><i>As part of the cuts, the manager felt the team was not as effective as it could be but if it was managed correctly then it should have been working effectively...</i></p> <p><i>Now we're finding we're paying more in claims.</i></p>	<p>Sustainability of projects through working with communities and volunteers</p> <p>Effective use and sharing of resources</p>
B. Aims and objectives	<p>Reduce section budget by £1.2 m</p>	<p>Legal and health and safety requirements should be part of the core business.</p> <p>Higher levels of sustainable construction and maintenance reduce staffing requirements.</p>	<p><i>Important for managers to know why certain things are being done and the way they're being done...the legal aspects should be integral.</i></p>	<p>Prioritising of legal requirements</p> <p>Making connections between resources and outcomes.</p>
C. Strategies	<p>Facilities management is important in designing and maintaining council buildings</p> <p>HR no longer support managers in dealing with local issues</p>	<p>Ensure managers and leaders are aware of council's legal requirements regarding facilities and buildings</p> <p>Roles and responsibilities have to be understood and implications of reduction in staffing examined so that actions can be prioritised</p>	<p><i>If you've got a politician jumping up and down, about something, you do what you need to do to keep that politician happy</i></p>	<p>Political relationships</p> <p>Understanding priorities</p>

1. Mapping Concept	2. Interview/Transcript	3. Concept as part of a knowledge structure	4. Data excerpt	5. Broader conceptualisation
	<p>Development is based on learning from experience and mistakes</p> <p>Prioritisation of Elected Member demands</p>			
D. Leadership	<p>Leadership is autocratic and restrictive to change</p> <p>Operational rather than strategic</p> <p>Generic management style</p> <p>Achieves results</p>	<p>Style of management adopted should be different in different projects</p> <p>Leadership should make sure they control legal and health and safety requirements to ensure they are implemented effectively.</p> <p>Require appropriate staffing levels to support demands on service</p>	<p><i>We're one of those sections that doesn't change with the times. Management style, our main manager doesn't take on change very well-that's the way it's always been done so that's how it will be done</i></p>	<p>Leadership and management appropriate to circumstances</p> <p>Relationship management is crucial</p>
E. Quality	<p>Need to risk proof against health and safety issues e.g. Legionella.</p> <p>If quality does not fit need or purpose, facility not serving its purpose.</p>	<p>If quality is reduced, risk may be increased. Responsibility still resides with the council.</p>	<p><i>We've lost a lot of experience. Some [experience and expertise] passed to other staff still here, but not to the level they [the leavers] had. ...Just expected to pick it up.</i></p>	<p>Succession planning</p> <p>Defining levels of quality required for successful outcomes</p>

Appendix 13 – Cluster Analysis



Appendix 14 - Domain Report

All concepts in descending order of value

8 links around
4 identifying the right people
6 be honest
14 keep it interesting

7 links around
12 get core group of advocates
18 give time for reflection

6 links around
1 get people to own it
2 hearts and minds
10 keep talking
16 empower people
17 delegate
21 make people feel in control

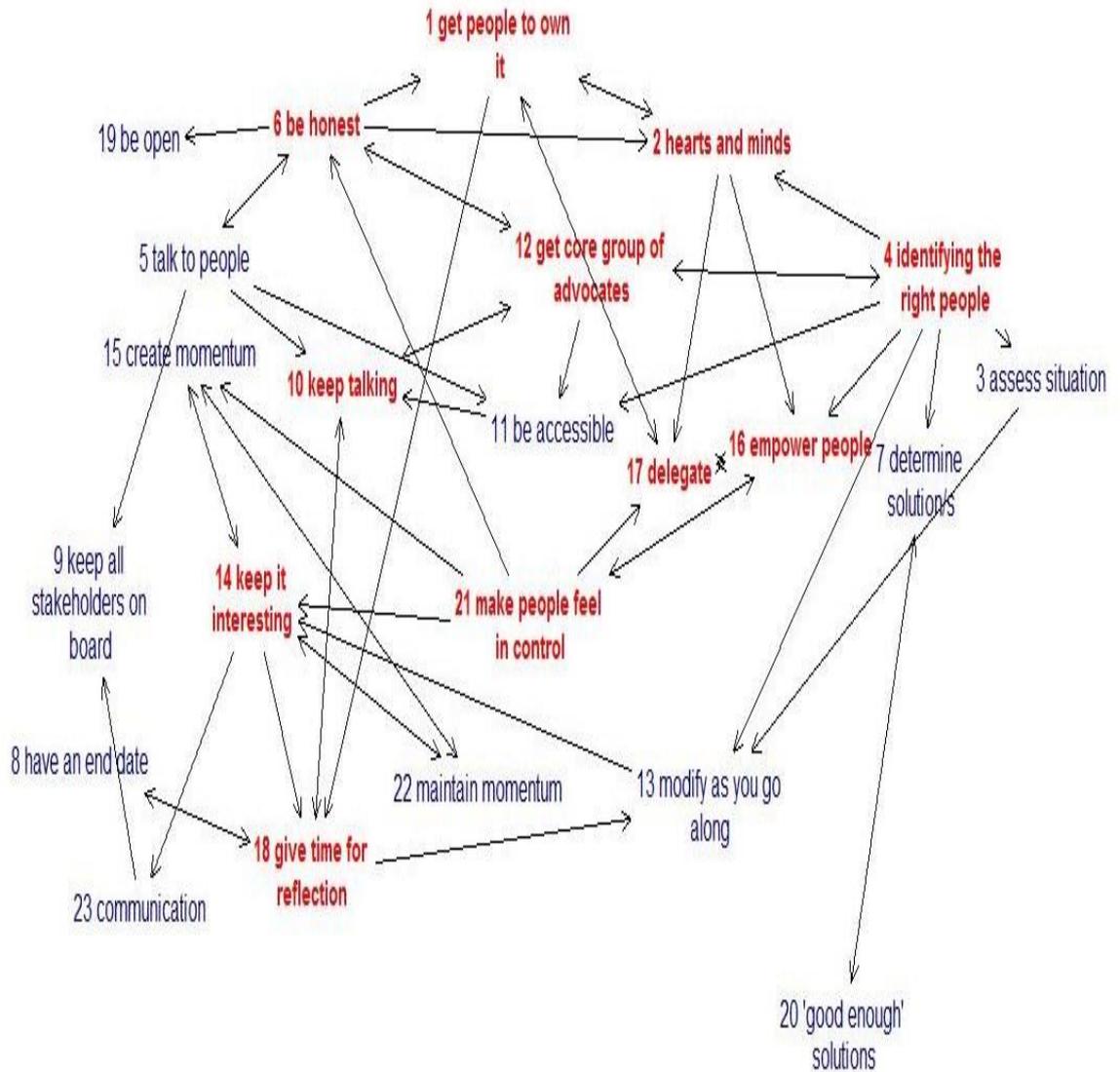
5 links around
5 talk to people
15 create momentum

4 links around
11 be accessible
13 modify as you go along
22 maintain momentum

3 links around
7 determine solution/s

domain potent loop cluster View 1 tails heads central

Appendix 15 - Loop Analysis Map



Appendix 16 – Loop Analysis Report

Loop1 set contains:
1 get people to own it
2 hearts and minds
16 empower people
17 delegate

Loop2 set contains:
1 get people to own it
2 hearts and minds
16 empower people
21 make people feel in control

Loop3 set contains:
1 get people to own it
2 hearts and minds
16 empower people
17 delegate
21 make people feel in control

Loop4 set contains:
1 get people to own it
2 hearts and minds
5 talk to people
6 be honest
16 empower people
21 make people feel in control

