**Social Accounting and Organisational Change:
an Exploration of
the Sustainability Assessment Model**

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Abstract

There is increasing recognition that social and ecological challenges necessitate societal change. In responding to these challenges a number of tools have been mooted as having the potential to facilitate change at the organisational level. Accounting is one such tool which is implicated in changing the mental models of those making decisions in organisations (Bebbington, 2007a). However, the role that accounting performs is uncertain and calls have been made to extend our understanding by exploring further empirical cases (Bebbington, 2007a, 2007b; Bebbington, Brown and Frame, 2007a; Bebbington, Brown, Frame and Thomson, 2007b; Tilt, 2006) in a way which can make explicit a priori assumptions of change (Broadbent and Laughlin, 2005).

Experimenting with social accounting technologies may provide greater insight into their limiting and enabling aspects. Examples of such technologies include full cost accounting (FCA), the sustainable cost calculation (SCC) and, most recently, the sustainable assessment model (SAM). The SAM is an accounting technology developed to incorporate sustainability considerations into organisational decision-making and, potentially, accountability processes.

In constructing and implementing new accounting technologies such as the SAM, researchers are confronted with two key challenges: first, a lack of empirical exploration within field studies means the impact a new technology may have is not well documented (Gray, 2002); second, the extant theorisation with which to evaluate ‘successful’ implementations remains underdeveloped (Gray, 2002). For example, use of non-explicit evaluative criteria glosses over the necessary aspects by which people can facilitate and evaluate change (Thomson and Bebbington, 2004, 2005; Dillard, 2007).

This thesis explores the *potential of the SAM to foster more critically reflective organisational accounts* in the pursuit of sustainability, and involved the application of the SAM in two New Zealand case-study sites. In total, forty-seven individual and group semi-structured interviews were conducted over a three-year period. The resulting empirics provided the basis of an organisational narrative, structured

according to Laughlin's (1991) organisational change framework, and evaluated using a Freirian heuristic.

Laughlin (1991) provides a framework that sensitises the researcher to identify facets of change considered salient in the application of the SAM. His framework provides a structure for the organisational narrative (that is, both a 'technical' account on how the SAM was applied and a descriptive account on *what* specific change may have occurred in the organisation). However, drawing on Laughlin's (1991) framework presented two key challenges: first, the SAM requires a critical evaluation framework that makes explicit a priori assumptions of change that are not evident using Laughlin's (1991) 'real' and 'superficial' change categorisation; second, the skeletal nature of the framework focuses insufficient attention on *how* change occurs (Laughlin, 1991, p.229).

To address the above challenges and to evaluate the effectiveness of the SAM, a Freirian dialogic heuristic framework (DHF) is applied to the organisational narrative. The human agency focus of Freire's work makes the evaluative framework complementary to Laughlin's (1991) framework by providing greater insight into *how* change occurs. To date, the application of a Freirian lens in social accounting literature has been restricted to papers theorising the engagement of the SAM (Bebbington et al., 2007b), generic samples of social accounting reports (Thomson and Bebbington, 2005), accounting education (Coulson and Thomson, 2006; Thomson and Bebbington, 2004), and calls to extend stakeholder engagement (O'Dwyer, 2004a). In this thesis the SAM is explored in an empirical organisational setting and evaluated using the DHF.

Findings indicate that the SAM did promote more critically reflective organisational accounts. The SAM created a space which amplified the agency of operational managers and researchers to challenge dominant organisational beliefs held typically by senior staff. Beliefs, such as the organisational commitment to sustainability, were exposed, interrogated, and challenged. The process of applying the SAM fostered the problematisation of organisational issues, broadened the perspectives of participants involved in decision-making, and challenged existing notions of who might have legitimate, 'expert' knowledge. It also made visible differences among viewpoints,

highlighted the socially constructed nature of accounting technologies, made visible the interrelationships among different elements in an account, and changed project decisions. However, on several occasions the use of SAM was challenged and in one instance resulted in termination of the SAM application.

Findings from this thesis contribute to social accounting and organisational change literature by exploring one form of engagement and extending organisational change frameworks. These two contributions provide possibilities for future research and have implications for those involved in policy and practice.

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Glossary and Abbreviations

CBA:	Cost Benefit Analysis
CRI:	Crown Research Institute
CSEAR:	Centre for Social and Environmental Accounting Research
DHF:	Dialogic Heuristic Framework
FCA:	Full Cost Accounting
FRST:	Foundation for Research, Science and Technology
HR:	Human Resources
LCR:	Landcare Research Limited
LGA:	Local Government Act (2002)
MoU:	Memorandum of Understanding
NPV:	Net Present Value
NZ:	New Zealand
PwC:	PricewaterhouseCoopers
SAM:	Sustainability Assessment Model
SCC:	Sustainable Cost Calculation
SEA:	Social and Environmental Accounting
UN:	United Nations

Chapter One: Overview

1.1 Introduction

There is growing recognition that change is needed to move from an unsustainable way of living which is premised on significant social and environmental harms threatening people and the planet (Bowers, 2005a; Freire, 1983a, 1998a, 1998b; Gadotti, 2003; Porritt, 2007). This change is likely to require a rich supply of information, capable of informing people of the impacts of their thinking (Bebbington, 2007a) and enabling them (and/or others) to act. One response to the challenge of supplying such information is the development of new accounting technologies within an organisational context.

Experimenting with new accounting technologies may provide greater insight into the process of organisational change, which will be necessary in the pursuit of sustainability (Larrinaga-Gonzalez and Bebbington, 2001). These technologies may be categorised into two main areas: (i) external accounting or reporting activities of sustainability, such as sustainable development reports (for example, Deegan, 2000; Elkington, 1993, 1999; Gray, 1994), and (ii) internal accounting and organisational practices (for example, Bebbington, 1999; Bebbington and Frame, 2003; Frame and Cavanagh, 2009).

Recent examples of accounting technologies developed to engage within the organisational boundary include FCA, the SCC and the SAM. The SAM is an accounting technology developed to incorporate sustainability thinking into organisational decision-making and, potentially, accountability processes (Bebbington, 2007a). Preliminary results from both normative and empirically focused studies suggest that use of SAMs may facilitate a transition to a less unsustainable way of living (Bebbington, 2007b; Cavanagh, Frame and Lennox, 2006; Frame and Cavanagh, 2009). The SAM may foster such a transition by providing a frame of reference whereby those in the organisation have a space to reflect critically and construct a broader account (Baxter, Bebbington, Cutteridge and Harvey, 2003; Bebbington and Frame, 2003), and to change the way their organisation operates.

The relationship between accounting technologies and the process of (non)change, which may result from their application, remains uncertain (Adams and Larrinaga-Gonzalez, 2007; Broadbent and Laughlin, 2005). Such uncertainty presents both opportunity and challenge for social and environmental accounting (SEA) researchers involved in developing new accounting technologies. The first challenge is the lack of well-documented empirical exploration of SEA technologies (Gray, 2002). Whereas case-study research has been drawn on to explore the content, processes, and contexts of accounting from a variety of perspectives (Berry and Otley, 2004), this method has only limited application in the SEA field (Gray, 2002). A second and interrelated challenge is that the extant theorisation used to evaluate the effectiveness of social accounting technologies remains underdeveloped (Gray, 2002). These two challenges mean that evaluating the effectiveness of SEA technologies in the organisational settings for which they were designed remains underspecified.

The selection of evaluative frameworks applied to accounting technologies is important because they assert normative viewpoints of change that is ‘desirable’ (and simultaneously ‘undesirable’). An evaluative framework should therefore contain criteria that are sensitised to the change sought and should allow claims to be made about the effectiveness of the SAM. It has been suggested that lenses such as Freirian dialogics would be suitable for evaluating the SAM (Bebbington et al., 2007b) because of the commonalities with Freirian writings and the field from which the SAM emerged (that is, the desire for a more socially and ecologically just world). Authors applying a Freirian dialogic lens to social accounting technologies suggest that such thinking encourages more dialogic interactions, a raising of consciousness, ‘and is more likely to contribute to sustainable social and environmental change’ (Bebbington et al., 2007b, p.356).

This thesis builds on theoretical explorations of SEA technologies and Freirian dialogics detailed above to evaluate the SAM within local-authority organisational settings. Such exploration involves the construction of how a dialogic account might look and its application to an empirical setting to determine if ‘good’, ‘real’ change occurs. In the process of applying these criteria, claims may be made about the

effectiveness of the SAM to *foster more critically reflective organisational accounts in the pursuit of sustainability*.

In applying dialogic criteria to empirical settings where the SAM was employed several key literatures should be introduced. First, the social accounting literature situates the SAM as a means to engage at the organisational level. Second, I introduce organisational change literature to provide the context in which social accounting technologies are used. Third, I draw on Freirian dialogics as a heuristic to explore elements considered important for change (Bebbington et al., 2007b, p.366-68) and, in turn, evaluation of the SAM. When combined, these three literatures provide the basis for evaluating the effectiveness of the SAM and highlight how the study is carried out. I conclude this chapter by providing an overview of the remaining eight chapters.

1.2 Social Accounting

The social accounting project¹ has been broadly described as the universe of all possible accountings (Gray, Dey, Owen, Evans and Zadek, 1997, p.328); it seeks engagement with the desire to change current accounting practice to include a broader set of users, new technologies, and events not usually included in mainstream accounting practice (Dillard, 2007, p.37). The motivation for change is predicated on the 'refusal to accept that we live in the best of all possible worlds' (Gray 2002, p.701). Such a thread of scholarship seeks 'the opening up of new spaces, of new accountings, not simply reacting to old ones' (Gray, 2002, p.698).

Social accounting consists of a number of sub-sets, one of which is sustainability accounting (Bebbington, 1999, p.160), and can be further considered under several broad approaches (Bebbington and Gray, 2001, p.561). First, sustainability accounting should not exist (at least in its current forms) simply because the process of accounting for sustainability is likely to be socially and environmentally damaging

¹ This is not to suggest the existence of one homogenous group of scholars, but rather some common threads. These threads and the term *social accounting project* are discussed in greater depth in Chapter Two.

(for example, Maunders and Burritt, 1991). The second approach suggests sustainability can be better ‘managed’ with the use of sustainability tools that could be adopted to increase the return on financial capital (for example, see the business case approach outlined by Brown and Fraser, 2006). Last, sustainability accounting may exist to highlight organisational practices and to provide a catalyst for change initiated within (for example, Bebbington, 2007b) and/or outside the organisational boundary (for example, O’Dwyer, 2004a). Examples of change occurring within the organisational boundary may include employees who identify with the environmental agenda and prompt a culture of workplace activism (for example, Ball, 2007) and/or a reconceptualisation of the mental models by those involved in decision-making (for example, Bebbington 2007b, p.66). In contrast, externally focused change may rely on the highlighting of organisational practices to enable praxis of stakeholder groups (for example, Gray et al., 1996, p.294/295). However, this internal-external distinction is less transparent when sustainability tools are considered in rich empirical settings, such as Bebbington (2007b) describes.

Sustainability accounting, according to Bebbington (2007b, p.vii), is based on the premise that a sustainable society requires those making decisions to be informed about the impact of their actions and of those around them, in particular those controlling vast resources, as in large organisations. Bebbington’s (2007b) internally focused description does not exclude the possibility for influencing policy or various stakeholders, but does infer that such catalysts for change congregate within the organisational boundary. However, both internally and externally initiated change aim to facilitate an understanding of *how* decisions affect people and organisations outside the decision-making sphere in both physicality and time (for example, Bebbington and Frame, 2003, p.12-13).

The desire of social accounting researchers to influence people and organisations has given rise to the development of and implementation of experimental accounting technologies. Examples of new social and sustainability accounting technologies developed over the last 15 years include FCA, SCCs, sustainability reports, input-output analysis, natural capital inventory accounting, and triple bottom-line reports (Bebbington and Gray, 2001; Gray, 1992, 1994, 2001a, 2002; Lamberton, 2005).

This thesis tracks the implementation of an internally focused social accounting technology, the SAM.

The SAM was developed by Jan Bebbington (University of Aberdeen²) and Genesis Oil and Gas Consultants (hereafter Genesis) in response to a request by British Petroleum (BP) for an accounting tool to incorporate sustainability considerations in their decision-making and, potentially, their accountability processes. In the BP project, the SAM highlighted the relationship between specific project decisions and the organisation's sustainability impacts (Bebbington, 2003; Bebbington and Frame, 2003, p.11). It was envisaged that an increased awareness of the social and environmental issues created by the SAM would highlight sustainability issues associated with each of the four capitals identified (social, environmental, economic, and resource capital) and would embed sustainability considerations into decision-making (Baxter et al., 2003). According to some BP and Genesis project team members, the SAMs enabled improved discussion by providing a medium of communication to discuss more broadly the social, environmental, and economic impacts of the Scotland drilling operations from various perspectives:

SAM was viewed as a mechanism by which people with competing views as to the impacts of a project could communicate their own concerns and interests to each other. It was believed that often dialogue between parties who have interests in a project becomes alienating because each cannot easily see the viewpoint of the other. SAM was viewed as providing a point of connection between various parties because environmental, social and economic concerns could all be articulated and accepted as being part of the same evaluation. (Bebbington and Frame, 2003, p.8).

The depth and duration of conversation facilitated by the application of the BP SAM gave rise to discussion among some participants about sustainability and the process of organisational change (Bebbington, 2007b, p.90). Further, it was noted in several cases that participants changed their perspectives on sustainability (Bebbington, 2007b, p.66). In some situations discussion resulted in tangible changes in work

² Jan Bebbington is now at the University of St. Andrews, Scotland.

practices. For example, one project team aimed for carbon-neutrality, and implemented video-conferencing in lieu of physical travel as a measure towards achieving this objective (Bebbington, 2007b, p.53). Experiences collected as part of the BP SAM suggest that the SAM facilitated greater agency to embed sustainability considerations into organisational practice.

In contrast to the empirical applications above, normative studies exploring the potential of social accounting technologies look beyond the organisational focused possibilities of the SAM to seek engagement via the public sphere. One such study asserted that SAMs should be based on a willingness to listen and learn, broad participatory dialogue, transparency, and accountability (Söderbaum, 2007, p.7). Additional claims made about the enabling potential of SAMs include: encouraging critical reflection, including closely examining each others' ways of knowing; facilitating a more poly-vocal situation; and discouraging others from regarding the social accounting technology as a neutral and objective tool (Bebbington et al., 2007a). Further, Bebbington et al. (2007a) state that the SAM:

can encourage individuals and groups to critically reflect on the (un)sustainability of organizational practices and provide a mechanism to create site-specific insights into sustainability. In doing so, it should help social actors recognize the socially constructed nature of their understandings and expose "hidden commitments" (values and assumptions) of traditional decision making models [and in doing so] provide new measures of organisational performance. (Bebbington et al., 2007a, p.234)

The exploration of SAMs in both empirical and normative studies appears to further the aims of the social accounting project by engaging directly with the intent of creating a broader account in which people may critically reflect on organisational impacts and then act to challenge unsustainable activities. Equally important is the possibility for creating a space where an accounting technology can be used for new ways of thinking and living. Such reconceptualisations are necessary if a transition to a more sustainable society is to occur.

1.3 Social Accounting and Organisational Change

Organisational change is an important area of research for many social accounting scholars because the organisational context is viewed as a key site of engagement³. Although some studies link organisational change, accountants, and accounting technologies in a reflexive relationship, the details of how, why, with whom (Gray, Walters, Bebbington and Thomson, 1995; Hopwood, 1991) and other ‘assemblages’ of change (Duncan and Thomson, 1998) remain unclear. A reason cited for this lack of detail is that most organisational change research has been deductively theorised (Parker, 2005, p.849). Adams (2002) argues that SEA mechanisms implicated in organisational change need to be researched at the organisational site where important details of the process, attitudes of participants, and organisational culture can be collected and later explored.

Among the most prominent of frameworks employed by social accounting researchers to make sense of organisational change (and the interrelationship with social accounting mechanisms) is Laughlin’s (1991) organisational change framework. For example, some applications focus on disclosures in this area as a proxy for organisational change (for example, Gray et al., 1995; Larrinaga-Gonzalez, Carrasco-Fenech, Caro-Gonzalez, Correa-Ruiz and Paez-Sandubete, 2001; Tilt, 2006) or providing an extension by exploring the link between reporting and change (for example, Tilt, 2006). Laughlin’s (1991) organisational framework uses both inductive and deductive theorising, and can be considered a ‘skeletal’ theory that is ‘fleshed out’ by entering the organisational site.

Laughlin’s (1991) framework is based on the work of writers in the organisational studies field (for example, Greenwood and Hinings, 1988; Hinings and Greenwood, 1988; and Miller and Friesen, 1980a; 1980b). In drawing on this body of work, Laughlin (1991) describes an organisation as existing in an equilibrium until such time as a ‘shock’ or ‘disturbance’ alters the dynamic. Consideration of the dynamic

³ See *Accounting, Auditing and Accountability Journal* special issue on engagement (2007), 20(3) for a fuller discussion on social accounting, sustainability and engagement.

and interrelated nature of the organisational context is important because social accounting technologies are significantly influenced by ‘outside’ events.

Laughlin (1991) frames an organisation as existing in an equilibrium with interpretative schemes, design archetypes and sub-systems. Interpretative schemes consist of organisational beliefs, norms, purposes and metarules. The second and more tangible category of design archetypes consists of organisational structure, decision processes and communication styles. The third and most tangible component of the framework, the sub-system, includes buildings and other infrastructure. The framing of the organisation in this manner gives rise to an exploration of social accounting mechanisms as part of a rich organisational tapestry where change is interrelated and part of a dynamic process.

The above components introduced by Laughlin (1991) sensitise the researcher to look for many facets in the change process and provide fertile ground for exploring broad questions such as: at what schematic level might change be most effective; by whom; when and over what time-frame? These questions fall under an exploration of *what* organisational (non)change might take place. Exploring the *what* of organisational change is important because of the insight given into practices and tools that can serve an agenda for sustainability. However, the use of Laughlin’s (1991) organisational change framework is not without challenge.

In evaluating organisational change, Laughlin (1991) makes two categorisations: morphostatic (first-order change); and morphogenetic (second-order change). Morphostatic change indicates there has been either no change or ‘superficial’ change. Second-order or morphogenetic change involves ‘significant’ change and is of keen interest to many involved in social accounting research. A key challenge with the above categorisation is deciding what constitutes ‘superficial’ or ‘significant’ change. Distinguishing between morphostatic and morphogenetic change requires a more critical evaluative framework which can make explicit a priori assumptions of change (Broadbent and Laughlin, 2005).

In this thesis I use Laughlin’s (1991) framework in the capacity of a tool to provide a descriptive organisational narrative. The ‘skeletal nature’ of Laughlin’s (1991)

framework lends itself to providing narrative (that is, both a ‘technical’ account of how the SAM is applied and a descriptive account on specific change that may have occurred in the organisation) rather than evaluating the effectiveness of the SAM, which is provided by a Freirian inspired heuristic.

1.4 Evaluating the SAM: Freirian Dialogics

In order to make claims about the effectiveness of SAMs, the evaluative framework must be made explicit and contain criteria that are sensitised to elements that may enable or limit dialogic interaction. At a basic level such an evaluation is necessary as “‘good’ social accounting needs a yardstick against which it might be judged’ (Gray et al., 1997, p.326). However, Gray et al. (1997, p.326/327) caution that those constructing such a ‘yardstick’ must be cognisant of critique from critical accounting scholars. These criticisms (detailed in Chapter Two) often centre on the lack of theoretical development in constructing and applying social accounting technologies (for example, Neu, Cooper and Everett, 2001). The absence of nuanced theoretical development in the application of social accounting technologies has been mooted to lead to a well-intentioned but overly idealistic view of how change occurs (Tinker and Gray, 2003). However, a growing affinity with critical social theory has provided an appreciation of the limitations of social accounting research and led to more nuanced theoretical frameworks (Dillard, 2007, p.37). One such example is the evaluation of social and environmental reporting, using a Freirian dialogic framework (Thomson and Bebbington, 2005). The use of a Freirian dialogic evaluation provides greater illumination of the emancipatory elements that are necessary to further the aims of the social accounting project (Thomson and Bebbington, 2005), and provides a basis for identifying whether ‘good’, ‘real’ change (that is, morphogenetic) occurs in the application of the SAM.

The potential of the SAM to possess emancipatory qualities has provided the impetus for theoretical exploration, using a Freirian dialogic lens (Bebbington et al., 2007b). However, the application of a Freirian lens has to date been restricted to papers which theorise engagement (Bebbington, Brown, Frame and Thomson, 2004;

Bebbington et al., 2007b; O'Dwyer, 2004a), apply it to a generic sample of social accounting reports (Thomson and Bebbington, 2005), call for further stakeholder engagement (O'Dwyer, 2004a), explore the process of accounting education (Coulson and Thomson, 2006; Thomson and Bebbington, 2004) and, more specifically, theorise the potential of the SAM (Bebbington et al., 2007b). In this thesis I develop further a Freirian dialogic heuristic to explore the potential of the SAM within an organisational environment.

To develop further the dialogic heuristic used to explore the organisational narrative (collected using Laughlin's organisational change framework), I have drawn on the work of Paulo Freire. Freire was a prominent educationalist born in Brazil, and is described as an educator, philosopher, political activist (Taylor, 1993, p.2), a radical, utopian and amiable Christian (Collins, 1977, p.3). Freire's work is premised on non-militant, transformative change being necessary and difficult (Freire, 1998a). His model of change via a raising of consciousness resonates with elements of this thesis and with aspirations of the social accounting project. Adult education is Freire's entry-point into a larger political arena where he wanted to facilitate fundamental change for a large group of people (Freire 1998a, p.75). Freire was adamant that adult education was only one entry-point for people to change the world, and he encouraged the 'reinventing' of his work to fit local and historical contexts (Freire, 1998a).

To explore critically the problems faced in his community Freire constructed a dialogic-banking heuristic and applied it to adult literacy. The dialogic-banking heuristic refers to two contrasting models of education. Banking education involves conditioning students into unreflective, passive, obedient beings who believe they are not capable of enacting transformative change (Freire, 1983a). In this sense banking education serves the purpose of transferring information from the teacher's head into the student's head in a manner which reinforces the status quo (Freire, 1983a).

The dialogic model of education is concerned with creating awareness of 'inconvenient truths', manifested as various social and environmental harms, and of the ability for people to act on these situations to change the world in which they live (Freire, 1998a). This involves highlighting the socially constructed nature of

knowledge, exploring who might be considered an expert, and raising consciousness to enable change (Freire, 1998a). A dialogic model of education has a broader and more reflective view of education.

A Freirian dialogic heuristic applied in social accounting literature provides two contrasting models of accounting. The banking conception of accounting serves to reinforce the status quo. This reinforcement occurs by viewing the account solely as a transfer of information, thereby depriving any awareness of the context in which it was constructed. In contrast, Freirian dialogic accounting avoids telling ‘a more or less passive audience that “everything” is fine and ...[discouraging] further questioning of the organisation’ (Thomson and Bebbington, 2005, p.521). Such a dialogic account(s) may involve the presentation, consideration and synthesis of many personal or collective accounts of the same situation (Thomson and Bebbington, 2005, p.518). The co-construction of such an account is based on the idea that ‘something new’ is created and one world-view does not invade another (Bebbington et al., 2007b, p.364). This interpretation of Freirian dialogics can be considered alongside more agonistic dialogic approaches which focus on recognition of the ‘situatedness of *all* perspectives’ for a ‘fuller expression of the plural nature of contemporary democracies’ (Brown, 2009, p.319, emphasis in original). In taking a more agonistic approach, the articulation of world-views may still be considered as ‘something new’ as it may occur in a dialectic manner and always be subject to what is ‘outside’. However, in spite of the differences of each interpretation, both approaches recognise that broader accounts that foster debate about accounting inputs and outputs are more conducive to the changes required for sustainable transformation.

The Freirian dialogic-banking heuristic provides an evaluative platform from which to assess the organisational narrative constructed, using Laughlin’s (1991) organisational change framework and to judge the effectiveness of using SAMs. The question remains of what influence the SAM may have in regard to the claims made within the social accounting project.

1.5 Research Questions

The primary research objective of this thesis is to explore whether *SAMs have the potential to foster more critically reflective organisational accounts* in the pursuit of sustainability. A more critically reflective account may enable a space to be created where: interrelationships between economic, social, and environmental factors are considered; the often hidden values and assumptions held in regards to sustainability are made explicit; a space to question current organisational practices and thought is fostered; a space to think about new ways of living and operating is fostered; and a wider group of people or experts than are traditionally involved in the decision-making process are included (Bebbington et al., 2007a, 2007b; Brown, 2009).

To address the primary research objective, a number of sub-questions can be raised on three levels (see Figure 1). The first views the SAM in a functional light and addresses descriptive questions, such as: *what* decisions did SAM assist in making; *what* problems were encountered; *what* level of resources were required in constructing the SAM; *was* enough data available to complete the SAM, and *was* the output from the SAM usable?

The second level of questioning looks at the SAM and its effects within the organisation. For example, *did* the application of the SAM influence the project team's decisions; *did* the SAM change or challenge organisational routines; *did* the SAM change interactions among individuals in the organisation; *were* different people involved in the decision-making process; and *did* the SAM lead to the questioning of decision-making models and frameworks? The first and second levels of analyses are explored in the construction of the organisational narrative.

The third level of questioning builds on the organisational narrative by exploring *how* a critically reflective account might be fostered. Drawing on Freirian dialogics, the third level of questioning provides the basis on which to evaluate the application of the SAM. These questions take a less descriptive approach compared with the above levels by asking *how*. For example, *how* did the SAM challenge organisational routines; *how* were more people involved in the process; *how* did the SAM change

organisational interactions; and *how* did application of the SAM provide a space to question and act in relation to current organisational activities and decision-making models? This third level of questioning provides some basis for providing insight which is wider than the organisations studied and may contribute on a wider public policy level.

Figure 1.1: Diagrammatic Overview of Thesis

The research question was not explored in a value-free manner. I therefore make explicit my stance as a researcher by highlighting *how* I have conducted the study by outlining the epistemological, theoretical, and methodological underpinnings of my research.

1.6 Research Design

In order to explore the research objective outlined above a series of methodological choices have been made. First, this thesis is premised on the belief that people shape accounting and organisations, which in turn shape people. The belief that accounting is a socially constructed phenomena and, therefore, cannot be expected to deliver a

universal and objectively 'correct' answer (for example, Tinker and Solomons, 1991) is an empowering one. This socially constructed view is congruent with a Freirian perspective which states that people shape and therefore reshape the world (Freire, 1983a, p.23).

A secondary set of choices includes the decision of the theoretical frames employed (and not employed) to inform the questions asked, the data collected, and how it is analysed. The first theoretical frame introduced earlier is Laughlin's (1991) organisational change framework. This frame serves as the basis on which to make sense of the descriptive elements occurring when the SAM was applied, and is considered a middle-range theory. Middle-range theory proponents assert that theorisation of social phenomena should not be limited to grand theory nor narrow empiricism (Laughlin, 1995, p.77), which is congruent with the second frame, Freirian dialogics. Freire (1998a, p.75) claims that his work should be *reinvented* for local settings rather than influenced by the setting or universal theory alone. This second theoretical frame of Freirian dialogics provides the heuristic with which both to pose questions and analyse the data collected. The inclusion of a critical writer, such as Freire, facilitates a heightened awareness of enabling and limiting aspects in the process of change.

A third set of choices involves the selection of methods by which data is collected and analysed. The interdisciplinary and exploratory nature of my research requires qualitative methods which can provide rich data. Case-studies are widely recognised as providing this kind of richness (Becker, 1992; Creswell, 1998; Hammersley and Gomm, 2000). Access to case-study sites was granted as a condition of being a member of a collaborative research project funded by The Foundation for Research, Science and Technology (FRST). The project, titled *Building Capacity for Sustainable Development: the Enabling Research*, was a six-year programme which sought to understand the issues faced by a society transitioning to a more sustainable way of living by gaining an *understanding of sustainability, attitudes and behaviours shown by individuals and organisations*. This PhD contributed to the overarching objective of the FRST project by exploring the development of new assessment tools in organisational settings. More specifically, my role in this project involved the

researching of SAM applications in two case-study sites: a city council and a social housing development.

The first case-study site identified during the course of the collaborative research project was a New Zealand city council (local authority), hereafter referred to as ‘the City Council’, providing services to more than 300,000 people. The City Council considered itself a leader in sustainability and aims to be one of the world’s leading sustainable cities socially, environmentally and economically (the Council’s sustainability vision document, 2000, p.1). A change in local government legislation and an ongoing relationship with the lead research organisation prompted an interest in applying the SAM. The Council provided a rich empirical source due to the wide range of projects and access granted to researchers over a three-year time-frame. During the course of this time-frame the SAM was applied six times to various infrastructure projects.

The second case-study site was located in a social housing provider that formed a 100 percent subsidiary (hereafter referred to as ‘the Land Company’) to build in excess of 3,000 new houses. Part of the undertaking by the Land Company obtaining the land was that the housing development would ‘set new benchmarks in urban sustainability’ [H.N.01.12.05]. This second case-study site complements the first empirical site by being smaller in nature, newly formed, and existing for only a finite period. Members of the collaborative research team were granted access for a period of two years, applying the SAM twice during that time.

The data was collected in the form of forty-seven semi-structured interviews and supplemented with notes taken during meetings and public documents. Questions for both the group and individual interviews were based on a research instrument developed (Chapter Five) as a conversation starter and digitally recorded where possible. Interviewees included: senior management, elected representatives (board representatives), operational managers, a sustainability co-ordinator, and project team members. The data was collected in a sequential manner with the City Council case-study site preceding the social housing site.

The data was analysed using a coding research instrument developed using a Freirian inspired heuristic (Chapter Four) and aimed to identify elements that both enabled and limited organisational change in the application of the SAM. The coding process took place on three broad levels: cleaning up transcribed notes to gain initial familiarity; application of the Laughlin (1991) inspired research instrument in order to create the organisational narrative of (non) change; and last, application of the dialogic heuristic framework to the organisational narrative. This last level of coding drew on themes developed in Chapter Four to develop further the insights gained from the organisational narrative.

The above choices are simultaneously a non-choice for another epistemological stance, theory or method, and therefore have features that both enable and limit. Some constraining elements can be generically applied to qualitative research and case-studies, such as the ability to draw statistical inference. More specific limitations require reflection on the use of a dialogic framework and how the study was conducted. These limitations are considered in greater depth in Chapter Five.

1.7 Overview of Chapters

This chapter has introduced social accounting, organisational change, and Freirian dialogic literatures in order to situate the primary research question. In the latter half of this chapter I have outlined how the research question is explored, and below, I provide structural details for the remaining chapters.

Chapter Two will discuss the social accounting project to provide the context in which the SAM emerged. I begin by situating the social accounting project which has arisen from social/environmental concerns and discomfort with mainstream accountings. Situating the social accounting project then allows me to position my research within this literature and to highlight the salient threads, synergy with Freirian dialogics and key critiques. The latter half of Chapter Two will discuss recent social accounting technologies used for direct engagement in the

organisational environment, in particular, previous theoretical and empirical applications of the SAM.

Chapter Three will detail the organisational change framework used to construct a narrative of the data collected when applying the SAM. The chapter will open with discussion of the nature of organisational change and the position adopted in this thesis. An overview will be provided of Laughlin's (1991) organisational framework, the authors who have applied it, and how it is used to construct a descriptive narrative of organisational (non) change in this thesis. The chapter will conclude with discussion of the limitations of Laughlin's (1991) organisational change framework and how they could be addressed with the use of Freirian dialogics.

Chapter Four will present the DHF used to evaluate the effectiveness of SAMs from the organisational change narrative. The presentation will begin with a broad contextual review of the origins of Freirian dialogics, and discusses the four key themes underpinning Freire's work: human agency, social constructionism, broader socio-political context and institutional frameworks, and democratic understandings. These themes will then be used to highlight the overlap between Freirian dialogics and key themes of social accounting research. In particular I draw on Bebbington et al. (2004) to construct the DHF and explore the relationships between the above themes and the DHF attributes. In so doing I demonstrate how these attributes clearly signal what might be expected in a dialogic account (Bebbington et al., 2004) at the organisational level. It is this capacity of the attributes to scrutinise the effectiveness of the SAM at the organisational level that claims may be made about 'good', 'real' change occurring.

Chapter Five will consider the methodology (of how we understand the social world) and methods (of how we study the social world) that can serve as a link between the theoretical framework developed in earlier chapters and the empirical section of the thesis. The chapter will begin with an epistemological discussion of *what it means to know*, and a justification for drawing on Laughlin's (1995) middle-range approach to theorising. The latter half of the chapter will detail how the DHF is applied to the case-study sites and, in particular, how the data is collected and analysed. Lastly, I

conclude with a discussion of the design limitations imposed as a consequence of the above methodological and theoretical choices.

Chapter Six is the first of three empirically based chapters that will provide a descriptive organisational narrative, using Laughlin's (1991) organisational change framework. The narrative will detail six applications of the SAM to a city council in New Zealand. The chapter will begin with a discussion of the legislative event that influenced the Council to apply the SAM, followed by the application of the SAM to an eco-library and community garden. Prior to the third and fourth SAM applications (Civic Building and waste), details of a change in leadership will be provided. This change in leadership appeared salient in subsequent applications of the SAM. The narrative will continue with descriptions of the fifth and six SAM applications (transport and social housing) before concluding with discussion on the most salient assemblages (implicated in the change process).

Chapter Seven will extend the descriptive organisational narrative constructed in Chapter Six by exploring a second case-study site. The sequential nature of the case-studies allows for the learning from the Council to provide a starting-point in exploring the second site. The second case-study site is a social housing provider, the Land Company. I open the chapter with discussion of the Land Company's motivation for applying the SAM. Second, I track the application of two SAMs (on stormwater infrastructure) developed during the course of the engagement with the Land Company. In the course of this development a change in leadership occurs which has significant impact on further applications. The chapter will conclude with discussion of the assemblages of change that feature most prominently, which are then compared with the findings of the City Council case-study site.

Chapter Eight will employ the DHF to evaluate the effectiveness of SAMs in the two empirical sites. Using the descriptive organisational narratives constructed in chapters six and seven, Chapter Eight will explore three broad groupings of questions: what is the purpose and process of a (non)dialogic account; what might be contained in a (non)dialogic account, who would construct it and how might this be done; and what would be the size, time-frame and ownership of a (non)dialogic account? These questions are intended to highlight important elements in the process

of transformative change and, in doing so, will provide a normative basis for making claims about the effectiveness of the SAM. The structure of Chapter Eight will mirror the above questions and then conclude with discussion of how both empirical sites displayed dialogic aspirations in the early stages of the SAM applications that were not matched in later applications.

Chapter Nine will draw together the theoretical constructs and empirical material from the previous chapters. The chapter will open with a review of the empirical findings detailed in Chapters Six, Seven and Eight as they relate to the three levels of sub-questions detailed earlier in this chapter (that is, the SAM at a ‘technical’ level, the SAM at an organisational level, and *how* the SAM may foster more critically reflective accounts). This review of the sub-questions and associated findings provides a basis from which the contribution and associated implications of my thesis are discussed. The thesis will conclude with some reflections, limitations, and ideas for future research.

Chapter Two: The Social Accounting Project

2.1 Introduction

This chapter is the first of three that present theoretical constructs necessary for an empirical exploration of the SAM. In questioning whether the SAM has the potential to foster more critically reflective accounts it is important to provide the context in which SAMs were developed by outlining the motivations, criticisms, and technologies of the social accounting project. The chapter is structured in three sections: first, I provide an overview to situate the social accounting project, which arises from wider global concerns, highlight the premises of the social accounting project, and detail earlier technologies that share commonalities with the SAM. Second, I overview previous applications of the SAM, providing a description of how it is applied. Third, I draw on an earlier application of the SAM in a United Kingdom setting and discuss the enabling and limiting features.

2.2 The Social Accounting Project

A suitable beginning for this chapter is to define the terms ‘social accounting project’ and ‘social accounting’, used throughout my thesis. First, the term *social accounting project* is used in a similar capacity to Gray, Dillard, and Spence’s (2007) use of *social accounting* to cover social, environmental and sustainability accounting, accountability, reporting, auditing and, most importantly, ‘new imaginings’ (Gray, 2002) associated with the Centre for Social and Environmental Accounting Research (CSEAR) community. While the CSEAR community consists of a large range of interest areas, perspectives and methods I align my study with a subsection of researchers who seek to develop new accounting technologies in an organisational context (for example, Bebbington, 2007a; 2007b; Bebbington and Gray, 2001) and draw on critical theoretical frameworks to evaluate and enrich the practice of engagement (for example, Bebbington et al., 2007b).