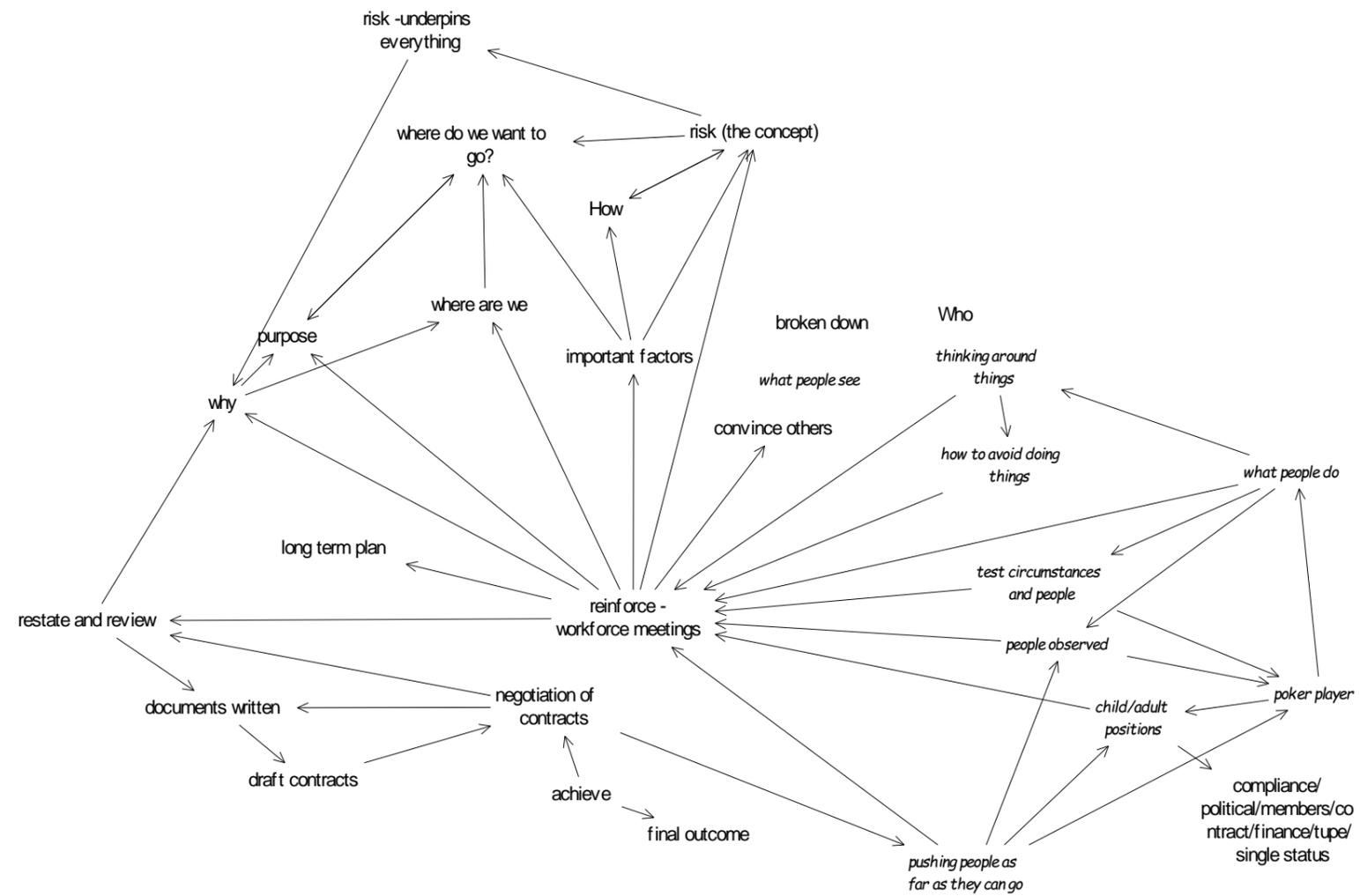
Loop5 set contains:
1 get people to own it
2 hearts and minds
5 talk to people