Second, social accounting is broadly described ‘...as the universe of all possible accountings’ (Gray et al., 1997, p.328) and the result of what might be seen if a mirror were held up to conventional accounting (Gray, Bebbington, McPhail, 1994, p.65). When compared with conventional accounting, social accounting ‘is what happens if the constraining principles of conventional accounting (that is, an accounting entity, a focus on economic events, financial description of those events and an assumption of (predominantly financial) users...are relaxed’ (Gray et al., 1997, p.328). These high-level descriptions will take on greater meaning as the themes of the social accounting project, salient for the development of the SAM, are discussed in greater depth.

Social accountants have canvassed a wide range of research developments, from a number of different epistemological perspectives and methods (see Gray, 2001b; 2002; Gray and Guthrie, 2007; and Thomson, 2007). Two developments which are important in exploring my research question are the emergence of sustainability accounting (see Bebbington, 1999 for a detailed discussion), and the theoretical re-orientation of social accountants to draw more heavily on work that was once considered the domain of critical accountants (Dillard, 2007).

2.2.1 Premises of Sustainability Accounting

The emergence of sustainability accounting is premised on our current way of living, placing a burden on the planet, stressing our ecological diversity, including vital resources such as water and clean air, and creating significant differentials in the allocation of resources (Unerman, Bebbington and O’Dwyer, 2007, pp.1-5). While the specific topics of interest to social accountants (and sustainability accountants) have ‘waxed and waned... like men’s moustaches and women’s hemlines’ (Buhr, 2007, p.62), the underpinnings remain more stable, with a view that mainstream accountings are inadequate.

Gray et al. (1996) describe mainstream accountings as being preoccupied with narrow, numerically oriented accounts for the owners of capital. In contrast, social accounting researchers suggest that a sustainable society requires a broad

interpretation of accounting which can highlight actions, accountability relationships, distribution of wealth, and other issues of justice and environmental impacts, arising from various decisions made (Gray et al., 1996, pp.294-295). This divergence between social and mainstream accounting literatures may arise due to differences in how the 'public interest'⁴ is conceptualised. While 'mainstream' accounting literatures purport to act in the public interest via efficient capital markets, social (and critical) accountants highlight the need for accounting to take a broader view in terms of the technologies developed, both how they are developed, and who uses them (See Gray, Owen and Adams, 1996, Chapter One, for a fuller discussion).

In recognising the need for mainstream accountings to take a broader view, social accountants have sought 'better ways' and 'new imaginings' (Gray, 2002). It is this combination which has led to the development of new accounting technologies, theories of organisational change, and empirical explorations 'of' and 'within' organisations. In a similar capacity to other accounting scholars, social accountants (of which sustainability accounting is a sub-set) frequently cite the need for change (for example, Bebbington, 1999, 2007a, 2007b; Unerman et al., 2007). However, differences arise in how such change might be realised. Some social accountant scholars adopt a view that sufficient change may occur with a series of assemblages and incremental changes (for example, Larrinaga-Gonzalez and Bebbington, 2001) whereas others (for example, Spence, 2007) highlight a need for change in supra structures, as detailed in the following chapter.

The pursuit of change has led to the development and experimentation of social accounting technologies at an organisational level (for example, Bebbington, 1999, 2007b; Bebbington and Gray, 2001) or 'action spaces' (Dillard, 2007). Social accounting technologies, such as sustainability reports and triple bottom-line reports, are typically produced in an organisation for an external audience (for example, Gray, 1992, 1994, 2001a). In contrast, social accounting technologies, such as FCA, SCCs, input-output analysis, and natural capital inventory accounting, have an

⁴ Gray, Kouhy and Lavers (1995) note how more neo-pluralist writers, such as Lindblom (1994), carefully use the term 'relevant publics' rather than more generic terms (that is, 'the public' or 'stakeholder') and thereby recognise the 'classical political economy possibilities of ... analysis' (p54). However, critical and social accounting scholars do share a common characteristic by asserting such a realisation cannot occur without change to *how* we account.

internal focus (for example, Bebbington, 2007b; Bebbington and Gray, 2001). In commenting on this later internally focused category, Bebbington (2007a, p.235) cautions that such development of accounting technologies remain 'far from resolved or empirically explored'. Further, questions remain as to the relationship between concepts of sustainability and activities of individual organisations (Bebbington, 2007a, pp.234-235); for example, what limitations exist for information produced within the organisational boundary in an unregulated manner (Gray and Milne, 2002, 2004)?

Where empirical explorations have occurred, researchers note that the process of constructing such accounts can be of greater value than the actual accounting 'output' (Bebbington, 2007b; Bebbington and Gray, 2001). Such value may consist of the changing of mental models of those within the organisation (for example, Bebbington, 2007b) and organisational activities. Authors such as Brown (2009) and Söderbaum (2007) extend this work by citing the SAM as one possible mechanism that may contribute at both the organisational level and the public sphere (with emphasis on the latter). In doing so, these authors draw on more critical frameworks to highlight the potential of the SAM to facilitate democratic decision-making and a raising of consciousness. The developments which have led to the inclusion of more critically oriented frameworks are now discussed.

2.2.3 Critiques and Developments of Social Accounting Research

Social accountants seek engagement with a wide variety of audiences, but none has shaped the direction of the social accounting project as much as the critical accounting school. The most recent decade has given rise to a theoretical reorientation of some social accountants towards the use of more theoretically developed frameworks, particularly in view of criticism from the critical accounting school. At one level these criticisms question whether social accounting research may do more 'harm' than 'good', because any new accountings developed within a power-laden context are most likely to serve as extensions to the dominant system (for example, Cooper, 1995; Puxty, 1991; Tinker, Lehman, and Neimark, 1991). A counter argument suggests that the use of social accountings may give rise to

discourse that may be problematised (Milne and Gray, 2007, p.194) under more critical evaluative frameworks.

More specifically, some criticisms levelled at social accounting include political quietism (Tinker et al. 1991); its managerialist nature (Neu, Warsame and Pedwell, 1998); its undertheorising (Puxty, 1991); its masculinist nature (Cooper, Dunn and Puxty, 1992); modernist desires (Everett and Neu, 2000), and willingness to accept voluntarism (Gallhofer and Haslam, 1997; Gray and Milne, 2002). By incorporating critique, more could be gained from the social accounting project in the pursuit of sustainability if both enabling and constraining forces were explicitly recognised (Dillard, 2007, p.42). In response, social accounting research must engage with more critically evaluative lenses and consider aspects such as human agency (Dillard, 2007, p.42). Self-critique has echoed the calls for more critically evaluative lenses:

Not only is there the tautological concern that assessing “good” social accounting needs a yardstick against which it might be judged, but the justification for deriving a practice must lie in the values and emancipatory moment which underpin the suggestions for practice. (Gray et al., 1997, p.326)

The growing affinity of explicitly recognising enabling and constraining forces is likely to be part of the reason O’Dwyer (2005) refers to a sub-group as *critical social accountants*. An example of the application of incorporating a more critical lens in the social accounting project is Bebbington et al. (2007b). Bebbington et al. (2007b, p.357) consider the SEA literature to be deficient in explicit theoretical discussion of engagement that leads to emancipatory change necessary for sustainability. To foster an explicit theoretical discussion of such emancipatory change, Bebbington et al. (2007b) draw on dialogic theory, which has its origins in critical theory, and use this as a platform to explore engagement within the social accounting project. Bebbington et al. (2007b) view the critical theory in SEA engagement as necessary for problematising and re-examining the accountability framework (p.371), stating:

... engagements within SEA research can only be understood if they consider a number of interrelated contextual factors (institutional frameworks, epistemology, human agency, role of experts, language and discourse heterogeneity, community and identity, material context and power dynamics). (p.373)

In developing theoretical frameworks, such as the above, calls have been made to explore accounting in a case-study context so that 'organisational complexities' might be better understood. In particular, there is a need to move beyond explanatory or illustrative use of case-studies and to focus on the *process* of accounting (Humphrey and Scapens, 1996, p.100). Such a focus on process⁵, or *how*, means that concerns of social theorists may be considered in an empirical context (Humphrey and Scapens, 1996, p.100). In recognising that theory both informs and is informed by observation, the social accounting project will be able to develop both processes (Gray, 2002).

Criticisms of underdeveloped theory within social accounting (Gray, 2002) may have arisen because of a strong focus on pragmatism. Gray (2002, p688) eloquently describes the social accounting project as one which '*gets its hands dirty and is, consequently, partially mired in the impurities of pragmatism*'. Pragmatism is an important feature of the social accounting project and perhaps explains the greater emphasis on developing and applying technologies rather than theorising. However, if social accounting researchers are to address theoretical concerns raised and explore further the limits of social accounting technologies in an organisational context, then pragmatism is a necessary but deficient feature. Pragmatism is necessary, as it provides the operational framework for the objectives of the social accounting project to be realised (Dillard, 2007, p.48). It is deficient because the context in which social accounting technologies are developed must also be considered (Bebbington et al., 2007b, p.357; Spence, Husillos and Correa, 2010).

The pragmatic nature of the social accounting project can be illustrated by the willingness to engage in an organisational context with the desire to facilitate greater

⁵ Case study research in this context means theory is used as a 'map' or 'heuristic' (see Llewellyn, 1996).

accountability or, as described by Dillard (2007), ‘action spaces’. Social accountants have engaged in educational activities (for example, Humphrey, Lewis and Owen, 1996; and Thomson and Bebbington, 2005); silent and shadow accounts (for example, Dey, 2003; Gray, 1997; Gray et al., 1997); social audit and anti-reports (for example, Adams, 2004; Harte and Owen, 1987; Medwar, 1978), and engagement with organisations to seek change through new social accounting technologies (for example, Baxter et al. 2004; Bebbington, 2007b; Bebbington and Gray, 2001). It is the latter form of engagement in the organisational context (via internally focused social accounting technologies) which has given rise to FCA and the SAM.

2.2.4 Social Accounting Technologies

Social accounting experiments are a form of engagement based on the assumption that if new accountings can be constructed and implemented, then organisational change may occur (Bebbington et al., 2007b, p.362). *How* this change might occur, with whom, and over what time-frame are relative unknowns or, at best, fiercely contested. It is suggested that the process of going through such a process may change the mental models of those involved and give rise to previously glossed-over features (Bebbington and Gray, 2001). For example, the inclusion of costs in decision-making by stakeholders may alter how people think and act, and therefore provide a more suitable platform for organisational decisions, compatible with sustainability agendas (Antheaume, 2007, p.212).

A social accounting technology which shares some similarities with the SAM is FCA. Experiments in organisational settings support the assertion that FCA fosters increased awareness of ‘externalities’, so that more informed organisational decisions can be made (Bebbington, Gray, Hibbitt and Kirk, 2001). FCA is described as ‘a system which allows current accounting and economic numbers to incorporate all potential/actual costs and benefits into the equation including environmental (and perhaps) social externalities’ (Bebbington et al., 2001, p.8). For example, FCA calculations may include the medical cost of workplace accidents, employee stress and environmentally harmful emissions.

The World Resources Institute (cited in 'Canadian Institute of Chartered Accountants', 1997) considers FCA an emergent form of management accounting which aids decision-making:

Within the accounting profession, full cost accounting means that all manufacturing, sales and administrative costs are allocated to products. Recently, a number of environmental and business leaders have also used full cost accounting to describe the practice of introducing environmental costs once considered external into corporate decision-making (Canadian Institute of Chartered Accountants, 1997, p.88).

FCA experiments can be traced back to the 1970s with the work of Estes (1972) and Abt (1977). These attempts were largely unsuccessful because of the difficulty in gathering data and the lack of implementation expertise (Antheaume, 2007). Further FCA experiments have taken place within a variety of organisations, such as BSC Origin, Ontario Forum for the Future, Australian National Forests (Herbohn, 2005) and Landcare Research Limited (Bebbington, 2007b, pp.30-31). The latter experiment involved the use of the SCC (Bebbington, 1999), drawing on the idea of capital maintenance (Gray, 1992) and describing sustainable cost as:

The amount of money an organisation would have to spend at the end of an accounting period in order to place the biosphere back into the position it was at the start of the accounting period (Gray, 1994, p.33).

In another FCA experiment, Antheaume (2007, p.221) found that the process of constructing a full cost account 'helped provide better knowledge of the organization's operations and helped to change several taken-for-granted ways of conducting business'. It appears that experimentation with various FCA technologies in organisational settings has provided both insight and challenge to organisational activities (Antheaume, 2007, p.221) and calls have been made to extend these

understandings with further studies (Antheaume, 2007; Herbohn, 2005). Further studies might explore *how* such change occurs, with whom, and under what conditions (Bebbington, 2007a). SAMs are one such FCA derivative which may provide further insight (Antheaume, 2007) into these questions.

2.3 SAMs

SAMs are the most recent innovation, following on from FCA, and share two key objectives. First, the pursuit of sustainability should be worked towards (Bebbington, et al., 2001, p.5), and second, this sustainable transition is aided by making previously external costs more visible and central to decision-making. The SAM was initiated⁶ by a sustainability co-ordinator at BP in order to focus BP's sustainability aspirations into an operational tool for use at the project level (Bebbington, 2007b, p.37). The ability to operationalise higher-level sustainability initiatives consists of two key objectives:

... modelling and accounting for SD performance and creating a context within which individuals who would not otherwise think about SD could find out about the concept and its application to activities for which they were directly responsible....this second objective (to engage thinking around SD issues) is perhaps the more important contribution... (Bebbington, 2007b, p.39).

SAM literature may be considered in three broad categories (Table 2.1). First, theoretically focused papers that draw on the SAM to illustrate the potential of dialogic or post-normal frameworks (Bebbington et al., 2007b; Brown, 2009; Söderbaum, 2007); such illustrations highlight the SAM as creating a space to embed ways of thinking and acting that exist outside conventional accountings. These

⁶ Although first initiated by the sustainability co-ordinator at BP, the development of the SAM also included Genesis and the University of Aberdeen

papers serve two important roles in relation to my thesis. First, they provide frameworks which link technologies employed at the organisational level to broader social change. This is an important role to perform because social accounting researchers frequently engage at the organisational level in order to seek broader social change (Gray, 2002). Second, theoretical explorations providing this linkage raise issues (for example, monetisation) that are considered important when empirically exploring the SAM, particularly in view of criticisms from the critical accounting school.

The second categorisation of papers tracks the empirical application of the SAM within the United Kingdom. The papers and book draw from the BP and Genesis SAM applications and are largely practitioner oriented, as greater focus is given to descriptive comment than explicit theorising. The third categorisation of papers extends the empirical application of the SAM in a New Zealand context. These applications form the empirical basis of the Foundation for Research, Science and Technology project, detailed in Chapter Five, and were written after the United Kingdom SAM applications. The applications focus on waste management and social housing for local body authorities. In a similar vein to the second categorisation, these papers are largely practitioner oriented, as greater coverage has been given to descriptive comment than explicit theorising. These papers provide further empirical examples with which to compare my findings at a descriptive level.

Table 2.1: SAM Literature

Study	Description
Bebbington, Brown and Frame (2007a)	<ul style="list-style-type: none"> ▪ Theoretical exploration of the SAM (used in the capacity of an example) to facilitate more participatory forms of decision-making and accountability. ▪ Discussion covers issues of monetisation, role of experts, distributional issues, subjectivity and monetisation. ▪ Highlights the SAM as an example of an accounting technology that may be adopted to pursue sustainability objectives.
Brown (2009)	<ul style="list-style-type: none"> ▪ Theoretical exploration of ‘new accountings’ that facilitate more democratic and participatory forms of social organisation. ▪ Draws on debates between proponents of deliberative and agonistic conceptions of democracy to make a case for agonistic approach to dialogics. ▪ Draws on the SAM as an illustrative means for comparing deliberative and agonistic approaches.
Söderbaum (2007)	<ul style="list-style-type: none"> ▪ Theoretical exploration of decision-making tools, facilitating sustainability and democracy. ▪ Introduces positional analysis to illuminate the many approaches actors and decision makers may adopt in line with their ideological orientation. ▪ Details the United Kingdom SAM experiments as one possibility for decision-making. ▪ In the course of the above exploration a number of reflections/limitations about SAMs are detailed (for example, monetisation/reductionism, role of ideological orientation, and the requirement for disaggregated ‘open’ systems).
Bebbington (2007b)*	<ul style="list-style-type: none"> ▪ Practitioner focused book traces previous FCA type experiments and the inherent thinking before providing an in-depth presentation of the United Kingdom BP and Genesis Gas SAM applications. ▪ Highlights how the process of applying the SAM facilitated participants to reconceptualise the relationship between their organisation and wider society. ▪ Discusses the capability of the SAM to facilitate tangible differences to project decisions and to challenge organisational routines. ▪ Details how the SAM facilitated a broadening of sustainability oriented discussion beyond the context of conventional accounting tools.
Bebbington, and Frame (2003)*	<ul style="list-style-type: none"> ▪ Provides a largely technical description of the SAM and how it was applied to BP, Genesis Oil and Gas. ▪ Discusses how some aspects of the SAM model would need to be changed in order for New Zealand applications. ▪ Highlights the potential of the SAM to open up dialogue between different specialists in a way that they could communicate effectively and possibly change the way they conceptualise project decisions.
Bebbington and MacGregor (2005)	<ul style="list-style-type: none"> ▪ Empirically focused paper highlights the BP application of the SAM and explores how this might lead to applications in ‘the built environment’. ▪ The aspect of social sustainability was identified as potentially the most problematic technical aspect in constructing a SAM of the built environment. ▪ The paper calls for further empirical analysis comparing the SAM across different applications.

Study	Description
Frame and Cavanagh (2009)**	<ul style="list-style-type: none"> ▪ Empirically focused paper details application of the SAM to waste management and social housing projects in a New Zealand city council. ▪ Findings indicate that the stakeholder's participation was challenged by a perception of a contract based approach of the research, rather than the intended (participatory) approach. ▪ Highlights that technical collection and construction of the SAM was secondary to the importance of the <i>process</i> of applying the SAM. ▪ Calls for further research into the process of <i>how</i> the SAM is applied with specific emphasis on stakeholder participation.
Cavanagh, Frame and Lennox (2006)**	<ul style="list-style-type: none"> ▪ Empirically focused paper details the application of the SAM to an organic waste project in a New Zealand city council. ▪ Traces the construction of two SAMs, and highlights one as being more sustainable than another. ▪ Discusses (via empirical exploration) the SAM as having impacted the decision made by elected representatives in regard to the organic waste project. ▪ Calls for further development into the methods/processes in which the SAM was applied.
Cavanagh, J. (2005)	<ul style="list-style-type: none"> ▪ Report empirically explores the application of the SAM to three scenarios for channelling waste: disposal, diversion, and collection. ▪ Based on the application of the SAM, recommendations are provided to a regional council in New Zealand about the most sustainable waste options available.

*These publications draw on the application of the SAM within a United Kingdom setting, BP, Genesis Oil and Gas. Additional publications which also describe this empirical setting are: Baxter et al. (2004); Baxter, Bebbington and Cuttridge (2002); Baxter et al. (2003); and Bebbington (2007c).

**These publications draw on the same case-study sites as detailed in this thesis. Additional publications that also describe this empirical setting are Cavanagh, J. (2007), Cavanagh, Frame, Fraser and Gabe (2007) and Cavanagh, Frame, Fraser and Gabe (2008).

2.3.1 SAMs: A Descriptive Account

In order to explore the critical potential of the SAM it can first be understood at a descriptive level. The SAM was first applied in a United Kingdom setting, and it is this literature which provides the most detailed description, namely the BP oil and gas project. The SAM was applied to three key projects in BP: a Landfill gas project, a tree planting project, and an oil and gas project. It is this latter project which I elaborate on to provide a functional description. The model consists of four key steps, including:

- I. Identifying the controllable activities and definition of the project (in this case oil and gas field development);
- II. Identifying the full life-cycle of the activities recognised and boundaries of the model defined (for example, exploration drilling, platform design, installation, production and decommissioning);
- III. Collecting activity data and categorising into economic, resource use, environmental and social; and
- IV. Monetising the activities and externalities in each category.

(Bebbington and Frame, 2003, p.11)

These four steps are generically depicted below by a process map (Figure 2.1) and SAM charts (Figures 2.2 and 2.3). After carrying out the necessary steps to gather all the SAM data, this data can be graphed to produce a 'SAM signature'. The SAM signature indicates whether the overall amount of capital has been maintained. The SAM signature is essentially a pictorial view which highlights how a particular project has transformed various economic, environmental and social capital categories. The decision to aggregate all the elements in a particular capital category depends on the approach adopted to sustainability. For example, if participants put an infinite value on particular items (Gray, 1994, refers to these as critical natural capital items), then complete aggregation could not take place. However, if items were identified as having man-made substitutes, then aggregation is more likely to take place.

In the case of BP it was decided⁷ that capitals could be substituted as long as this did not include critical natural capital (Bebbington et al., 2007a). This meant a project might be considered sustainable if every capital category had a net positive impact and no critical capitals were negatively impacted. For example, a BP project team could weigh up road deaths arising from the supply of petroleum against the benefits of mobility as sustainable, assuming there was a net positive impact.

The SAM signature presented below (Figure 2.3) indicates that social and economic benefits were obtained at the expense of environmental and resource capitals. The

⁷ Details of how this was decided and by whom were not available at the time of writing.

elements which are monetised are drawn from activities a project team has previously recognised as important⁸. In the case of BP, these data items may include the number of hours worked, barrels of oil produced, volume of water used, and financial results. These inputs are recognised as inputs in Figure 2.1 below. The elements may then be categorised as influencing the four capitals: economic, environmental, resource and/or social.

Each capital category is indicative of the capital that has ‘flowed’ or changed as a result of the project being undertaken. The *economic flow* is the category most associated with more conventional project accountings, except that it is from the perspective of economic benefits accruing *from* the economic entity and stakeholders. The data inputs that comprise this flow of capital may include money paid to contractors, social investment, reinvestment, dividends, and taxes (Baxter et al., 2003). While the elements considered in this category may have social, resource and environmental impacts, these are not included unless there is a direct payment for any one impact (Bebbington, 2007b, p.43). The remaining non-economic categories therefore represent the ‘externalities’ of the project (Bebbington, 2007b, p.43).

The *resource usage* category is ‘designed to capture the values of resources used to the extent that payments made (and captured under economic flows) do not fully account for...’ (Bebbington et al., 2007a, p.230). This distinction is considered important so as to avoid ‘double counting’ elements which have already been included under another category (Bebbington, 2007b, p.43). Data inputs comprising this flow may include, oil and gas, water, energy, raw materials, intellectual property, and physical infrastructure (Baxter et al., 2003). The non-captured nature of many of these items means that economic rents are used in the monetisation process. Some of these rents have multipliers attached to them to represent the total amount of the resource which is no longer able to be used. For example, the extraction of oil also leaves some remaining oil in the ground that is no longer able to be used. In such a situation the total amount of oil extracted and the unusable amount are included in

⁸ A fuller discussion on monetisation for the BP project occurs later in this chapter and is supplemented in Chapters Five and Nine with further reflections on how this was experienced in the current study.

the calculation (Bebbington, 2007b, p.44). These calculations were derived by economists working for BP in consultation with other members of the project team.

The *environmental* category includes aspects of the process (predominantly economic activities) likely either to enhance or negatively affect the physical environment. Data inputs comprising this flow may include emissions to the atmosphere and sea, nuisance value (for example, noise), carbon footprint, and waste from disposal (Baxter et al., 2003). The monetisation for environmental damages may involve an intermediary step of modelling the damage anticipated by undertaking a particular activity and then converting it into the common metric of money.

The fourth and final capital category is concerned with *social* flows resulting from the project related activity. The inclusion of monetised social elements is considered the most difficult of the four categories to monetise (Bebbington, 2007b, p.44). Data inputs associated with this category may include employment, health and safety, taxation, distributional elements (for example, social exclusion and poverty related aspects), crime, and social impacts of the product (Baxter et al., 2003).

At one level the above description of the SAM provides insight on what might be included in each capital category, what organisation developed it, and the basic process followed to construct it. However, at another level, a number of questions are not addressed, including: did the process of constructing a SAM facilitate a reconceptualisation of the project, organisation, or sustainability; which parts of constructing the SAM fostered the greatest level of debate; what was the outcome of this debate; which parts of constructing the SAM were found most difficult by people ; who was included (and not included) in the process of constructing the SAM; and was the SAM viewed as an objective output or a contestable place at which to begin a discussion? In exploring these questions, greater insight may be gained into the potential of the SAM. A previous application of the SAM in the organisational context of BP is identified as a suitable place to begin such exploration.

Figure 2.1: SAM Process Map

Figure 2.2: SAM Chart

(Bebbington and Frame, 2003, p.12)

Figure 2.3: Components of SAM Chart (or 'signature')

(Bebbington and Frame, 2003, p.12)

2.4 SAMs: The BP Experience

The BP SAM applications occurred prior to any New Zealand applications and provide a number of both enabling and constraining features important in the pursuit of sustainability. The SAM appears to contribute to enabling the pursuit of sustainability by: engaging people in a broader conversation which makes assumptions explicit; highlighting interrelationships among the social, environmental, and economic factors; highlighting differences in the way people think; and at times changing how people think about sustainability issues (Bebbington, 2007b). However, the process of applying the SAM did not exist without challenge. Within BP, and other organisations interviewed, it was noted at times that the SAM did not mesh with the organisation's evaluation culture; that it was considered too resource intensive, and encountered conflict from those with more positivist ways of viewing the world. This section draws on Bebbington (2007b) to highlight salient features in the process of applying the SAM as experienced in BP.

2.4.1 Broader Discussions and Changing of Mental Models

In the process of applying the SAMs, a series of signatures (for example, Figure 2.3) were developed, which led in turn to a series of discussions. These discussions can be considered on a number of levels as debate that: changed the way people *thought about a project*; changed the way *people acted in regard to a project*; changed the way people thought about the *organisation and wider society*; and, raised aspects on what organisational structures might need to be in place to embed sustainability initiatives. This first level of debate can be illustrated with a heated exchange by project team members in regard to a SAM index (Bebbington, 2007b, pp.61-62). The result of the SAM signature surprised some members of the project team, who then questioned immediately what actions could be undertaken to remedy such 'low sustainability' and thereby outperform other projects. In this instance the process of applying the SAM changed the way project team members conceptualised sustainability initiatives.

The second level of debate led to tangible change after discussion of the SAM profile and the possibilities of alternative project decisions. Bebbington (2007b, p.53) noted that in one conversation a project team decided it was worthwhile to become carbon neutral and to reduce its own travel by using alternative means of communication. The SAM, used in this manner, had provided the project team an opportunity to explore various 'what ifs' of project decisions and the interrelationships among various elements. In this instance the process of applying the SAM had changed the thinking and actions of project team members.

The above exchanges suggest that broader conversation can occur regardless of the 'rightness of the numbers' and the power of tools such as the SAM to motivate performance (Bebbington, 2007b, pp.61-62). The facilitation of broader conversation, not based on the 'rightness of numbers', contrasts with the above example where participants were surprised by the low sustainability number of the SAM and were prompted to act. In speaking with the author (Bebbington, 2007b), this might be explained by participants having an initial impression of the SAM as an objective tool and later adopting a social constructionist stance. Alternatively, some participants may have viewed the SAM as providing an objective view of truth while others may have adopted a more social constructionist perspective (and the difference in views therefore relates to who was interviewed rather than the timing of the interview). The former discussion of 'correct numbers' highlights the attachment to bottom-line thinking attached to many mainstream accountings. However, unlike some mainstream accountings, there appears to be a greater possibility to re-open discussion by use of the pictorial SAM signature, where interrelationships among the social, environmental, resource, and economic factors can be debated in a less reductionist manner. The presentation of sustainability information in a pictorial form fostered debate, and in some instances the project was reconceptualised, with tangible change evident.

The process of applying the SAM appeared to change how project team members conceptualised aspects of sustainability beyond the scope of the immediate project, such

as the relationship between BP and society. Bebbington (2007b, p.66) notes the influence of using the SAM for one interviewee:

He was ‘impressed with the tool, but disturbed by parts of it ... being disturbed says more about me and where I am coming from than the model itself ... for example, that taxation can be a social good, I had not thought of tax in that way before’.

The reconceptualisation of projects and wider issues of sustainability expand the possibilities for exploring the benefits of a project while simultaneously reducing the overall negative impact (Bebbington, 2007b, p.54). For example, the SAM may be used to engage people in thinking about how a transition to a less unsustainable world might be achieved in relation to transport. The current incentive for BP is to sell as much fuel as possible in order to maximise profit. However, an alternative might be for individuals to buy ‘mobility services’ for a set fee, thus decoupling profit generation from the selling of fuel (Bebbington, 2007b, p.54). Without an exploration of these interrelationships and the learning of new ways of thinking, a transition to a less unsustainable way of living is impossibly constrained. While this example raised by Bebbington (2007b) is hypothetical, it does highlight the importance of influencing mental models on a smaller scale (for example, in the interviewee above) which may then necessitate change in larger scale decision-making.

The dynamics of the BP project team’s discussions appeared to differ from some of the conversations where more conventional evaluation models were used. It was noted that the SAM signatures provided a platform that project team members from differing backgrounds and specialities could use as a collective frame of reference. Such a reference point made it clearer for those in a conversation to understand another team member’s stance, as noted by Bebbington (2007b, p.67):

It was suggested that the SAM signature made it clear where someone was ‘standing in order to judge good and bad’... and to enable a discussion about which aspects are good/bad from certain perspectives.

Introducing the SAM in the project decision-making process appeared to raise debate in respect of organisational structure. The embedding of sustainability initiatives appeared to rely on the leadership ability of those tasked with embedding sustainability and the organisational structure they ‘managed’. Interviews conducted by Bebbington (2007b) yielded differing responses as to how embedding sustainability into the organisation might occur. In spite of the differences on how such organisational change could occur, the importance of leadership to foster this change appears to be high. One interviewee in BP describes a top-down approach to embedding sustainability as follows:

... the traditional approach is to introduce concepts/ideas and then cascade [them] through the organisation... the cascade effect always peters out somewhere. In the introduction phase, therefore, you have to pick key people to influence change. These people are of two sorts; critical for embedding things in the organisation and enthusiasts (people who are opinion formers, enthusiastic and high fliers)...(Bebbington, 2007b, p.90)

Another interviewee within BP described a bottom-up approach to embedding sustainability as follows:

...where there has been more a bottom-up approach to SD you almost have to by-pass the formal systems in order to get SD used... the organisation’s high level aspirations didn’t translate down to every project...different project team interpreted these differently or paid different levels of attention... [organisational SD champions] are driven and have the will to embed these things [and in this way] people are moving towards incorporating SD (Bebbington, 2007b, p.90).

2.4.2 Constraining Factors

In the BP application of the SAM, constraints may be considered under three broad and interrelated categories: epistemological challenges; perceived resource usage, and disruption to the status quo. This first challenge describes the epistemological tension between the intention of the SAM's application and the perspective taken by some project team members (Bebbington et al., 2007a, p.232). Bebbington et al. (2007a, p.232) noted that some project team members viewed SAM in a more positivist light and were more concerned about getting the 'numbers right' with a much greater degree of precision. The construction of the SAM was based on viewing the social world as one being constructed by people 'to provide a relatively approximate glimpse into a project's sustainability profile... [and not] presented as an objective description of the truth' (Bebbington et al., 2007a, p.232)⁹. Objectivist stances were viewed by Bebbington et al. (2007b, p.232) as constraining because the discussion arising from the process of constructing a SAM is considered more important than the output itself. While an objectivist stance can be considered a constraint, because it is not in keeping with the intended application, some participants did adopt an objectivist stance, and tangible change was evident.

A second constraining factor, noted when using the SAM, was the perceived resources necessary to construct and apply the SAM. The SAM, as developed with BP, was viewed as a simple heuristic to facilitate project teams incorporating sustainability issues into decision-making processes (Bebbington, 2007b, p.55). In spite of the intended

⁹ Such an approach is in tension with Söderbaum's (2007) Positional Analysis where sustainability technologies are open to all ideological orientations. Söderbaum (2007) proposes the construction of a SAM for each ideological orientation where a co-construction of a SAM may deny other voices. In principle Freirian proponents would agree that no voices should be denied, but caution that the idea of dialogue is to create something new (that is, it is neither my account nor your account but a new understanding). In this latter respect, an articulation of an account from an ideological orientation would therefore not necessarily satisfy this objective if the Freirian view adopted in this thesis were applied. However, it may be seen as one possibility to create something new.

simplicity of the SAM, devoting more time and resources to consider sustainability issues during decision-making is still a requirement.

A third constraining factor noted by Bebbington (2007b) was the disruption to the status quo or changing of the 'evaluation routine'. In some instances the SAM was not applied because it simply 'did not mesh with the evaluation routine... and ... was not seen as useful' (Bebbington, 2007b, p.114). The statement of the SAM 'just not fitting', may provide an entry-point to delve more deeply into the assumptions underpinning an organisation's evaluation culture that constrains application of the SAM. In such an instance, the non-application of the SAM may be equally helpful in identifying the assumptions and elements which constrain the pursuit of sustainability.

The above limitations may also be considered in a broader political context and the level at which the SAM is applied. Bebbington et al. (2007a, p.232) provide a host of political reasons on why the SAM may not be applied in an organisation. In situations where it is not applied, the notion of the 'SAM being too resource intensive' may be indicative of other more politically motivated pressures and motivations. Such pressures and motivations may include: managers fearing 'trouble' by raised expectations of an organisation's unsustainable activities; pressure on managers who are focused on short-term incentives; and less powerful stakeholders not participating because the application of the SAM may be viewed as mere window dressing and a vehicle for the organisation to deliver 'the right answer'.

The level at which the SAM is applied is another issue identified via the experience of developing the SAM in the BP organisational context. The SAM is applied at the project level, and while this may facilitate a wider discourse and influence decisions, limitations also exist, as identified by Bebbington (2007b, p.38). First, focusing at a project level does not account for all the impacts within the same ecological space and the combined impact is therefore not recognised. Furthermore, the organisation is more than a series of projects, and those activities and impacts not associated with a project are therefore less visible. Bebbington (2007b, p.38) provides an example where an organisation may lobby government on various sustainability issues. The impact of such lobbying and the

subsequent regulatory regime are not visible at the project level. Therefore, the development and application of the SAM at a project team level can only produce a partial, one-sided account of organisational sustainability. In such a situation the SAM may create a discourse that challenges and changes organisational activities, providing data for a mechanism that may hold the organisation to account.

2.4.3 Monetisation

During the process of applying the SAM to various project team decisions, the monetising of project elements was raised, and some individuals expressed reservations (Bebbington, 2007b, p.70). A problem with monetising is the difficulty of valuing external elements (Mathews, 1993), such as valuing the cost of workers on oil rigs having to be away from their families. Some project team members raised concern that nature should stand alone, and not be reduced to the common metric of money, as such an action would legitimate the exploitation of nature (Bebbington, 2007b, p.70). Similar concerns were raised by Bebbington et al. (2007b, p.231), who stated that consideration must be given to *how* monetisation occurs, rather than just monetisation versus non-monetisation.

Items which could not be readily monetised in applying the SAM in BP were included as ‘bubble items’ and considered alongside the SAM signature. The inclusion of ‘bubble items’ provided a medium to include elements that might not otherwise have been considered. For example, damage to some (that is, ‘critical’) natural-capital is irreversible and, therefore by definition, incompatible with sustainability (Gray 1994). While the SAM has the capability to include non-monetised items this is not likely to be accepted by all. Some authors view the process of monetisation as ‘artificial’ and ‘disrespectful’, leading people to justify trade-offs at the expense of the environment (that is, Maunders and Burritt, 1991). Others have echoed this call and encourage people not to speak ‘the language of numbers’ in respect of nature for fear of further objectifying our environment (Hines, 1991, p.28).

The view adopted throughout my thesis and by those championing the application of the SAM in BP differs from those adopting non-monetised perspectives. In my thesis I adopt the view that monetisation is a powerful language used in business and is ‘useful for initiating a dialogue which may lead to more fundamental philosophical discussion’ (Bebbington, 2007b, p.71). This is not to dismiss the concerns that monetisation may frame conversations in a particular light and marginalise some voices, but in the interests of ensuring consideration of sustainability issues (Herbohn, 2005, p.529), monetisation is seen as having a valid (if limited) contribution.