◀ ▶ domain potent loop cluster View 1 tails

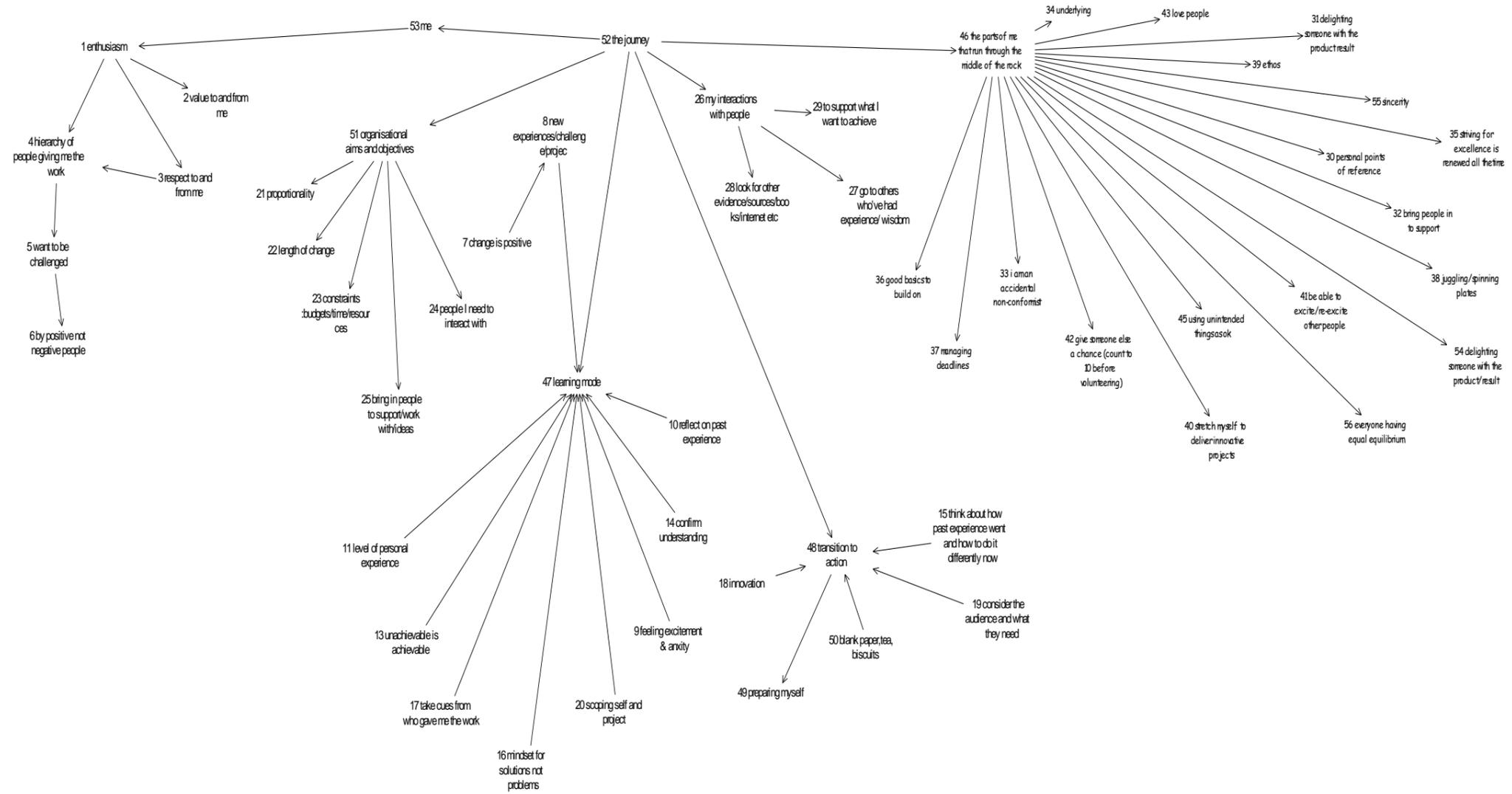
Appendix 17 – Case Study Assessment



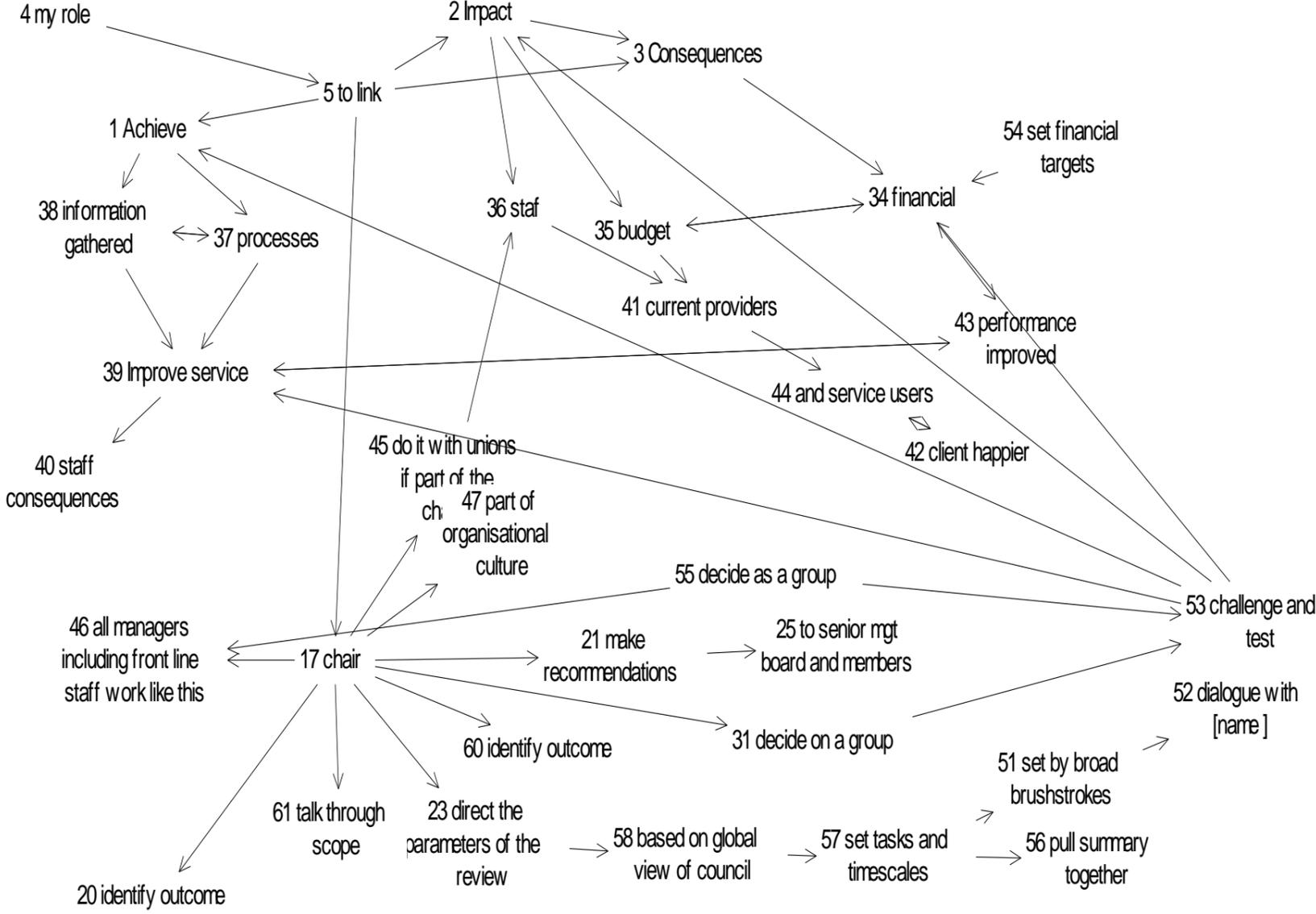
Appendix 18- Map-RY



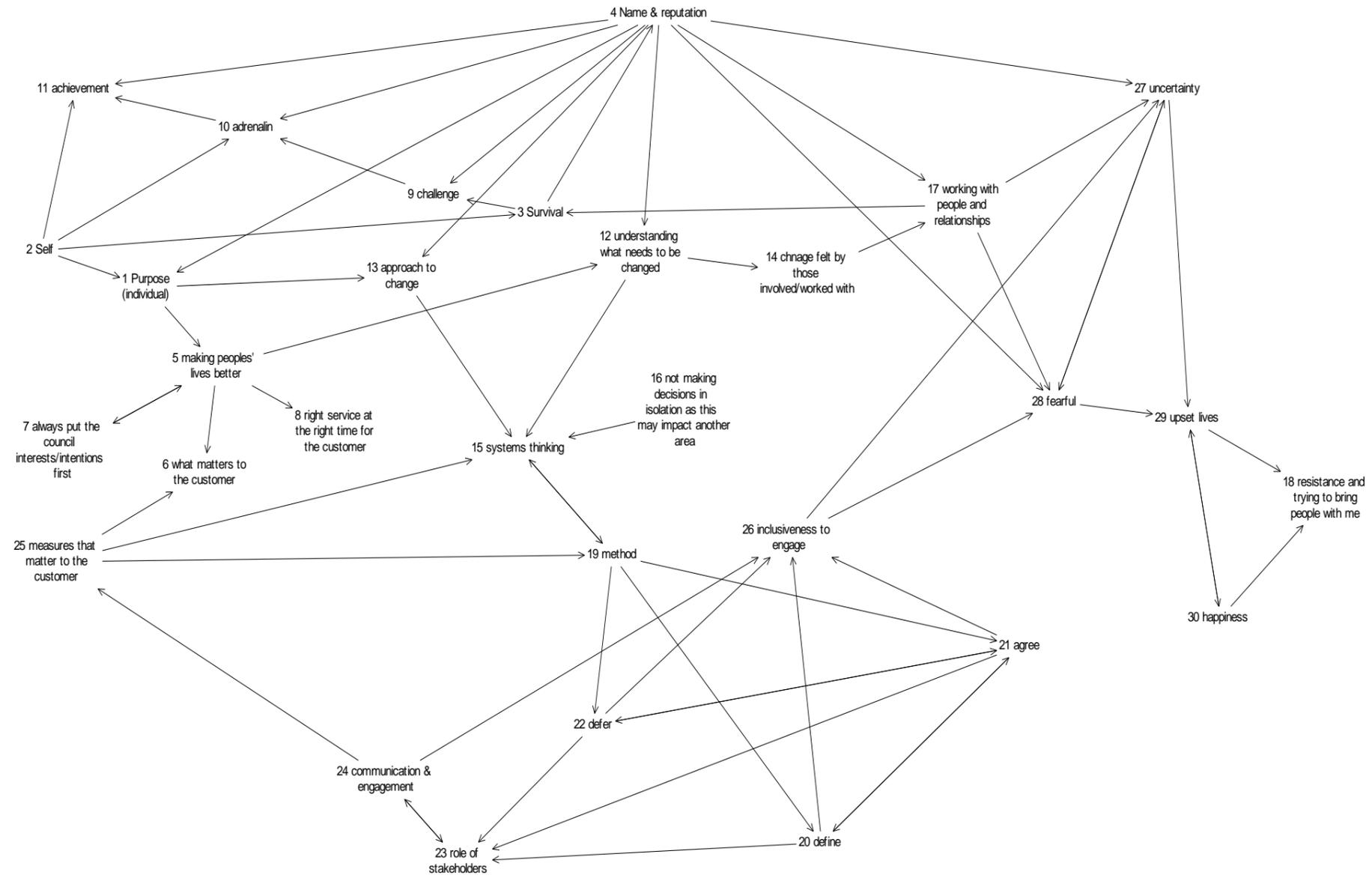
Appendix 19 - Map OL



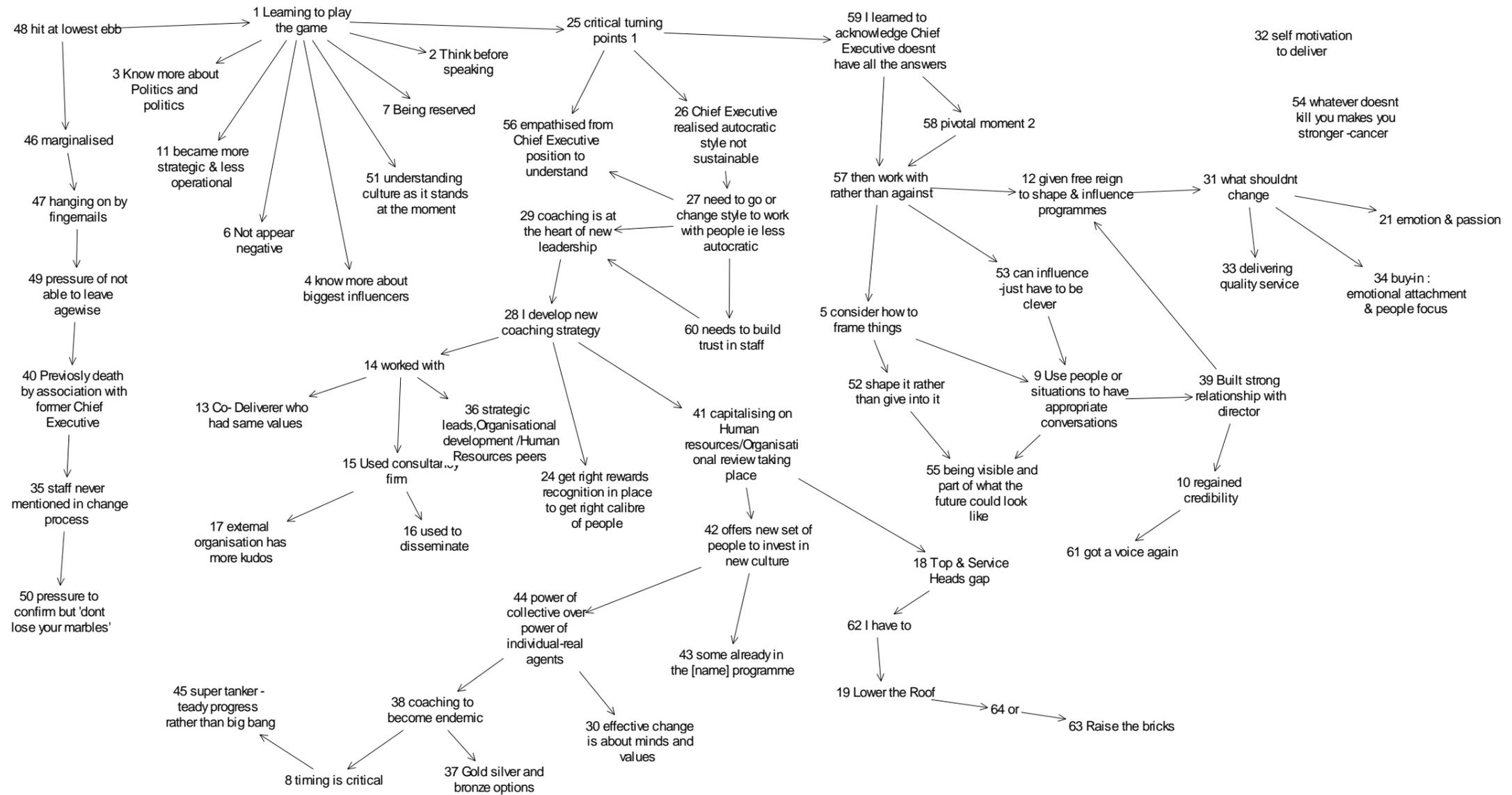
Appendix 20 - Map HA



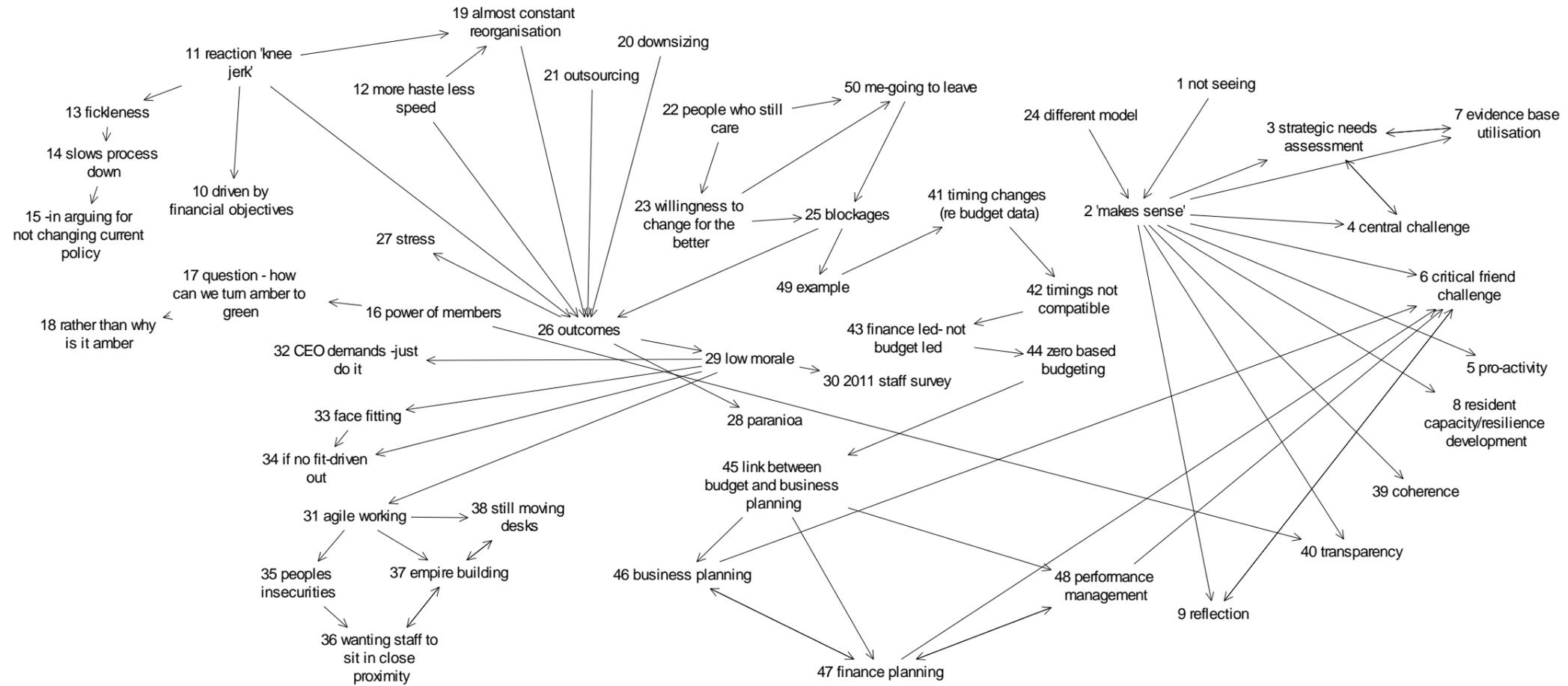
Appendix 21- Map AME



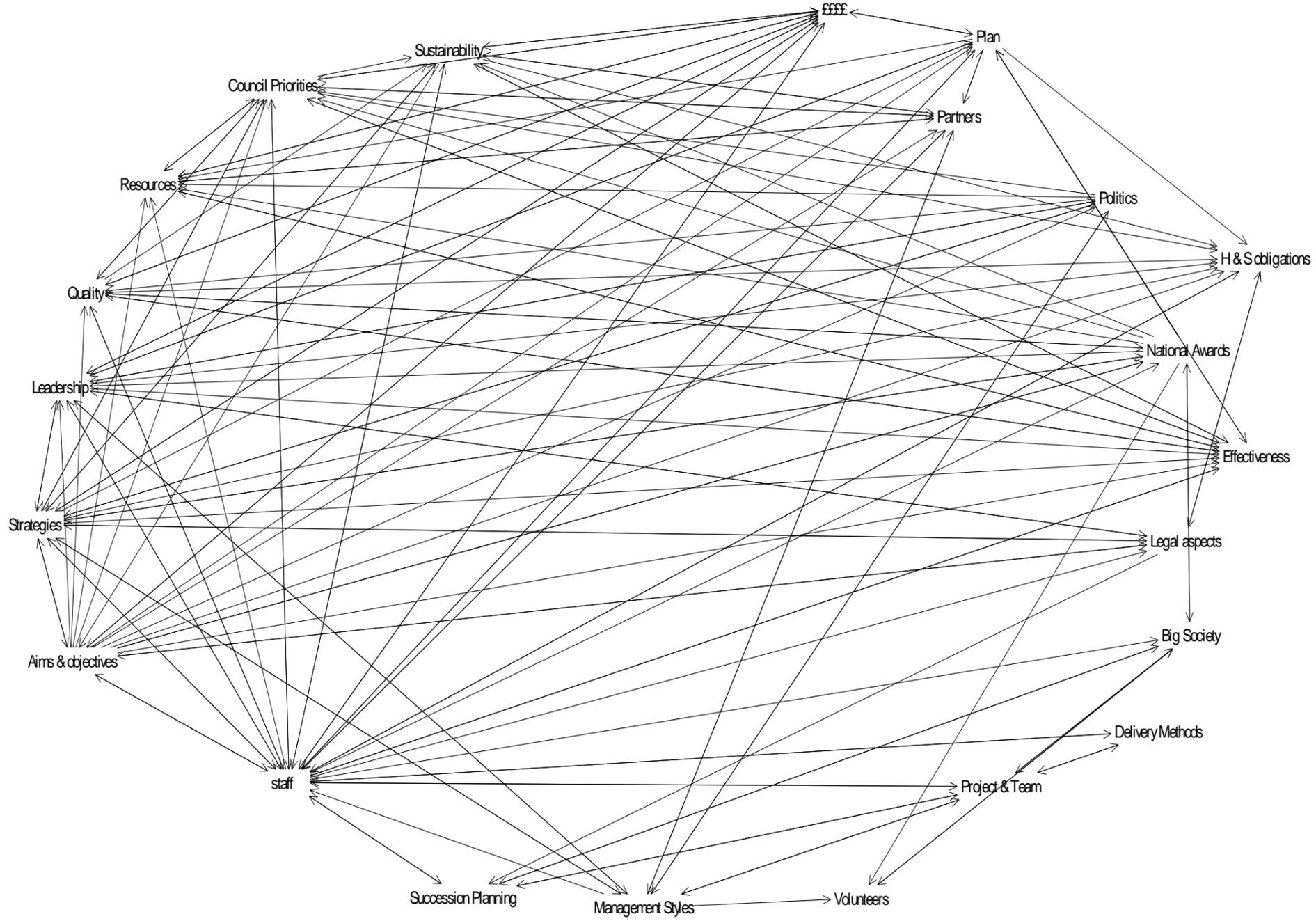
Appendix 23 - Map CH



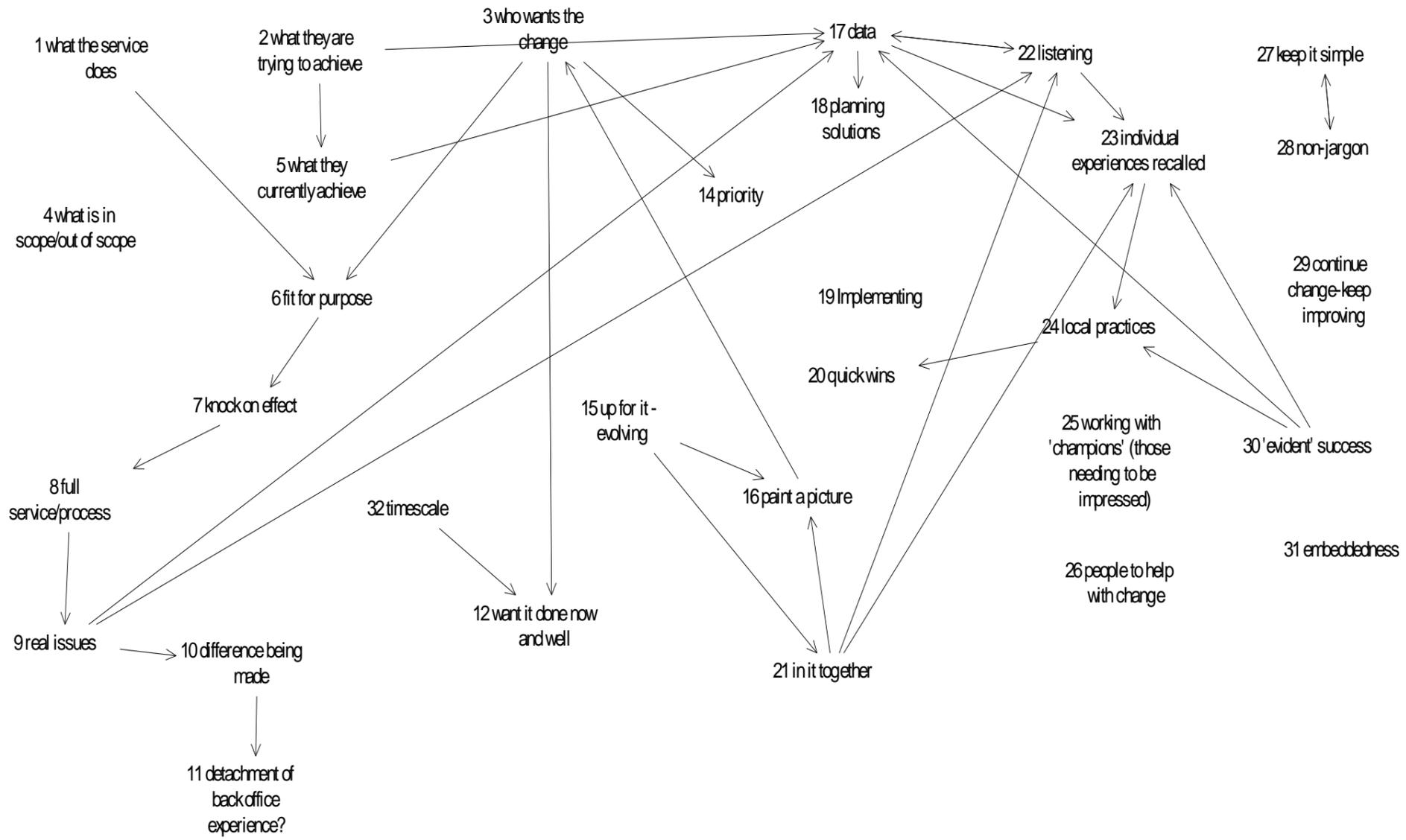
Appendix 24 - Map BE



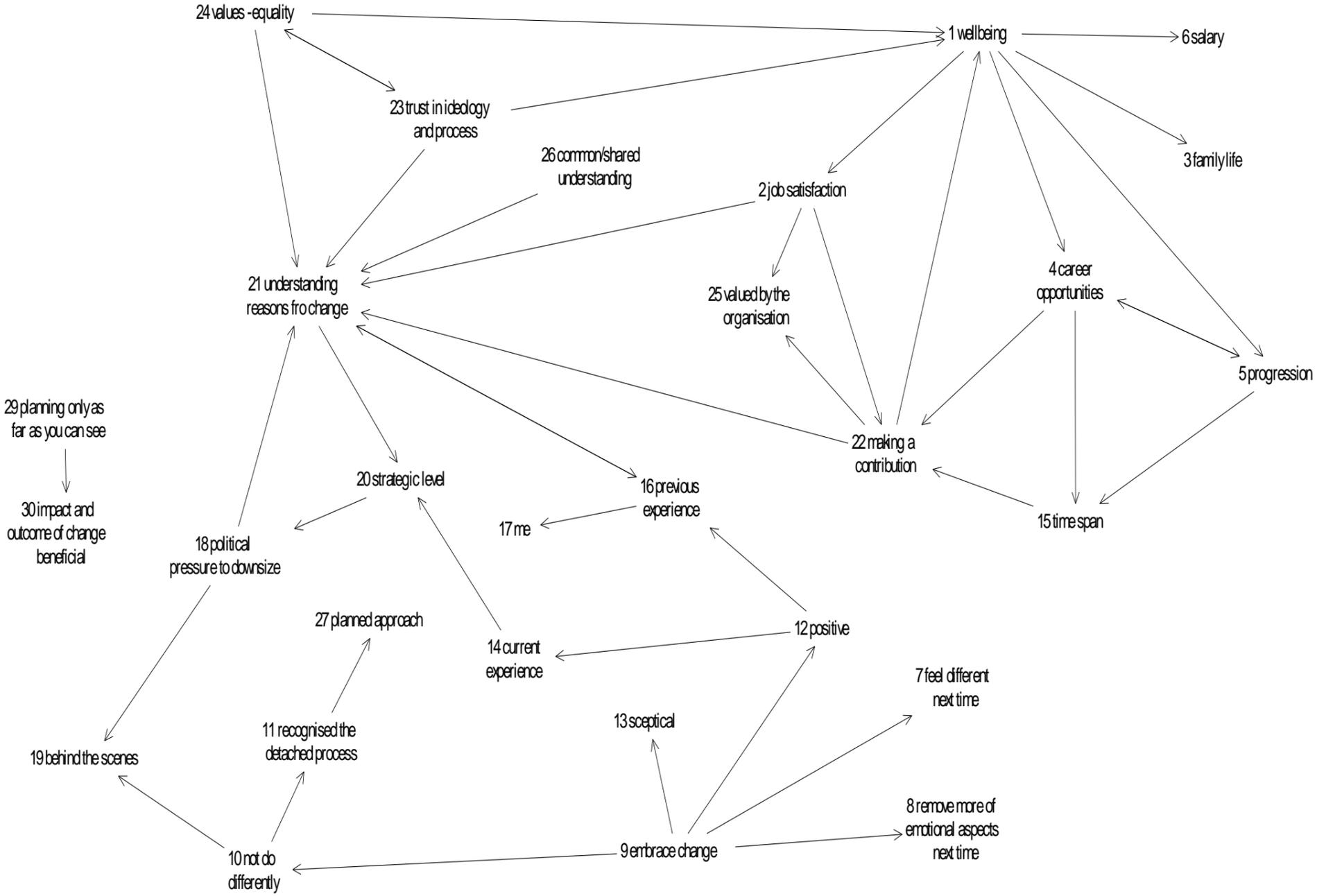
Appendix 25 - Map PA



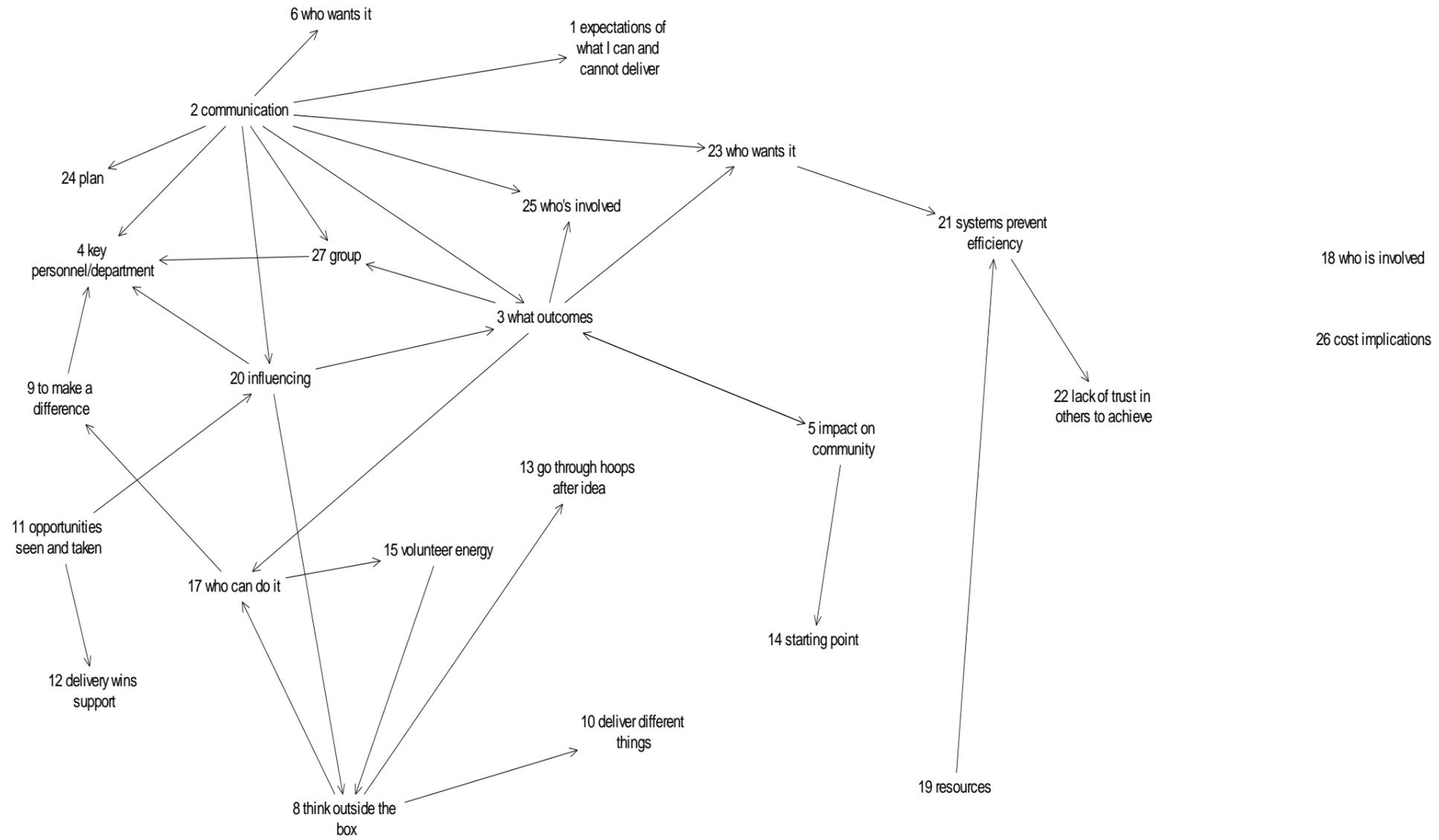
Appendix 26 - Map YV



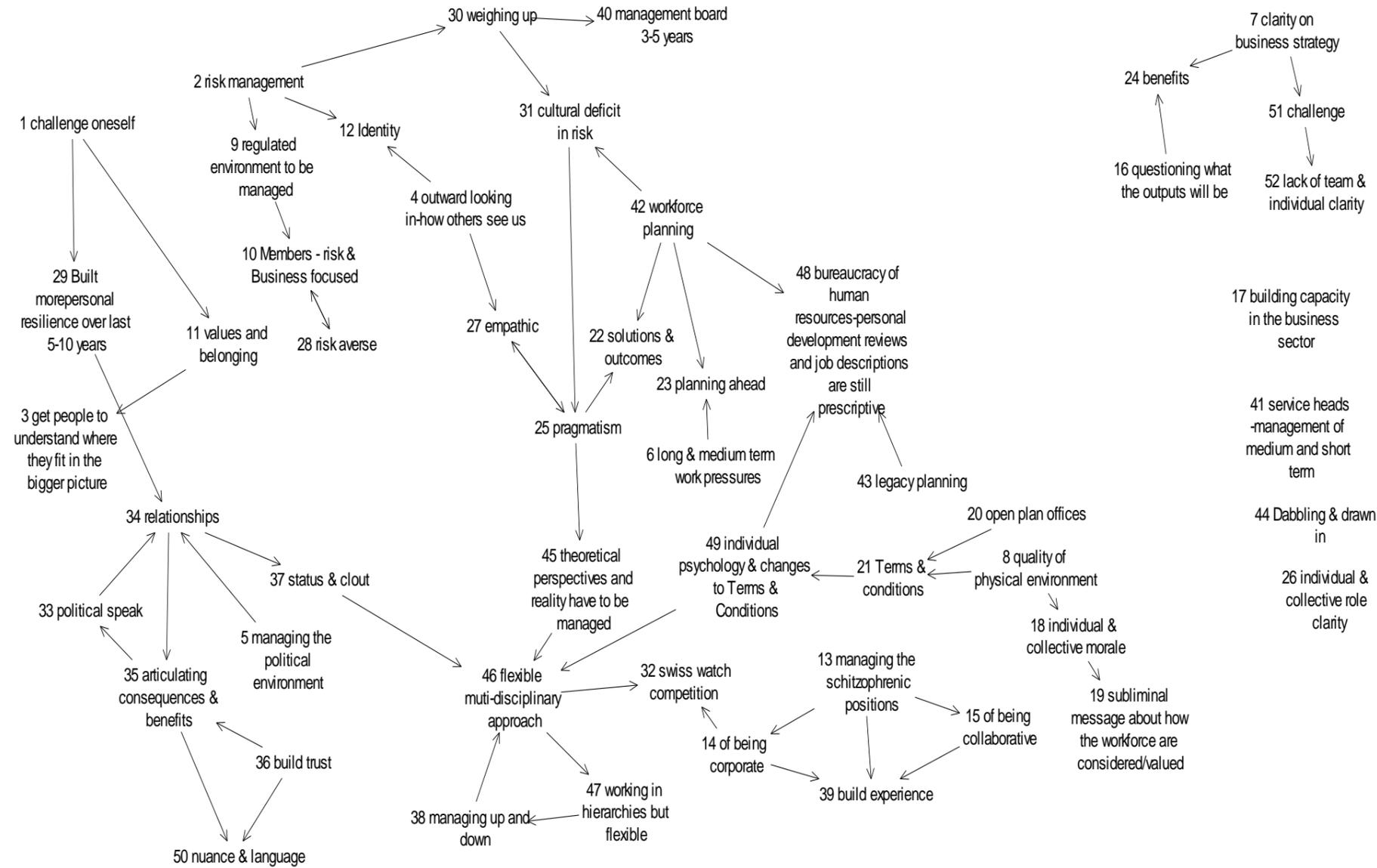
Appendix 27 - Map CO