2.5 Concluding Comments

This chapter has presented the social accounting project and associated technologies, with a specific focus on the SAM. The social accounting project and sustainability accounting sub-set, are premised on the pursuit of change that addresses social and environmental harms. For a number of social accountants this has involved the development of social accounting technologies to engage at the organisational level. In constructing and applying these technologies, two key challenges are presented: the lack of well-documented empirical case-studies of SEA technologies; and evaluative frameworks with which to judge the effectiveness of SEA experimental technologies.

In tracing previous applications of one social accounting technology, the SAM, it appears there is potential to foster debate where people can think and act on sustainability issues at the project level. Although the SAM appeared to foster change of mental models, some constraints were noted. In view of these constraints and key challenges, further empirical and theoretical development is warranted. Empirical development may involve a wider range of SAM applications to include different organisations, countries and time-frames in order to assess the potential of the SAM to foster more critically reflective organisational accounts.

Theoretical development of these empirical applications has its origins in the critiques of the social accounting project. First, a framework is necessary to make sense of the process of how SAM is applied at the organisational level. Second, evaluation of the application of the SAM (that is, were the applications implicated in 'good', 'real' change) is necessary. The focus will now shift to the organisational change frameworks that have been used in the social accounting project, in order to provide an organisational change narrative which can later be evaluated.

Chapter Three: Constructing a Narrative of Organisational Change

3.1 Introduction

This chapter extends discussion of the social accounting project by outlining the nature of organisational change and an organisational change framework used in SEA literature. I draw on the nature of organisational change to make explicit the position adopted in this thesis and on Laughlin's (1991) framework as a basis for constructing (from data collected in the application of the SAM) a narrative of organisational change. The chapter is presented in three sections. First, I discuss the nature of organisational change by highlighting two broad positions held in regard to change and the underlying premises of each. This section is concluded by locating my position and discussing how this fits with Laughlin's (1991) framework. Second, I provide an overview of Laughlin's (1991) framework by detailing the organisational elements considered important, the processes of change, and the authors who have drawn on this framework. This section is concluded by stating some limitations of Laughlin's (1991) framework. Third, I propose the use of a complementary evaluative framework, using Freire to mitigate the limitations and further extend the insights available from Laughlin's (1991) framework.

3.2 The Nature of Organisational Change

A cursory exploration of organisational change literature yields a plethora of articles, approaching the field from various perspectives (Van de Ven and Poole, 1995, p.510). However, on closer inspection, few articles in SEA literature explore the detailed mechanics of organisational change or develop a theoretical model of change processes (Larrinaga-Gonzalez and Bebbington, 2001, p.279). Two exceptions in the SEA field are Laughlin (1991) and Larrinaga-Gonzalez and Bebbington (2001). In drawing on

Larrinaga-Gonzalez and Bebbington (2001) I describe the nature of organisational change and make explicit my a priori assumptions of organisational change.

In making sense of organisational change processes, Larrinaga-Gonzalez and Bebbington (2001) detail two broad positions held predominantly by proponents of the critical and social accounting projects (Larrinaga-Gonzalez and Bebbington, 2001, p.270). The two positions are intended to emphasise the differences in how accounting interventions might mobilise change in organisational activities in the context of a sustainability agenda. The first position, labelled *institutional appropriation*, draws from neo-Marxist and critical theory approaches and suggests ‘that organizations are unlikely to change in substantive ways in response to the environmental agenda’ (Larrinaga-Gonzalez and Bebbington, 2001, p.270). In instances where change occurs proponents of this position recognise the need to evaluate it carefully ‘to ensure that the radical intent behind environmental accounting is not lost, or “swallowed up” by corporate hegemony’ (Larrinaga-Gonzalez and Bebbington, 2001, p.270). Examples that may fall under this broad category of change include Everett and Neu (2000), Puxty (1991), and Spence (2007).

The second position presented by Larrinaga-Gonzalez and Bebbington (2001) is labelled *organisational change* and adopted by a number of scholars of the social accounting project (for example, Bebbington, 1997; Gray and Bebbington, 1998). Proponents of this position ‘believe that environmental accounting can be mobilized as a means of encouraging organizations to change in ways that will reduce their unsustainability’ (Larrinaga-Gonzalez and Bebbington, 2001, p.270). In a similar capacity to the first position described, this approach encompasses differing views on how change may occur. These may range from ‘managerialist’ and ‘business-as-usual’ approaches (see Gray and Bebbington, 2000) through to those who view SEA accounting as a necessary but deficient mechanism with which to reshape organisational behaviour (for example, Gray 2002) .

Although these two broad (and overlapping) positions can be identified in the literature, an empirical exploration within an organisation is likely to find examples supporting and

negating both positions (Larrinaga-Gonzalez and Bebbington, 2001, p.270). The position adopted in this thesis supports Larrinaga-Gonzalez and Bebbington's (2001) stance and considers each position as offering insight into the nature of change. The *institutional* view is useful as it offers critique (as detailed in the previous chapter) and provides inspiration for more critical lenses to be applied. The *organisational change* position provides a logistical entry-point for engagement and construction of accounting technologies. Organisational appropriation and engagement within organisations must therefore be considered in terms of both potential capture and engagement. To avoid engagement because of a fear of appropriation or managerial capture is as problematic as uncritical engagement (Gray, 2002). As such, there is a need to '... rethink managerial capture in a way that does not paralyse academic research in the field' (Adams and Larrinaga-Gonzalez, 2007, p.339) instead of treating it as some external given.

The thinking exhibited by the above scholars provides a tangible example of how social accountants have responded to critique detailed in earlier chapters. Such responses may explain the increased use of sociologically inspired lenses to accompany the application of social accounting technologies in 'action spaces' (Dillard, 2007), giving rise to what O'Dwyer (2005) refers to as *critical social accountants*. This combination of using more critical frames with social accounting applications is likely to fall within Larrinaga-Gonzalez and Bebbington's (2001) later position of *organizational change* and draw on the reflectiveness of the *institutional appropriation* position. Such an approach will be described in greater detail as social accountants who view SEA technologies as necessary but inadequate tools to seek change (Gonzalez and Bebbington, 2001, p.270). Parker (2005) illustrates this combination of reflective cautiousness and potential to seek change when he describes Bebbington (1997):

Bebbington (1997) elaborates on the capture of SEA by "dominant groups". She observes the pressing of SEA dimensions to fit into the existing financially and operationally focussed accounting systems and structures ...and rob it of its "radical intent". However she qualifies her observation, noting that the capture of the SEA agenda has not been complete ...[and there is] the potential to change

power relationships and create conditions for different dialogues (Parker, 2005, p.850).

Parker's (2005) description, along with the position offered by Larrinaga-Gonzalez and Bebbington (2001), and mirrored in this thesis, recognises the importance of engaging at the organisational level with a degree of critical consciousness. In doing so, the limits of SEA technologies (within an organisational context) can be explored. This form of engagement gives rise to a host of questions when Larrinaga-Gonzalez and Bebbington's (2001) heuristics are considered. Such questions include: who to work with (that is, employee movements made possible with workplace activism, for example, Ball (2007), or senior managers, for example, Bebbington, (2007a)); over what time-frame and scale (that is, Bebbington et al., (2007b, p.364) describe change as incremental and focused on increasing awareness, whereas authors such as Spence, (2007) call for larger scale structural change); how to create a sufficient disturbance or catalyst or to overcome resistance and power (for example, Bebbington, 2007b; Tinker and Gray, 2003); and in what type of organisation (that is, 'private' corporation such as Bebbington, 2007a or public institution such as Frame and Cavanagh, 2009) should change be sought?

The two heuristics provide a starting position in respect of some of the above questions. For example, I am unaware of any scholar adopting a 'managerialist' approach to change and focusing on enabling engagement with subaltern groups. In a similar capacity, those concerned about the radical intent of SEA being captured may be more likely to engage with non-managerial groups. I have responded to some of the above choices in my thesis (and provide further details in the research design chapter) in a conscious manner. In exploring the potential (and in turn the limitations) of a social accounting technology I am interested in details about *how* change occurs at the organisational level. In addition, *how* might the incremental change processes, which both Freire (1983b) and SEA authors who draw upon Freire discuss (for example, Bebbington et al., 2007b), be manifested in an organisational context? In exploring *how* such change may occur I focus on the process of Freirian dialogics, which is used as a basis to construct the DHF. The explicitly normative framework provides some

indication and reasoning as to what I consider ‘desirable’ or ‘good’, ‘real’ change. Some choices have not been made in such a conscious or explicit manner as the above; for example, the type of organisation where social accounting technologies are applied. This is not to deny that such choices are important or have been made at some level. Further discussion about these choices can be found in the research design chapter.

With the above questions and choices in mind, the act of identifying change processes is more complex than if one of the two positions were identified and adopted. It was the recognition that change is more nuanced, coupled with the desire to explore *how* change occurs at the organisational level, which led Larrinaga-Gonzalez and Bebbington (2001) to extend their institutional appropriation-organisational change heuristic and to draw on the notion of ‘assemblages’. An ‘assemblage’ is a dynamic of interconnected elements that brings about change at the organisational level (Duncan and Thomson, 1998). The capacity for accounting technologies (such as the SAM) to perform a role in organisational change is ‘dependant on its alignment within an assemblage’ (Duncan and Thomson, 1998, p.13). It is therefore important when exploring the application of the SAM to consider a range of organisational elements that may perform a role in organisational change.

The concept of assemblages implies that the process of change is underpinned by a grouping of less visible components of change and potentially a series of smaller changes (as assemblages amass). Making sense of the assemblages occurring within the organisational context and of the institutional pressures is necessary, as smaller changes may serve to loosen the dominant institutional environment, and provide cracks where larger scale change may be pursued (Aronowitz and Giroux, 1985, p.106¹⁰; Apple 1982, p.134; and Giroux, 1983, p.203). In the pursuit of ‘softening the ground’ for other changes to occur, other seemingly unconnected groups of assemblages may come to the fore, so elements and forces of change that were not previously considered important may later become useful in facilitating change. This suggests that the time-frame on

¹⁰ These Freirian inspired authors talk of change occurring in a series of interrelated smaller steps (rather than the explicit mention of the term assemblages) and warn against the “all-or-nothing” approach to change. In a similar vein, Bebbington et al. (2007a, p.364) state that Freirian dialogics is a process of incremental changes.

which change is judged is particularly important when exploring if fundamental change occurs (Bebbington, 2007a, p.236). However, as with all exploration of incremental changes, a degree of caution must be exercised, as it may be difficult to distinguish between the opening of a crack to facilitate wider change and the further reinforcement of the status quo.

In drawing on the notion of assemblages, along with the *institutional* and *organisational change* positions, Larrinaga-Gonzalez and Bebbington (2001) illustrate empirically an organisation where no change was identified. When identifying the absence of change Larrinaga-Gonzalez and Bebbington (2001, p.287) note that the ‘assemblage of events, structures and conditions’ required for organisational change were not present, and the institutional framework in which the organisation operated was un conducive to supporting such environmental initiatives. However, Larrinaga-Gonzalez and Bebbington suggest that bold end-point statements do little to progress our understanding of organisational change. Instead, a detailed exploration of accounting interventions and writing up this work, drawing on middle-range theorising, may allow the complexities of organisational change to be explored. In doing so, the high-level explanation of *institutional appropriation* or *organisational change* may be better understood. Laughlin’s (1991) organisational change framework is one such middle-range theory that has been applied within the social accounting project to make sense of organisational change.

3.3 Laughlin’s (1991) Organisational Change Framework

Laughlin’s (1991) framework is described as ‘skeletal’, and provides an important linkage when applying the higher-level theory¹¹ of Freire and the case-study material describing the application of the SAM. This middle-range framework provides a sense-making device of the assemblages of organisational change, which may then be subject

¹¹ For a fuller discussion see Sue Llewellyn’s *Five Levels of Theorizing* (2003).

to more critical analysis, thus exploring the assemblages in the organisation while not denying the wider interconnectedness. Middle-range theory used in the context of organisational change has been described as:

‘skeletons’ that underlie and structure the detailed ‘flesh’ of actual change discourses ... ‘skeletons’ or frameworks relate to alternative change ‘pathways’/trajectories on which any organisational change initiative is travelling. They do not encompass or undermine the detail of actual discourses, and are open to change if the underlying structural pathway is not present, but are intended to provide added meaning to the detail of any particular change discourse. (Broadbent and Laughlin, 2005, p.14)

In presenting the framework, Laughlin (1991) draws on a number of writers¹² in the field of organisational change to highlight a variety of components, important in the change process, and various possible models of change. Laughlin (1991) describes the organisation as consisting of a series of interpretative schemes, design archetypes and sub-systems which are held in equilibrium¹³ until disturbed (see Figure 3.1). This includes components ranging from infrastructure, pollution, and furniture to more intangible items, such as underlying schemas held by those exerting influence on the organisation (for example, views of sustainability). The less tangible nature of some components means that any exploration of a social accounting technology may require several applications over a period, which is sufficient to witness less obvious changes. Underlying schemas are considered the most difficult to explore and have been described as:

¹² Most notably Hinings and Greenwood (1988), Greenwood and Hinings (1988), Miller and Friesen (1984), Ranson, Hinings and Greenwood (1980a); Ranson, Hinings, Green and Walsh (1980b) and Walsh, Hinings, Greenwood and Ranson (1981).

¹³ Broadbent and Laughlin (2005) later refer to organisations having a stable ‘dynamic’ rather than equilibrium. Such a change in describing Laughlin’s (1991) model may suggest a greater appreciation of interpretative schemas being ‘reinvented’ rather than a procession from one equilibrium to another.

... the cognitive schemata that map our experience of the world, identifying both its relevant aspects and how we are to understand them. Interpretative schemes operate as shared fundamental (though often implicit) assumptions about why events happen as they do and how people are to act in different situations (Bartunek, 1984, p.355)

Figure 3.1 Laughlin's (1991) Model of Organisational Change

(Laughlin, 1991, p.211)

The interpretative schemas considered by Laughlin can be further broken down into three levels: first, beliefs, values and norms; second, the mission or purpose of the organisation; and third metarules that exist in the organisation. A metarule, for example, may be the requirement to maximise shareholder wealth, which in turn is connected to

the organisational mission (for example, the production of products to meet consumer demand) and, again, connected to various beliefs, values and norms (for example, not to waste company resources). Using resources in a manner that does not abide to the metarule of maximising shareholder activities (that is, in the pursuit of a sustainability agenda) is likely to invoke what psychologists refer to as cognitive dissonance, which creates a tension in the organisation. In the absence of dialogic processes this tension can invoke either a replacement of the (dominant) schema (with another dominant schema), or a termination of the activity which is not congruent with the metarule (possibly without debate).

Design archetypes are another important component of Laughlin's framework and can be considered more tangible than the interpretative schemas described above. Design archetypes include the organisational structure, decision processes, and communication systems. Power (1990) describes accounting in a manner that suggests it is a design archetype, and he highlights its potential for influencing the interpretative schema of the organisation. Such influence may serve to reinforce the current organisational activities or potentially change them. In essence, changing the tools and language of an organisation via an accounting technology has the theoretical possibility of changing or 'reinventing' the interpretative schema¹⁴. Power (1990) states that:

Accounting provides the categories through which organizational participants perceive both themselves and the organization... functions to define the operational limits of the enterprise and provides a technology which reinforces very particular conceptions of organizational autonomy and receptivity to environmental disturbance... changes in accounting... may... shift the terms of organizational discourse and from this point of view the accounting 'entity' can be regarded as a flexible horizon of cognitive possibility (Power, 1990, p.6).

¹⁴ The possibility of accounting technologies altering the language and in turn the interpretative schema is witnessed in one of Laughlin's (1991) case-study organisations of a railway.

The final components considered in Laughlin's model are the sub-systems of the organisation. Sub-systems can be considered the most tangible, consisting of infrastructure, pollution, and other readily observable, concrete items. While tangible items might be viewed as hallmarks of change, this brief overview of Laughlin's (1991) models suggests that they have a tenuous existence if the underlying interpretative schema or design archetype is in tension (which it would be in any polyvocal or dialogic situation).

The three levels of organisational change discussed above can be explicitly considered in the application of social accounting technologies, such as the SAM. The SAM can fit into the design archetype descriptor as its application provides the theoretical possibility of changing the dominant interpretative schema of an organisation if Power's (1990) description above is applied. For example, the use of the SAM may give voice and space to perspectives that already exist but remain unheard, and can give rise to discussion not necessarily heard under a narrow financial accounting model. Such discussion may influence the mental models of people in the organisation, constituting a change in the interpretative schema and permeating other aspects of the organisation. Considering how this might occur and the catalysts or 'environmental disturbances' that exist are important aspects of exploring the process of organisational change.

3.3.1 Environmental Disturbances

The components depicted above are held in what Laughlin (1991) terms an equilibrium. An equilibrium is considered to have inertia or momentum, which without sufficient resistance will result in an extension of a current organisational dynamic or archetype (Greenwood & Hinings, 1988). The notion of an equilibrium is not to infer an organisation is without conflict, but to 'suggest that, at some level, there will be certain characteristics that bind the organization together as a coherent whole' (Laughlin, 1991, p.213). For example, the application of the SAM in an organisation with a metarule of shareholder wealth maximisation is likely to be in tension, and result in either a marginalisation of the SAM and/or an influencing of the interpretative schema to invoke

some coherence. In this latter instance, the SAM, in conjunction with other assemblages, may be considered a form of resistance to an organisation's monologic dynamic.

Disturbances¹⁵ are an important consideration because an understanding of *how* and *what* disturbances might affect organisational change provides a strong basis for influencing a system. Tilt (2006) states:

A disturbance's effect could be traced through the organisation to consider changes to their underlying ethos, their activities and ultimately their reporting. This again could have serious implications for change agents. (Tilt, 2006, p.19)

In exploring the nature of organisational change and social accounting interventions, Bebbington (2007a) investigates what disturbance or assembly of disturbances may demand an organisational response. Understanding what constitutes an environmental disturbance and assemblage is still a relative unknown. However, some environmental disturbances may include (but are not limited to) the following:

- (1) structural changes in laws or fiscal policies of government,
- (2) changes in commercial relationships within an industry/economy,
- (3) changes in expectations of financial stakeholders and capital markets,
- (4) changes in technology and/or ways of working within an industry/economy,
- (5) changes in relationships with stakeholders such as consumers, producers or employees, and
- (6) changes in societal expectations about certain events/behaviours.

(Bebbington, 2007a, p.227)

¹⁵ Environmental disturbances are given several labels in the organisational change literature. Such names include (but are not limited to) 'kicks' (Morgan, 1986, p.249); 'jolts' (Laughlin, 1991, p.209) and an 'environmental impetus' (Bartunek, 1984, p.356).

In addition to the predominantly external¹⁶ disturbances highlighted above, internal events, such as the new appointment of a senior leadership role or the collective actions of a group of employees may be considered (Bebbington, 2007a, p.228). These internal disturbances, along with the external disturbances outlined above have a strong potential to be interrelated. For example, growing awareness of climate change and other sustainability related issues may manifest themselves in legislation, changed working relationships, and calls for accountings that assist organisations to operationally embed sustainability.

Lastly, the role of the researcher as a potential change agent, and therefore an important aspect of an assemblage, in the organisational change process should not be overlooked. In a paper on change management, Purgh (1993, p.110) highlights: the establishment for the need for change; the use of discussion, participation, feedback and monitoring, as elements about which a change-agent must be cognisant. The change-agent role performed by the researcher in presenting a social accounting technology is coupled closely with the need to highlight why an organisation may *need to pursue change* and the *capacity* for the technology to assist in such change. In such an instance, the change-agent capability of the researcher may be vital to introducing wider societal and academic discourses into the organisational environment, therefore adding potency when combined with an environmental disturbance.

3.3.2 Four Processes of Change

The result of an environmental disturbance(s) detailed above may result in one of two broad types of change: morphostatic (first-order change); and morphogenetic (second-order change), which may in turn be sub-categorised (see Table 3.1). First-order change usually involves some level of change of the design archetype that rarely translates into

¹⁶ The distinction between ‘external’ and ‘internal’ disturbances is dependent on where an organisational boundary is drawn. In this thesis I use the psychological distinction of role, culture and ritual that demarcates the boundary. This differs to Llewellyn’s ‘production boundary’ (that is, buildings and physical output) and ‘temporal boundary’ (that is, informal activity versus paid organisational activity). The psychological distinction may include organisationally related behaviour exhibited outside formal work time and physical boundary, and may include aspects such as mental models adopted due to a learning undertaken during the course of work. See Llewellyn (1994) for a fuller discussion.

the more tangible sub-systems or the less tangible interpretative schemas. For example, the application of the SAM to assist with project decisions to provide a pre-determined ‘right answer’ and to legitimate a planned course of action signals no change in the belief systems and is therefore unlikely to be translated into any tangible change at the sub-systems level. In contrast, ‘real change’ must therefore have impact at the level of the interpretative schema.

Table 3.1: Laughlin (1991) Typology of Organisational Change

Change Categorisation		Sub-Category	Impact on Interpretative Schema
No Change		Inertia	No change to interpretative schema
Morphostatic (or First Order) Change	(1)	Rebuttal	No change to interpretative schema
	(2)	Reorientation	No change to interpretative schema
Morphogenetic (or Second Order) Change	(3)	Colonisation	Change to interpretative schema
	(4)	Evolution	Change to interpretative schema

The restoration of the organisational dynamic in the case of morphostatic change can be further divided into two categories: rebuttal (1 on Table 3.1) and reorientation (2 on Table 3.1). Rebuttal may involve some level of change, but this does not alter the design archetype. Examples of rebuttal in relation to the SAM may include organisations claiming that sustainability has nothing to do with them and therefore the application of the model is irrelevant. The second category of morphostatic change, reorientation, still does not affect the organisational dynamic, but differs from rebuttal in that the sub-systems may be altered. Reorientation may involve careful reframing and legitimating of

the situation that draws attention away from the original issue¹⁷. In such an instance the observable behaviours of the organisation may have changed, but they remain underpinned by the same interpretative schema as before. Power (1990) details such a situation where the new language an accounting technology might induce is essentially captured and he implies that discussion alone may not change the interpretative schema. He states:

We can speculate that the new languages of 'waste' and 'sustainability' albeit translated into existing organizational codes via the rubric of efficiency, can effect a new moral environment within the organization. It is not so much a question of inventing new incentive structures for individual and collective behaviours but, more profoundly and problematically, changing the common sense phenomenology of the organization; a new universe of old facts for old behaviour, rather than existing behaviour in the existing universe of facts. (Power, 1990, p.13)

If an accounting technology, such as the SAM were applied to an organisation where expectations of sustainability exist, rebuttal may not be an option without invoking discussion that is likely to be in tension with the dominant organisational mission or purpose. In this instance the organisation may continue to apply the SAM for various project decisions, but do nothing other than 'run the model'. The scope to enter meaningful debate during the process of applying the SAM would therefore be limited as the focus would almost certainly be on the SAM as an output and ensuring that the 'correct steps' were followed in its 'production'.

¹⁷ See Deegan and Rankin (1996) for a detailed exploration of accounting and public relations legitimating exercises involving reorientating type activities influenced by an organisational change perspective. Furthermore, from an 'institutional' theory of change, Oliver's (1992) work discusses deinstitutionalisation where particular discourses are eroded and replaced by more powerful new discourses. Particularly noteworthy is Oliver's discussion of antecedents of change, which bear similarities to the notions of assemblages introduced earlier in this chapter.

In spite of rebuttal and reorientation providing limited or no change to an organisational dynamic, such actions and reactions are not rendered irrelevant in the change process. For example, if the SAM were applied in an organisation which kept rebutting models that attempted to facilitate discussion of sustainability then it provides for much greater transparency. Outside groups can point to a lack of sustainability initiatives, should the organisation later make such claims, highlighting the consistent marginalising of sustainability issues. Where social accounting technologies (for example, the SAM) are reoriented and used primarily for public relations purposes, this may provide a platform where organisations think they actually have a case to answer in respect of sustainability (Bebbington and Gray, 2001).

Second-order or morphogenetic change involves ‘significant’ change and is of much greater interest for those seeking transition to a less unsustainable way of living. Morphogenetic change may occur where a group or sub-group in the organisation successfully challenges the current design archetype and involves two sub-categories of colonisation (3 on Table 3.1) and evolution (4 on Table 3.1). Both sub-categories involve changes that affect the interpretative schemas of the organisation, which in turn change the working model of the organisation, that is, the design archetype and sub-systems. Colonisation is characterised by significant change occurring in the organisation by a non-elected group (and deemed by the majority within the organisational boundary to have ‘illegitimate’ power), thereby forcing others to accept the changes or to exit the organisation. Colonisation typically has its origins in the design archetype which then spreads to the interpretative schema and, eventually, the sub-systems of the organisation¹⁸.

An example of the SAM performing a role in the colonising process may proceed as follows: the application of the SAM is introduced to assist decision-making processes at the project level, and then discussion at the project level alters the mental models of participants. In such a situation ‘the process of preparing a report [or in this case the SAM] and subsequent visibility of sustainability performance data and increased

¹⁸ In this respect the colonisation track of change has significant parallels with social accounting being used in a Trojan horse manner, as discussed in Gray (1992).

embeddedness of sustainability values leads to a changes in sustainability performance' (Adams and McNicolas, 2007, p.385). This colonising group, assuming a level of sufficient political power and other necessary assemblages, influences others (potentially by creating a greater level of awareness) in the organisation either to adopt such a consistent view of sustainability or be marginalised to the point of exiting. Such a change in the interpretative schema and design archetype is then likely to be readily observable at the sub-systems level of the organisation. By this time, the altered mental model(s) of the organisation, new decision-making framework, and tangible organisational elements are congruently aligned, albeit with regressive elements of a previous dynamic still embedded. It is important at this stage to recognise the organisation as being nested in a wider social surrounding and, therefore, institutional pressures can weaken a recent colonisation.

The second sub-category of morphogenetic change, evolution, is initiated in the interpretative schema of the organisation and is viewed as being the result of the existing power structures pursuing change. An example of the SAM taking an evolutionary pathway might involve a board of directors or senior management believing (interpretative schema) that sustainability is a central aspect of the organisation and seeking models, such as the SAM, to embed sustainability principles into various decision-making processes (for example, at the project level). In doing so, effective application of the SAM would then result in tangible benefits, where principles of sustainability can be readily observed. In the case of evolutionary change, the organisational dynamic is considered coherent in that the interpretative schemas, design archetype, and sub-systems are in alignment.

The four models of change processes outlined above are unlikely to fit neatly in any given organisation. Instead, the organisation is most likely to retain a dominant regime or particular dynamic with smaller pockets of tension existing. Laughlin refers to this as a schizoid situation¹⁹. In such a situation an organisation is said to have a fractured

¹⁹ 'Schizoid' is the term most commonly referred to in the organisational literature Laughlin draws on. This could be more positively framed as being more explicitly pluralist rather than being likened to a mental illness.

archetype. This fracture provides a fertile base from which those dissatisfied with a particular organisation dynamic can launch further change. Such a tension or fragmentation of the organisation dynamic can exist until a new environmental disturbance dislodges the current power structures. Broadbent (1992, p.363) suggests that a fragmented organisational dynamic is more likely to exist for a longer period if consensus exists at the level of interpretative schema. For example, a shared belief may be held that the pursuit of a less unsustainable way of living is desirable, but there may be differences as to how that might be operationalised at the level of the design archetype.

The four models of change (depicted in Table 3.1), and their components (depicted in Figure 3.1) are used by Laughlin (1991) as a means to make sense of organisational change. In this respect, the components and models of change are not absolutes which if absent from an empirical organisational setting would invalidate Laughlin's model. Some writers Laughlin (1991) draws on state that organisations are likely to manifest reactions to disturbances in a variety of ways. For example, Greenwood and Hinings (1988, p.303) note that 'not all organizations pass through transitions or the same set of stages, nor do they depart from similar positions or have common destinations'. In my thesis the models and components of change are intended to make visible the aspects of organisational change, occurring with the application of the SAM, and are later evaluated using the DHF.

3.3.3 Applications of Laughlin's (1991) Framework

The components of change and four models of change detailed above have been used by several writers, largely in the social accounting project. Most applications focus on disclosures in this area as a proxy for organisational change (for example, Gray et al., 1995; Larrinaga-Gonzalez et al., 2001; Tilt, 2006), and one application provides an extension by exploring the link between reporting and change (for example, Tilt, 2006). Only two papers which employ Laughlin's framework encounter a case where morphogenetic change occurs. The first was Laughlin's (1991) paper and the second was Richardson, Cullen and Richardson (1996). The common themes emanating from all the

applications are the usefulness of the framework as part of a sense-making activity, but also the need for greater development, progressed largely by richer empirical studies.

Table 3.2 below summarises some key papers and findings in applying Laughlin's framework to exploring organisational change.

Table 3.2: Summary of Laughlin (1991) Framework Studies

Study	Description
Laughlin (1991)	Outlines Laughlin's (1991) model of organisational change. Empirical exploration of two case-studies finding fundamental change (morphogenetic) in one site and superficial (morphostatic) change in another. Accounting mechanisms under some conditions had the potential to create new visibilities and debate that significantly changed an organisation and reinforced change. Case-study material largely collected from publicly available documents. Asserts more detailed case empirics required to explore <i>how</i> the various models of change were followed.
Gray, Walters, Bebbington and Thomson (1995)	Uses Laughlin's (1991) model to explore if generalised greening pressures change organisational routines and if this change is reflected in the organisational accounts. Data gathered by reading published materials, attending workshops and conferences, along with 27 semi-structured interviews with 21 organisations. In terms of sustainability, finds that no significant change has occurred in terms of sustainability, but this should not be taken to suggest that no change has occurred as there was evidence to suggest an increase in environmental reporting.
Richardson, Cullen and Richardson (1996)	Using Laughlin's (1991) model in an ethnographic collection of data in one case-study site of a small firm. Calls for more examples to be provided to explore understanding between the role of accounting and organisational change. Finds that significant change requires a change to the belief systems held in an organisation by the organisations most influential decision makers.
Larrinaga-Gonzalez, Carrasco-Fenech, Caro-Gonzalez, Correa-Ruiz and Paez-Sandubete (2001)	Uses Laughlin's model to explore nine case-study organisations in a Spanish context. Finds that Spanish organisations are not changing their conventional perception of the environment in spite of changing structures and environmental reporting. Highlights the desirability of in-depth longitudinal case-studies and recognises that studying more cases provides increased capability for theoretical replication.
Larrinaga-Gonzalez and Bebbington (2001)	Establishes a heuristic of two positions adopted in respect of organisational change: institutional appropriation; and organisational change to explore a Spanish electricity company. In exploring the empirical site the authors supplement the heuristic by drawing on four tracks of change highlighted by Laughlin (1991) and discuss appropriation of social accounting technologies. The authors call for researchers to write up detailed accounts of their empirical undertakings so that the <i>how</i> of organisational change might be further explored. Further, the authors state that the use of middle-range frameworks such as Laughlin (1991) are useful models to makes sense of how organisational change occurs.
Tilt (2006)	Extends the Gray et al. (1995) study which draws on Laughlin (1991) to provide a linkage between organisational change as a result of environmental pressures and reporting. Tilt calls for greater development of Laughlin's (1991) model and more empirical work to be conducted. Exploring the role of accounting and what constitutes a sufficient disturbance is seen as being of particular importance.
Bebbington (2007a)	Explores the possibility of social accounting facilitating organisational change so that sustainable development may be pursued. Highlights a series of studies where social accountants have attempted to disturb organisational activities (or explore disruptions) and finds that while change is occurring, the time-frame in which the paper views this change indicates that no fundamental change has occurred. Bebbington suggests greater insight could be gained with in-depth case-studies where various disturbances have occurred.

The above studies using Laughlin's framework find typically that no morphogenetic change was evident in any of the social accounting interventions. There are several possible explanations for this: first, no change actually occurred; second, the limited change that occurred was not enough to warrant fundamental change in the view of the researcher; third, fundamental change occurred, but the time-frame and methods used for collection missed the subtlety of the assemblages that were brought into alignment. Bebbington (2007a, p234) cautions that a series of assemblages might not be highly visible or amount to change that occurs rapidly. This provides some basis for warranting a case-study type context that would explore the assemblages of change over a time-frame greater than a few months.

The above studies provide insight into the processes of change at the organisational level by drawing on Laughlin's (1991) skeletal theory. This theory, in conjunction with data, provides an opportunity to raise a range of descriptive events, actions, and beliefs that can occur in the empirically rich organisational context. In particular, identifying the components or various assemblages of change, along with the possible tracks, enable a more nuanced understanding of organisational change. However, in applying Laughlin's (1991) framework, limitations arise.

3.4 Limitations of Laughlin (1991)

A key limitation arising from the application of Laughlin's (1991) framework is distinguishing between what might constitute morphostatic or morphogenetic change. The criteria used by Laughlin (1991) focus on whether or not change occurred to the organisation's interpretive schema. Broadbent and Laughlin (2005, p.17) built on this notion by distinguishing between these various orders of change in terms of resistance, and drew an analogy of 'punching a sponge'. In morphostatic change the sponge would return to normal once the pressure of a punch was released (rebuttal) or the punch would be absorbed in a manner that returned the sponge to its pre-existing shape

(reorientation). In contrast, morphogenetic change would alter the shape of the sponge. Broadbent and Laughlin (2005, p.17) suggested that making such a distinction at the theoretical level is problematic, but noted that change is easier to recognise in an empirical setting. In this respect Broadbent and Laughlin (2005) refer to the middle-range properties of this classification of change in which theory can be used only over a limited range of social phenomena (see Chapter Five for a full discussion). In spite of Broadbent and Laughlin's (2005) assertion that change can be recognised at the empirical level, a truth claim of 'good change occurring' or 'good change not occurring' is made, and the criteria still need to be made explicit.

Larrinaga-Gonzalez and Bebbington (2001, p.280) identify a second limitation by recognising that the 'static nature' of the empirical sites previously considered does not provide a dynamic empirical context in which to study the process of *how* change occurs. A similar self-reflection is echoed by Laughlin (1991, p.228), where he recognises the need for richer empirical settings capable of putting 'the flesh' on this middle-range framework. Without a suitably rich empirical setting the detail of *how* various assemblages might create change may not be visible. While Laughlin's framework provides a descriptive narrative about the assemblages they need to be investigated in greater depth so as to explore questions of *how* these assemblages might amass and interact.

A third criticism is launched by Kirkpatrick and Ackroyd (2003) who suggest that Laughlin's (1991) description of an archetype is too functionalist. The consequence of describing an archetype in an 'overly-functionalist' manner, according to Kirkpatrick and Ackroyd (2003), is that the role of human agency is underplayed. Broadbent and Laughlin (2005, pp.15-16) recognise this limitation, but suggest that human agency is incorporated into 'steering' the pathway of each disturbance. While it could be argued that human agency is recognised in Laughlin's (1991) model it appears that further visibility could arise if more explicit theorising were to occur in conjunction with richer empirical settings.

When the above limitations are considered together, an application of a high-level framework which makes explicit the parameters of truth claims (that is, the occurrence or non-occurrence of ‘good change’) and considers how change occurs, appears warranted. Freirian inspired writings and tools are considered capable of providing these extensions to Laughlin’s (1991) model.

3.5 Laughlin (1991) and Freire

Laughlin’s (1991) framework is skeletal in a theoretical sense, and can be considered complementary to Freire’s more explicit exploration of *how*, *why*, and with *whom* to change. With such a focus on these aspects, the role of agency appears to have a more centralised role compared to Laughlin’s (1991) framework. Laughlin’s framework provides a platform on which to organise a more descriptive account of what occurred as a result of applying the SAM in two case-study sites of my thesis. Used in this manner, Laughlin’s (1991) framework provides a basis for writing a narrative which can then be explored using the DHF developed in Chapter Four.