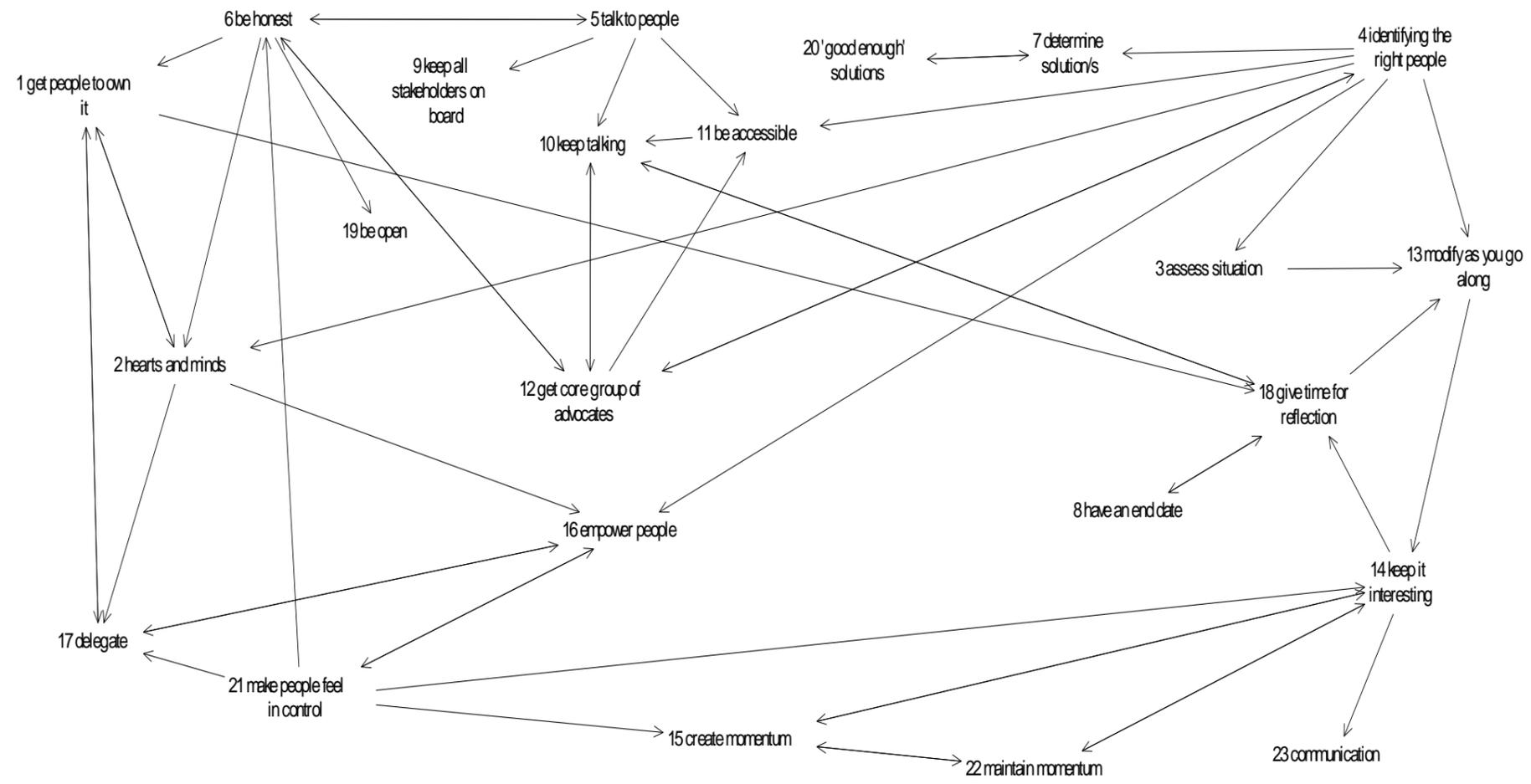
Appendix 28 - Map SA



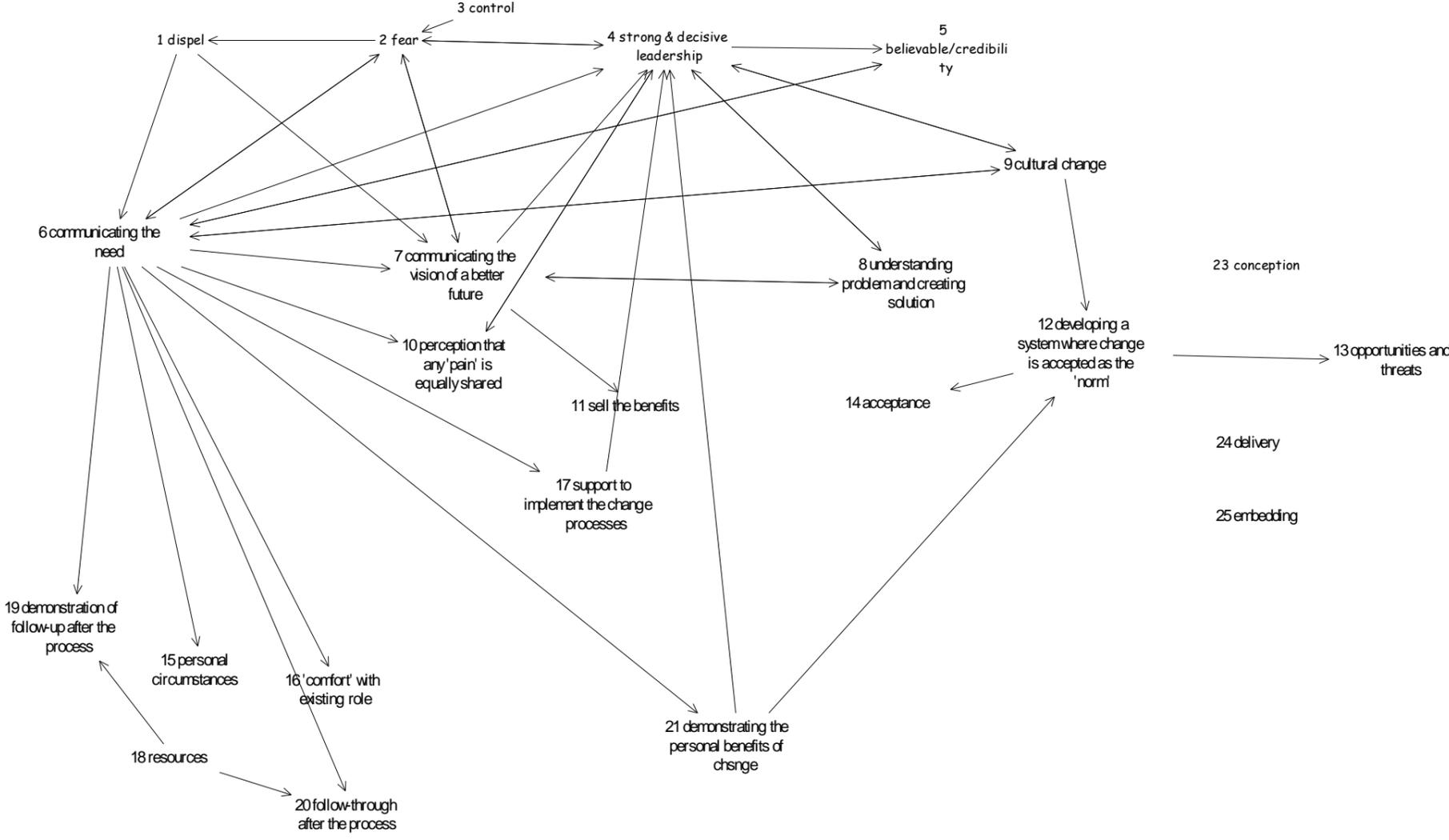
Appendix 29 - Map WI



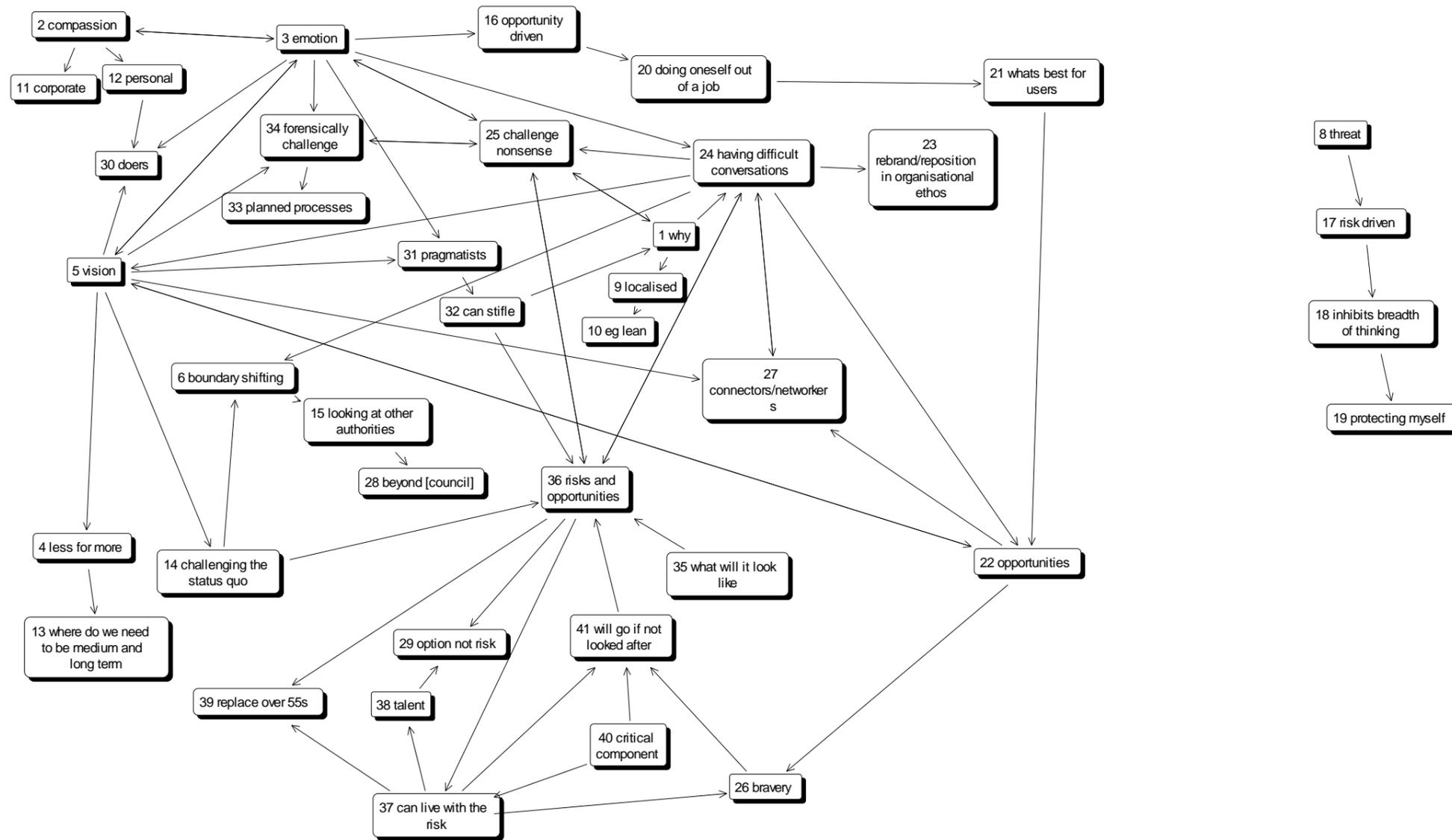
Appendix 30 - Map DEI



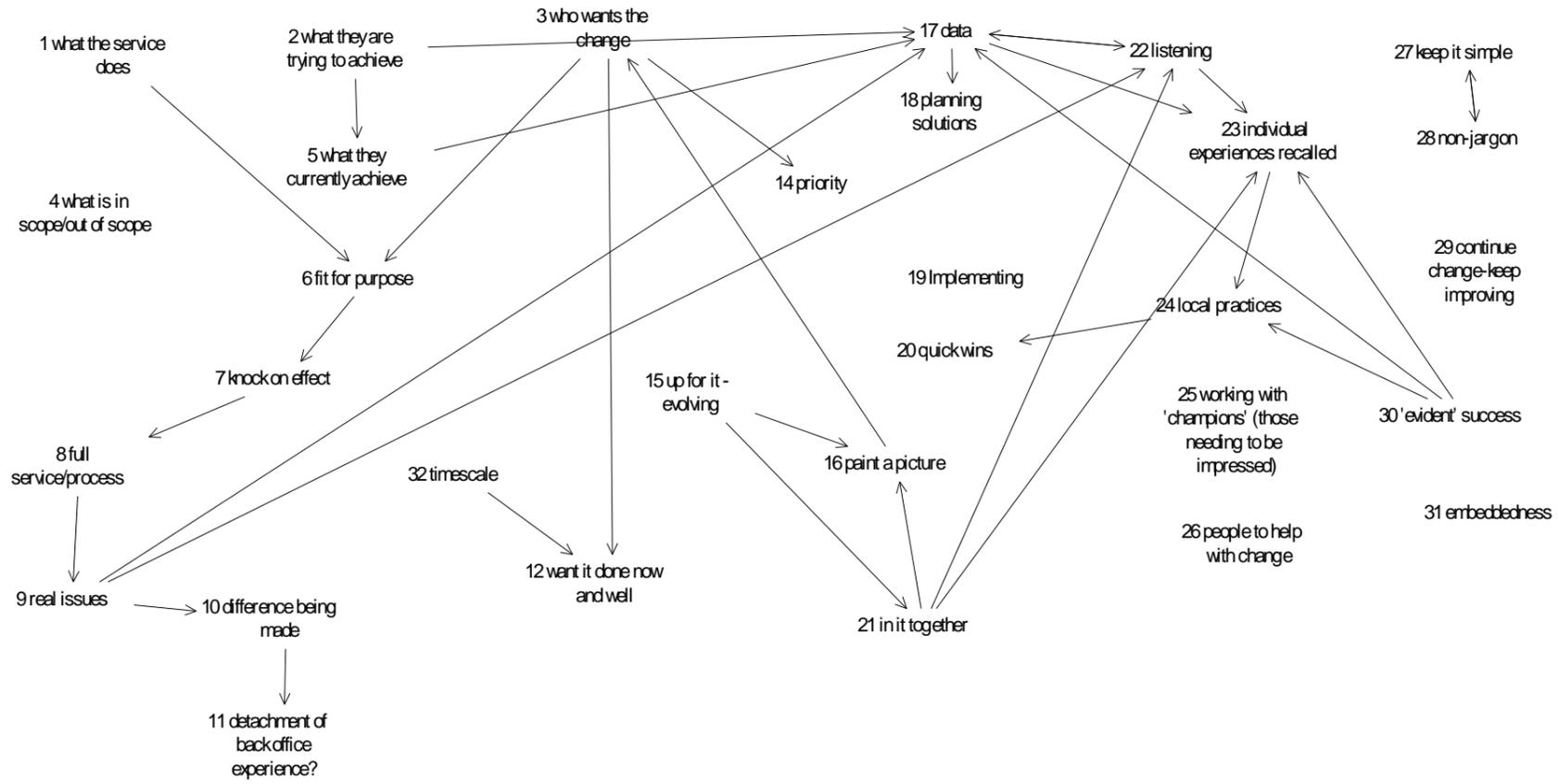
Appendix 31 - Map RA



Appendix 32 - Map AL



Appendix 33 - Map AM

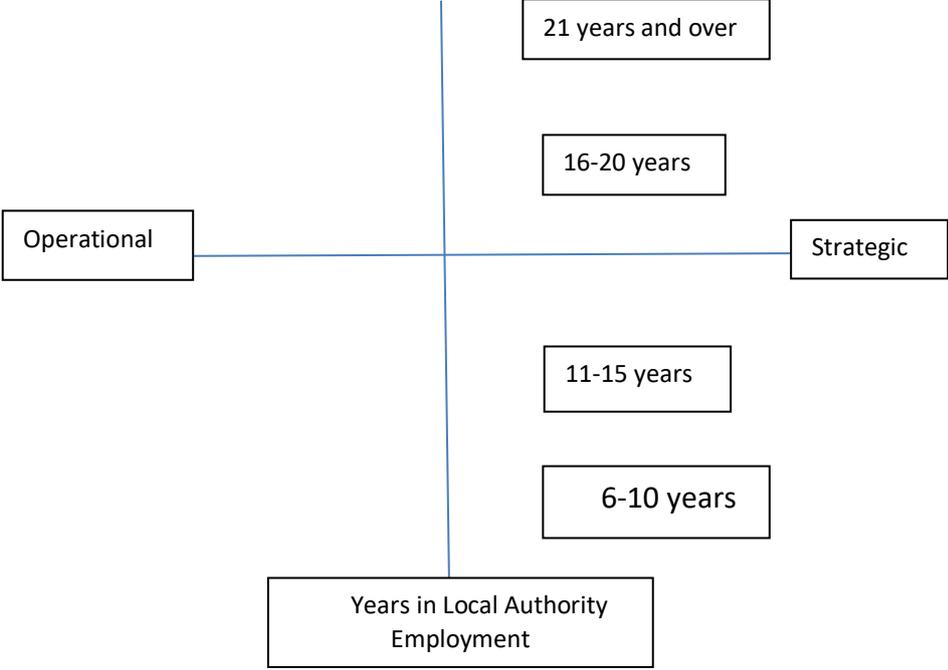


Appendix 34 –Interview Prompts

1. Employment duration & role (See diagram)
2. Do you do anything outside your substantive role (additional duties, corporate tasks, provide expertise etc.?)
3. How would you explain what the organisation does?
4. What is the most significant change, taking place, that affects you or you are involved in?