A Freirian inspired framework can be used to provide greater insight into the application of the SAM by going beyond the skeletal theoretical frame provided by Laughlin²⁰. In a previous study, applying Laughlin’s (1991) framework, Gray et al. (1995) note that some change occurred, but what constituted change was uncertain as this ‘depends on one’s point of view’ (p.232). Such ambiguity is problematic, because highlighting what constitutes ‘real change’ is a central aspect when considering whether organisational change has occurred (Broadbent and Laughlin, 2005, p.21). In using a normative evaluative framework to distinguish between ‘real or morphogenetic’ and ‘superficial or morphostatic’ change is made more explicit, which permits claims to be made about the application of the SAM. Freire draws on two heuristics he used to explore education which serve to reinforce the status quo or to change it, and they describe the necessary

²⁰ Laughlin recognises the limitations in using such a skeletal model and therefore draws on the work of Habermas.

conditions underpinning each. These two heuristics serve as the inspiration in this thesis for constructing the DHF. Recognition of dialogic attributes within each case-study site may therefore give some indication as to whether ‘good’, ‘real change’ (that is, dialogic) has occurred in the application of the SAM.

The use of the DHF within my thesis complements the assertions about change made at the beginning of this chapter. Freire views the pursuit of change as something that should be sought at every possible opportunity, while recognising there are situations where it is not possible to act. Pursuit of incremental change, while being aware of the institutional ‘landscape’ (Shor and Freire, 1987, p.61), fits with the two broad views introduced earlier in the chapter in that change at an organisational level and wider institutional level are interrelated, and that it is necessary to understand the process of *how* change occurs.

3.6 Concluding Comments

This chapter has introduced key assumptions on the nature of organisational change adopted in my thesis and has discussed Laughlin’s (1991) framework for exploring the process of change. Previous applications of Laughlin (1991) were briefly detailed, and highlight how the framework is useful in sensitising the researcher to elements important for the process of organisational change. When exploring these applications the limitations of the framework are presented. In acknowledging the limitations of Laughlin (1991), a secondary complementary evaluative framework inspired by Freire is mooted as a possible addition to provide further insight in exploring the narrative constructed using Laughlin’s (1991) framework. Without the use of a Freirian evaluative framework, truth claims such as the (non)occurrence of desired morphostatic/morphogenetic change remain implicit. I now turn my attention towards discussing the Freirian inspired DHF to evaluate whether ‘good’, ‘real’ change occurred in the organisational narrative constructed using Laughlin’s (1991) model.

Chapter Four: The Dialogic Heuristic Framework—An Analytic for Evaluating the Sustainability Assessment Model

4.1 Introduction

In response to social accounting self-reflections and critiques from the critical accounting school there is a growing affinity with critical social theory, which provides an appreciation of the limitations of social accounting research and leads to more nuanced socio-political awareness (Dillard, 2007, p.37). This chapter presents the DHF used to evaluate the effectiveness of SAMs. The presentation begins with a broad contextual review of the origins of Freirian dialogics, which is a form of dialogics I use in the DHF. In this section I examine the life of Paulo Freire within the context which shaped the development of his dialogic project and subsequent critiques.

Following the contextual section I identify four key themes underpinning Freire's work: *human agency, social constructionism, broader socio-political context, and institutional frameworks and democratic understandings*. Drawing on the work of social accounting researchers who have used Freirian dialogics I explore the commonalities between the above themes and the social accounting project. I conclude by exploring attributes that a dialogic account may possess at an organisational level.

4.2 Broad Contextual Review

4.2.1 Socio-Political Context

Chapter One introduced the DHF, which draws on the work of Paulo Freire, a prominent, Brazilian-born educationalist. To explore the key elements of Freirian dialogic theory an understanding of the historical and political situation in which it arose is important. Freire was born in Recife, North-east Brazil (Freire, 1983b, p.8) to a middle-class family (Collins, 1977, p.5). Circumstances soon changed with the advent of the Great Depression, which affected a great number of people in Brazil, including Freire's family. It was during the Depression that Freire witnessed inequity; as he went hungry, millionaires continued to live in great affluence (Shor and Freire, 1987, p.47).

The political situation in Brazil was increasingly restless during the 1960s. Socialist, communist and labour groups, along with student activists, all sought their own socio-political goals (Collins, 1977, p.6) through increasingly bloody confrontations with the government. Their restlessness was exacerbated by the large number of poor, who were excluded from voting on the basis of being illiterate. Freire, putting his legal training to one side (Roberts, 2000, p.4), began working as a welfare officer and later became director of the Department of Education and Culture of the Social Service (Collins, 1977, p.6). It was his work as director that brought Freire into direct contact with the urban poor and motivated him to vigorously pursue his own socio-political goals. Freire viewed literacy as both a vehicle to increase the voice of the poor and to dispel myths about the social systems under which people lived (Freire, 1997). This activism saw Freire exiled in 1964, as his 'consciousness-raising' literary methods angered the government of the time.

Freire's work in adult-education served as an entry-point for fundamental change to the ways of living for many (Freire, 1998a, p.75) and, in particular, their engagement with the environment (Freire, 1970, p.31). In order to change unsustainable ways of living, a broader and more critical dialogue must occur. In Freire's situation he exercised this via adult-education, as the majority of poor people in Brazil were illiterate and as a consequence were not entitled to vote.

Following his work in adult-education, Freire's theory developed three key roles for education in society (Thomson and Bebbington, 2004, p.611): a constitutive role (informing us about what we know about the world); an oppressive role (used to maintain existing power differentials); and a transformative role (enabling us to better understand our world and, as a result, to change that world).

4.2.2 Dialogic Education

Freire's literacy aspirations of teaching adults to read in order to enable them to vote led him to develop a heuristic based on the enabling or constraining influences of education. The heuristic is based on the notion that the three roles of education are likely to manifest themselves in one of two ways: education either maintains the status quo or disrupts it. While the idea of education either changing or maintaining the status quo might be considered either/or Cartesian thinking, it allows for an exploration of elements in the educative process to be critically explored in terms of change.

What Freire termed as 'banking education' was concerned with maintaining the status quo. Dialogic education is concerned with disrupting it. Freire saw the disruption of existing social harm (and later environmental harm) as a fundamental condition for the creation of transformative possibilities. In this view the status quo suppresses democratic and accountability relationships. Banking education involved conditioning students into unreflective, passive, obedient human-beings who believed they were not capable of enacting transformative change. Key themes in banking education were:

The teacher teaches and the students are taught;
The teacher knows everything and the students know nothing;
The teacher thinks and the students are thought about;
The teacher talks and the students listen – meekly;
The teacher disciplines and the students are disciplined;
The teacher chooses and enforces his choice, and students comply;

The teacher acts and the students have the illusion of acting through the action of the teacher;

The teacher chooses the program content, and the students (who were not consulted) adapt to it;

The teacher confuses the authority of knowledge with his own professional authority, which he sets in opposition to the freedom of the students;

The teacher is the Subject of the learning process. While the pupils are mere objects.

(Freire, 1983a, p.59)

In contrast to the banking model of education, the dialogic model of education is concerned with creating awareness of inequities or ‘inconvenient facts’ and the ability for people to act on these situations to change the world in which they live. In order to change unsustainable ways of living Freire states that we must explore the situations which limit change from occurring and create new visions of how the future might look. In doing so, we must critically reflect on the enabling potential of human agency, on institutional structures, how truth maintains myths which can both enable and limit, along with the role of language in constructing such truths.

In dialogic education the role of the teacher and student differs from more traditional education. Students are not to be seen as empty vessels and the teacher as an all-knowing expert. Freire (1983a) applied the labels of teacher-student and student-teacher to represent this change in the power dynamic and to highlight that both learn from each other. In the dialogic model of education the role of the teacher-student is to facilitate the ‘posing of problems’ and situating of the words discussed within the realities of those learning to read and write. To ensure the words had specific relevance to the lives of student-teachers Freire employed a method of cultural circles. In these circles the teacher-student would focus on a picture that had been drawn, based on previous sessions or earlier ‘thematic research’.

The pictures circulated in Freire's cultural circles often depicted activities that would be carried out by those learning to read and write, such as hunting or collecting water from a well. However, the pictures also contained subtle messages, such as various modes of hunting, that is, with a bow and arrow, and the more technologically advanced method of using a gun. Other subtleties included the difference in capacity for critical thinking between animals and humans.

Pictures, like language (and accounting), can be used to describe various realities, although there is never a one-to-one relationship between language and the reality. This means that pictures can be interpreted in various ways or 'decodified' and 're-conceptualised' by those in the group. Throughout this exercise both the teacher-student and the student-teachers can learn from each other's interpretation and, in doing so, 'read and write the world'. Gradually, some of the necessary attributes of transformative change will be assembled, namely critical reflection and dialogue. Critical reflection and dialogue are considered the key ingredients in dialogic processes. Freire saw reflection and dialogue as developing:

...intellectual habits which undermine the myths supporting racism, sexism, and the elite control of the economy. In understanding critical consciousness as gaining reflective distance on your own thought, action, and society. (Freire, 1983a, p.167)

While all three of the above roles of education can be linked to my project, it is the enabling or transformative function on which Freire's work is premised that is of central interest to my thesis. Freire's concern aligns directly with mine when he explicitly states the 'means by which men and women deal critically and creatively with reality and discover how to participate in the transformation of their world' (Freire, 1983a, p.6). In my project the case-studies provide an empirical setting for observing the participation of research participants and the potential transformation of their realities (referred to as the changing of mental models by Bebbington, 2007b, pp.61-62) during the application of the SAMs. While that participation should be a critical and creative means to the

transformation of their reality, as Freire reminds us (Freire, 1983a, p.125) it is the people themselves and their agency that is paramount to any broader emancipatory impetus that Freire's project clearly sought to expand.

4.2.3 Applications

Freirian dialogics has been widely applied with examples ranging from accounting education (Thomson and Bebbington, 2004), issues of stakeholder engagement (O'Dwyer, 2004a), sustainable development (Gadotti, 2003), critical mathematics (Frankenstein, 1987), healthcare education (Merideth, 1994), social work (Carroll and Minkler, 2000), music teaching and learning (Abrahams, 2005), environmental literacy (Brennan, 1994), to feminist frameworks of women in prison (Pomeroy, Holleran and Kiam, 2004). A wide application of Freirian dialogics is unsurprising, given Freire's encouragement of dialogic theory to be reinvented in various local settings, cultures and fields. Freire does not see one entry-point for social change as being superior to another, and states:

It is of no importance whether our commitment be in the area of adult or child literacy, health, evangelization, or the inculcation of new technical skills (Freire, 1998a, p.75).

4.2.4 Critiques

As long as Freirian dialogics have existed there has been criticism; in fact whole books have been dedicated to providing critiques of Freire's methods. One such book, titled *Rethinking Freire: Globalization and Environmental Crises* (Bowers, 2005a, pp2-3), argues that Freire's methods are not conducive for the current unsustainable social and environmental state in which we find the planet. A reoccurring theme throughout criticism is that Freire's methods contradict his aim of disrupting the social systems under which we live. A typical critique is as follows:

Although Freire's late acknowledgment of the ecological crises is significant, it is even more important to understand that he did not recognize that the Western cultural assumptions that are the basis of his classic, *Pedagogy of the Oppressed*, cannot be reconciled with addressing the cultural roots of the ecological crisis. (Bowers, 2005a, p.viii)

Some of Freire's colleagues who worked with him on literacy projects wrote of situations where his methods actually supported the core educational liberal assumptions he was trying to disrupt (for example, Bowers, 2005a, p.1). For example, one colleague described an occasion where each village was asked to send one person to the literacy camp. The intention was that each village would send one person for a set period, who in turn would return and teach others from his or her village. Instead, most villages sent either the whole village or a different person each time. It was against traditions of the village to have such an individualised approach to learning and, as a result, many did not adhere to Freire's request. Bowers (2005b) and others (for example, Esteva, Stuchul and Prakash, 2005; Vasquez, 2005) argue that teaching people about problems of the social structure in which they live should not fall victim to the same kind of thinking that first gave rise to the problems.

A second criticism of Freirian dialogics, of implicitly embracing Western liberal assumptions, is an extension of the first criticism. Some claim that Freirian dialogics discriminates against people who have an oral-based culture (Bowers, 2005a, p.3). In doing so, it is claimed that Freire looks on the illiterate man as a sick man, someone who is in need of being fixed or cured. For example, instead of teaching people to read so they may be able to vote, it is argued the voting system itself should be challenged.

In spite of these criticisms, authors making such claims generally portray Freire and the dialogic project as being full of good intentions but naïve in some respects, as detailed above. There are some parallels with criticism of Freire's methods of direct engagement with groups of people and the pragmatic ethos of the social accounting project, which is also accused of naively 'rearranging the deckchairs on the Titanic' (Puxty, 1986, p.107).

4.2.5 Counter-Critiques

Freire welcomed much of the critique, acknowledging it as valid in a certain context and challenged people to propose better ways of achieving the aims (McLaren, 1999, p.52) of the dialogic project. For Freire, criticisms were the result of ‘intellectual black spots’ that should be given attention through critical dialogue and reflection (Freire, 1997). Such ‘black spots’ arise, as Freire recognised, because no one person can see everything, and there can be no final account of theory and practice (Roberts, 2000, p.3). Freire described his approach to criticism as follows:

I have never been afraid of being criticized... because of my profound conviction of the value of freedom, hope, the word of another, and the desire of someone to try and try again as a result of having been more ingenious than critical (Freire, 1998a, p.98).

The most recent critiques in *Rethinking Freire* were not directly counter-critiqued in writing by Freire, due to his death in 1997. However, interesting parallels may be drawn with Bower’s (2007b) critique of Freire and the writings of both critical and social accounting scholars, as noted above. The critique from more critical schools is that those involved in ‘well intentioned engagement’ must acknowledge the limitations of the neo-liberal context in which they are immersed (as discussed in earlier chapters). In the same way that critical accounting scholars may recognise the ‘well intentioned engagement’ of social accountants (that is, Everett and Neu, 2000), Bowers (2005b) acknowledges that Freire’s principles are commendable, but based on neo-liberal Western cultural assumptions of education. Bowers (2005b) suggests that ‘real change’ would involve challenging why a person had to be able to read in order to vote (rather than learn to read so that a person could vote), as learning to read only further marginalises oral-based cultures.

However, Bower's (2005b) suggestion that the rule of literacy and voting should be challenged is not necessarily mutually exclusive to Freire's approach, as it may prompt debate and problematisation of the issue. Such facilitation of debate and problematisation can be illustrated in the social accounting project with deep green theorists (among others) suggesting that the act of monetising has led to our current unsustainable way of living. While sympathetic to this thinking, some social accountants (for example, Bebbington, 2007b, p.71) suggest that the act of monetisation in applying social accounting technologies may facilitate debate and further problematise the issue. This combination of reflective thought from critical scholars and engagement from social scholars may strengthen the possibility of (dialogic) change.

4.2.6 Freire within a Global Sustainability Context

Freire, particularly in later writings, discussed sustainability issues and problems with some of the contemporary views, especially at the international and government levels (Gadotti, 2003). A Freirian view of sustainability would suggest that people must have a respect for all living things as the basis for eco-pedagogy or sustainability, as opposed to treating the world and living things as objects. To facilitate transformative change towards a sustainable dynamic there must be 'respect for the life of human beings, the life of other animals, the life of birds, the life of rivers and the forests' (Freire, 2000 translated in Gadotti, 2003, p.11).

A key part of working towards respect for all living things is to have a vision of how this might be achieved. In this light Freirian dialogics is like the social accounting project in its normative position. Freire hoped that people might realise their potential as 'transformative, creative persons; dreamers of possible utopias...' (Freire, 1998b, p.44). Such a transformative change toward sustainability requires people to identify, reflect critically, and act creatively against the limiting situations that prevent such a shift. This form of critical reflection underpins the construction of new visions and new ways of living 'as sustainability, for us is the *dream to live well*, sustainability is the dynamic balance with the other one and with the environment...' (Gadotti, 2005, p.2, emphasis in original).

Freire's dream to live well involves the need for change. However, Freire, like many social accountants considered this change to be the outcome of a complex array of influences (identified and progressed via dialogic education) that occur incrementally (for example, Bebbington et al., 2007b; Larringa-Gonzalez and Bebbington, 2001). The possibility that change may appear futile in view of the constraints identified or may take longer than desired is not sufficient grounds not to take action. Instead change must be viewed on different levels, on the premise that small change contributes to broader change. Freire (Shor and Freire, 1987, p.35) noted:

I look at the social interactions, to see if naïve or fatalistic attitudes are changing... I try to think broadly about the challenges through which any group can display transformation. If teachers don't think in terms of phrases, levels, and gradations in a long process of change, they fall into a paralysing trap of saying that everything must be changed at once or it isn't worth trying to change anything at all. Looking only for big changes, teachers may lose touch with the transformative potential in any activity.

As illustrated in the previous sub-section, Freire's work can be considered more broadly than only in the area of adult-education, as can its application. Whatever vehicle for engagement is used it must adhere to the dialogic principles broadly outlined: highlight the limiting situations, reflect critically on those situations, envisage creatively new ways of living, and problematise the status quo. Following Freire, in my view, involves employing the above enabling principles so that unsustainable practices can be both identified and challenged. And it is by utilising these principles as broad guides for the DHF's attributes of purpose, content, time-scale, legitimate voices, knowledge claims, scale, ownership and communication sites, that the effectiveness of social accounting technologies can be thoroughly investigated.

Freirian dialogics has been applied in the social accounting project because a number of shared motivations exist, such as the transition to a new, imagined way of living that is

less unsustainable. Of particular interest is the role social accounting technologies such as the SAM could perform in a sustainable transformation and how this might be facilitated by dialogic interactions (for example, Bebbington et al., 2007b). However, without an evaluative tool such as the DHF, the effectiveness of the SAM remains underspecified. I now turn to the Freirian themes that underpin the evaluative attributes, with which I explore the application of the SAMs.

4.3 Freirian Themes Underpinning the DHF

On reading Freire's texts, four main themes clearly underpin the dialogic and banking heuristic he developed: the *potential for human agency*; a *social constructionist viewpoint*; appreciation of a *wider social-political environment and the role of institutions* and *democratic frameworks*. These themes resonate throughout Freire's attempts to create transformative possibilities through his dialogic project. In exploring each of the four themes I reflect on the influences which may have shaped the inclusion of these themes in Freire's work. This sub-section provides the basis to discuss commonalities between the four threads and how these might be viewed in the context of the social accounting project.