5. How do you get the information that informs you of what you need to do in that change process? (Where do you look for it or do you wait until you receive instructions)
6. Are there certain sources of information that you trust (web pages, individual colleagues, in house publications, policy documents, discussion groups, team meetings?)
7. Referring to the change programme you mentionedhow do you work out what your role is in implementing it? How do you rationalise the change process so that it makes sense to you
8. In what circumstances do you feel most empowered and able to act or influence?
9. Have you had any training or attended any awareness raising activities connected with the change process you identified.
10. What is your main priority (priorities) in terms of the change process?
11. Can you give me a name to contact of someone you think is influential in getting things done, those who influenced change in some way?

Effective change is about influencing / changing:

- i. The systems
- ii. The strategy
- iii. Minds
- iv. Values
- v. Rules and norms of practice
- vi. Leadership
 - a. All of the above
 - b. Some of the above
 - c. Other



Appendix 35: Reaction and Response

I had considered and consistently applied these terms as follows:

Reaction: an instant and either conscious or unconscious cognitive or physical action in response to a stimulus or phenomenon

Response: a more measured or reflexive response that evolved over a period of (relative) time and was based on knowledge and understanding relative to the issue or circumstance. A conscious act of working to understand what has taken place.

Subsequently I have identified philosophical positions that consider the extent to which agency is present within reactions as they are considered by some to be non-cognitive and part of a biological stimulus-response mechanism activated by a biological “appraiser method” (Ekman 1977:58).

Philosophical experiments carried out by Nahmais et al (2013) indicate there are different decision making responses by individuals dependent upon whether situations are described as occurring in abstract or concrete scenarios.

When analysing the data, I had interpreted agency as driven by Intentionality and therefore is predicated on a level of sensemaking informing agential action. Then I identified relational agency where Gergen states that “Agency is within the doing of a relationship” (Gergen 1999b:114) and considered it in terms of how I understood reaction and response.

This process alerted me to the assumptions I had made, whether it was still possible to argue that agency is present in reaction via the knowledge structures selected, and also, where does agency lie in the relationship between the observer of agency (Knowledgeable agent PA) and the observed (Knowledgeable agent SA), whose actions influenced PA in his agential actions?

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