4.3.1 Human Agency

A central tenet of the dialogic project is the possibility for human agency (Thomson and Bebbington, 2004). Freire's concern with transformation via human agency was aided by drawing on the work of humanists who were informed by personalism and existentialism (Collins, 1977, pp.28-29). A personalist world-view is likely to be based on the assumption that each person has experiences that are 'real' and can be reflected on. Such experiences form our mental models of the world and with reflection these can be explored and potentially changed (Edward, 1998, pp.315-316). Reflecting on action and previous thoughts provide people with the ability to explore how thoughts and actions of others impact on them. When thoughts and actions impact in a negative way,

Freire identified this as contributing to a 'limit situation' and highlighted critical reflection as a means to further explore this relationship.

The most prominent author in the personalist field Freire drew on was Emmanuel Mounier. Mounier, a French intellectual with strong links to the church, is considered a key part of Freire's intellectual development (Collins, 1977, p.29). Mounier and Freire overlapped in their attention to non-violent change, motivated by people gaining 'authentic' ways of knowing and living, and underpinned by the Church as an '*act of love*' (Taylor, 1993, p.40).

Freire drew on the work of several existentialists, namely Sartre, Jaspers, Marcel, Heidegger, Camus, and Buber, among others (Collins, 1977, p.30). Existentialism is a set of ideals, stating that existence precedes essence; this implies that each person is implicated in what has been created for them (Karl and Hamalian, 1974, p.34), and can therefore be considered another strand of humanism. Proponents of this ideal believe that reflecting on the social and historical contexts provides the ability to choose actions that lead to an authentic way of being. Existentialists claim that:

Humans have free will in the sense that, no matter what social and biological factors influence their decisions, they can reflect on those conditions, decide what they mean, and then make their own choices as to how they handle those factors in acting in the world... existentialists are concerned with identifying the most authentic and fulfilling way of life possible... (Edward, 1998, p.493)

Existentialist educators, such as Freire, see education as a catalyst for highlighting authentic ways of knowing, and not relying on the dominant thought for everyday guidance. Instead, 'dialogic' ways of knowing become essential if blind faith in experts and authority is to be avoided, that is, the 'banking' model of education. Such a way of knowing is grounded in a socially constructionist epistemology and is inextricably linked to the possibility of human agency.

Human agency does not happen in isolation, and for Freire it was constructed within the *socius*. I now turn to his understanding of social constructionism, as a powerful enabler for human agency and therefore transformation.

4.3.2 Social Constructionism

Freire's work is embedded in a social constructionist stance, as he states 'men are makers of their reality' (Freire, 1983a, p.125). Social constructionism is an important part of facilitating human agency as it acknowledges the role people play in both constructing and deconstructing myths that support unsustainable practices.

Freire described the institution he worked in, Harvard Graduate School of Education, as 'scientifically racist' because it was predominantly supportive of specialists of the sort who hid their ideology behind a facile call for 'scientific rigour' and 'absolute objectivity' (Macedo, 1998, p.xi). Freire was critical of objectivist stances because he viewed them as legitimising the closing-off of authentic acts of knowing (Macedo, 1998, p.xi). In direct contrast to objectivist stances, Freire acknowledged that *how* social phenomena were socially constructed was an important aspect in the process of change.

The use of language was viewed by Freire as performing a key role in how social phenomena are constructed. Freire believed that people could be locked into various myths or 'hosting of the oppressor' because they saw language in a fixed objective manner. Freire, in an attempt to maximise the potential for human agency, believed that a person's view of the world is mediated by thought and language. In gaining an awareness of the role of language and thought in defining the reality in which people live, there is also the possibility of changing this reality.

A social constructionist view of language means there is not a one-to-one relationship with an objective reality. Therefore, language is more than a communication medium to 'reflect' reality. Language is instead an active ingredient in constructing reality (Weedon, 1987, pp.21-22). Freire stated: 'There are people who are speaking of a new language to redefine the reality in which we live'. (Freire, 1970, p.12). Without the

acknowledgement of language meditating thought and action there is a risk that the transformative potential for change is severely restricted.

The social reality we construct is always nested within specific power relations that interweave the political and social aspects of our lives into the reality we must in some way either transform or conform to. It is the theme of the wider socio-political environment that I now address.

4.3.3 Wider Social-Political Environment

Freire believed that to be an effective agent of change you needed a good overview ‘of the conceptual landscape’ (Shor and Freire, 1987, p.61) and power relationships if you were to know how and when to change. To avoid being ‘subtly programmed’ into objects (Shaul, 1983, p.14) Freire argued that we must reflect critically on the structures under which we live at a socio-political, institutional, and technical level. If people were to maximise their human agency then they must understand the various structures around them and how the structural contexts might serve to influence their actions. Freire spoke of understanding ‘deep structures’ as well as ‘surface structures’, and how they could be both be limiting and enabling (Freire, 1970, p.33).

Exploring the power relationships between and within various contexts will highlight some of the power inequalities that exist and how they are manifested. For example, Freire drew attention to the problems of the narrow presentation of the term ‘sustainability’ in the United Nations Charter (Gadotti, 2005). Freire and Gadotti both claimed that the charter was watered down due to the interests of a small group of people, namely those who benefitted most from the inequitable accumulation of capital in first-world nations. Reflecting on the wider social-political environment and the power relationships that exist will provide a basis for overcoming these limiting situations and for problematising real world issues, such as the United Nations Charter.

An understanding of power relationships in a wider context is considered a necessary element for transformative change to take place. Freire drew heavily on the work of Karl

Marx to shape his theories of power. This influence can be witnessed in the passage below:

Class conflict is another concept which upsets the oppressors, since they do not wish to consider themselves an oppressive class. Unable to deny, try as they may, the existence of social classes, they preach the need for understanding and harmony between those who buy and those who are obliged to sell their labour (Freire, 1983a, p.139).

In a similar manner to the social constructionist view, language is also implicated in power and knowledge relationships. There is perhaps no better example of this than Freire's example of people not being able to vote. Freire is described as providing a 'unique insight into the way literacy presents and manages the fundamental relationship of power and knowledge' (Taylor, 1993, p.6).

In the end the socio-political environment is a social structure which should be critiqued, as all social structures should be critiqued. This was one of Freire's central arguments for creating a democratic space in which transformation might take place. I now turn to Freire's notion of democratic understandings and the institutional frameworks that are both constitutive of, and constituted by, such understandings.

4.3.4 Institutional Frameworks and Democracy

The dialogic project draws on democratic understandings rather than capitalist traditions. In drawing from the work of Mounier, Freire provided an extensive critique of capitalism and detailed how it was at odds with both sustainability and maximising human agency. However, Freire stated that regardless of the social structures we live under they should all be critiqued (Shor and Freire, 1987).

Mounier stated that capitalist modes of operating were dehumanising and that factories, in particular, were 'based on contempt, conscious or implicit, of the labourer' and in

doing so ‘tries to ignore the person and to organize itself for a single quantitative and impersonal goal: profit’ (Mounier, 1938, p.177). In reducing a human being to no more than a production unit, the capitalist mode of production turned living things into objects which could be controlled. This is relevant to sustainability, because such a disrespect for living things, Freire contended, is the basis for much of the unsustainable state which the Western world is in (Freire, 2000 translated in Gadotti 2003, p.11). However, in the spirit of a true humanist, Freire believed that institutional frameworks and social structures could be made more democratic. Structures are not static and can be ‘transformed’ via the level of consciousness (McFadden, 1975, p.91). As outlined, under the potential for human agency, people are not at the complete mercy of institutions as there is always opportunity to decode and reconstruct (Freire, 1983a, p.91).

The ability to transform via human agency must be enabled by raising people’s consciousness. To demonstrate the transformative stages in which consciousness corresponds I draw on McFadden (1975). Table 4.1 below summarises McFadden’s point of the social structure-consciousness interrelationship, particularly in respect of stage three-A. Stage three-A is noted as the level of consciousness that facilitates a more democratic political structure. Stage one is described in a number of Freire’s works as the prevailing social structure evident in Brazil at the time of his writings, namely that the oppressed were immersed in a culture of silence. Stage two details a transitive state in which the oppressed become more authentic in their relationship with the world, and stage three-A highlights a more dialogic state, with people naming and creating their own world. The last stage in the table suggests that advanced technologies alienate the majority of the population.

Table 4.1: Levels of Consciousness

CONSCIOUSNESS				SOCIETY		
Stages	Levels of consciousness	Characteristic way of grasping the world	Metaphors for relationship of consciousness to reality	Type of society	Corresponding political structure	Culture
STAGE 1	Semi-Intransitive ²¹	Magical	Submerged or Immersed	Closed	Landlordism	Culture of Silence
STAGE 2	Naïve Transitive ²²	Magical/ Critical	Emerging	Split or cracked	Populism, pseudo-democracies, or certain military dictatorships.	Leaders speak “in the name” of the people, but the people still do not speak their own word. Manipulation. New means to enforce silence. Beginning of “naming the world” by the povo and the true word.
STAGE 3A	Transitive ²³	Critical	Inserting	Open	Democracy	People are free to say their word and create their world.
STAGE 3B	Irrational or Fanatical	Mythical	Floating	Massified	Advanced technological society, pseudo-democracy, or pseudo-socialism.	Culture of bla-bla-bla

(McFadden, 1975, p.93)

²¹ This term ‘intransitive’ originates from a verb that does not act on an object. If consciousness and action are crucial for change, then consciousness without action is considered intransitive. McFadden states that there is always a level of consciousness in any given situation so the use of ‘semi’ denotes this.

²² Naïve transitive refers to an oversimplification of problems, for example, nostalgic understandings of the past.

²³ Transitive refers to an in-depth interpretation of problems via a person’s own findings, in contrast to a passive acceptance of the status quo.

For Freire, education that created critical consciousness is crucial to transitioning to a more democratic social structure. As shown in McFadden's work, such transitions rely on human agency, an understanding of the social construction of shared human characteristics (such as language), an understanding of the broader socio-political context, and finally, as outlined here, the institutional frameworks and democracy.

The above four themes should not be considered as isolated or having a one-to-one relationship with enabling transformation. Rather, each theme interweaves with the others to enable the possibility of transformative change. A key challenge of the DHF will be selecting attributes receptive to identifying the above four Freirian themes at the organisational level, where the SAM will be applied. I have now explored the four key themes relating to the Freirian dialogic project, and now explore what these themes mean in the social accounting project and the attributes that could be expected in a dialogic or monologic account. In doing so, I provide the criteria with which to later evaluate the application of the SAM within an organisational context.

4.4 Freirian Dialogics and the Social Accounting Project

4.4.5 Commonalities

Freirian dialogics has been applied in the social accounting project as a means of evaluating social accounting technologies, such as SEA reports (Thomson and Bebbington, 2005), evaluating stakeholder discourse (O'Dwyer, 2004a), exploring engagement activities (Bebbington et al., 2007b), and evaluating social and environmental accounting education (Thomson and Bebbington, 2004). Freirian dialogics and the social accounting project have some shared motivations, as detailed in Chapter Two (for example, a concern about the way we are living, and a desire for change).

The dialogic or banking heuristic developed by Freire to explore differing manifestations of education highlights the changing or maintenance of the status quo. In the same way that Freire views education as either maintaining the status quo or changing it, so too could social accounting technologies. It is the transformative aspect of Freirian dialogics which is of most interest in enabling the social accounting project aims to be achieved and it is therefore a central component of my thesis.

As explained above a Freirian conception of transformation is underpinned by four key themes: the potential for human agency, a social constructionist viewpoint, appreciation of the wider social-political environment, and the role of institutions and democratic frameworks. These themes are also evident in the social accounting project. The *potential for human agency* can be illustrated in the social accounting project by the willingness to engage directly within organisations in the hope of influencing unsustainable activity²⁴. If social accountants co-construct new accounting technologies with the intention of raising new visibilities that in turn problematise our way of living, it is thought this might lead to different ways of evaluating organisational success and, potentially, change decision-making. New accounting technologies may therefore enable a transition to a more sustainable society. Freire used literacy as an entry-point to broaden socio-political awareness. It could be argued social accountants may use the SAM as a form of ‘sustainability literacy’ which aims to reduce the alienating myths that disconnect people, their thoughts, and decisions made in organisations.

Many scholars from the social accounting project acknowledge the *social constructionist* truth claims, as opposed to thinking that an objective, knowable reality exists (for example, Bebbington et al., 2007a, 2007b; Bebbington and Gray, 2001). In this capacity, any accounting outputs should be subject to debate rather than treated as an infallible truth (Boyce, 2000). Freirian dialogics, in a similar vein, views people as makers of truth and, in turn, the world. Transformative change can be facilitated by some ‘ways of knowing’ that are better than others. For example, a techno-centric, positivist-based accounting tool is less open to critique by ‘non-experts’ than one which is openly

²⁴ In fact it is the focus on enabling greater human agency (and paying less attention to issues of structure) that serves as the basis for some of the critique raised in Chapter Two.

socially constructed. The highlighting of social and environmental harms can be more readily questioned under a social constructionist perspective and may therefore be considered more conducive to the pursuit of sustainability.

The social accounting project and Freirian dialogics are concerned (or, as argued earlier, should be) about the *broader social and political environment* and therefore do not view reading, writing and the construction of an account in purely functional terms. In the case of the SAM, issues of power may require exploration of the motivations around why the SAM was applied or not applied in any particular setting. For example, if the SAM was discontinued on the managerial reasoning of being technically inadequate, then this would warrant further exploration. This type of exploration is to be expected given criticisms of the critical accounting school (Dillard, 2007). For Freire, the act of teaching adult students to read was motivated by the concern of obtaining a greater political voice for his students and not the mere transfer of information. The pursuit of developing experimental social accounting technologies is motivated by a desire to address problems, such as broader concepts of accountability (for example, Medwar, 1976) and raising consciousness of sustainability issues, as opposed to having more technically proficient accounting mechanisms in an organisation.

The *role of institutions and democratic frameworks* are a focal point for both the social accounting project and Freirian dialogics. Both projects highlight problems with democracy that are exacerbated by a lack of accountability and maintained by questionable myths widely held in contemporary Western society. The social accountants and dialogic proponents view accounting as serving an information right to a broad public rather than only the owners of capital. Satisfying information rights is the cornerstone to a democratic society and institutions, which in turn requires people to be informed about the impact of their actions and the actions of those around them, in particular, those controlling vast resources, such as large organisations.

The four themes detailed above provide the platform from which to explore some of the important themes of Freirian dialogics. However, the question remains as to how these themes might manifest at the organisational level. Bebbington et al. (2004) discuss how

Freirian dialogics might look at the organisational level and the attributes a dialogic account may possess. This descending level of theoretical abstraction is depicted below (Figure 4.1).

Figure 4.1: Diagrammatic Overview of Themes, Attributes and the SAM

4.4.6 Eight Attributes of a Dialogic Account

Earlier writers in the social accounting project have highlighted some attributes that might form the basis of a Freirian dialogic account (Bebbington et al., 2004; Thomson and Bebbington, 2005). In the section below eight attributes of a dialogic account (drawn from Bebbington et al., 2004) are presented and then extended to a social accounting technology, that is, the SAM. These eight attributes comprise: the purpose of a dialogic account; the content of a dialogic account; the time-scale considered; ownership of an account; the role of ‘experts’ in producing an account; knowledge claims made in an account; the scale and aggregation of the reporting ‘entity’; and how communication might occur in the process of constructing an account (Table 4.2).

The first attribute of a dialogic accounting, *purpose*, highlights the objective of co-developing an account which will foster ‘questioning, reflection and problematisation’

(Bebbington et al., 2004, p.1). A dialogic account may involve the co-construction, presentation, consideration and synthesis of many personal or collective accounts of the same situation (Thomson and Bebbington, 2005, p.518). The co-construction of such an account is based on the idea that something new is invented and one world-view does not invade another (Bebbington, et al., 2007b, p.364). Further, a dialogic account serves to open up debate rather than legitimise, manage or shut down debate, and therefore overlaps with social accounting research. Writers in the social accounting field have long argued that accounting outputs should be debated, as ‘the utility of such accounting [social accounting] is not in its representation of ‘infallible truth’ but in its creation of a range of environmental and social visibilities’ that are essential ingredients for decision-making and, in turn, wider democratic processes (Boyce, 2000, p.53). The purpose of a dialogic account is therefore in direct contrast to a ‘monologic’ or ‘banking’ account. The purpose of a monologic account is to convince, subdue, legitimate, and manage in a way that denies the voice of others (Bebbington et al., 2007b). While dialogic accounting avoids telling a more or less passive audience that everything is fine and discourages further questioning of the organisation (Bebbington et al., 2007b), monologic accounting does just that.

If the purpose of dialogic accounting is to co-construct a reflective account, capable of raising consciousness (that is, the previously unknown), then the *content* is likely to be of a temporal and unpredictable nature. Co-development also requires content that be readily understood by participants, and avoids overly technical language to deny the voices of others (Bebbington et al., 2007b). However, readily understood content does not necessarily mean the use of standardisation evident in International Accounting Standards Bodies. In contrast, dialogic accounting encourages content that might be better understood in the form of narration, images, and general language (Thomson and Bebbington, 2005). Furthermore, accessibility is regarded by the dialogic and social accounting projects as an important feature of content. For example, some scholars in the social accounting project have argued that if accounting were to adhere to its aims of making the problems of accountability more translucent, then accounting language must be accessible to a broader range of people rather than only the owners of capital (Gray, Owen and Maunders, 1987, p.ix). To achieve such an aim there is recognition that

accounting can and must take multiple forms if the accountability potential of such technologies is to be realised (Gray et al., 1996). In contrast, monologic accounting is compartmentalised, overly technical, impersonal and typically consists of economically manageable data (Bebbington et al., 2004). The idea of accessible content is to facilitate the raising of consciousness as a process, rather than as an output delivered from preparer to receiver.

The third attribute of *time-scale* mirrors the principle of broader inclusion detailed in the content attribute, with a wider range permitted on the proviso of raising consciousness. In many situations, annual or quarterly reporting may be more appropriately replaced to span multiple time-frames, and include seasonal time-frames and natural action cycles (Bebbington et al., 2004). While dialogic accounting may use short or annual cycles, these are intended to complement rather than restrict the reporting or accounting mechanism. Social accounting is also concerned with a broader time horizon (compared with mainstream accountings) as externalities do not necessarily become internal within a predetermined accounting period (Gray et al., 1996, p.2). A broader conception of an accounting time-scale is necessary when considering a number of social and environmental impacts, as they may take many years to be realised. The rate of environmental degradation, for example, the rate at which flora and fauna became extinct from the New Zealand landscape over the last year, is nowhere near the magnitude if we explore the same issue on a one-hundred year time-frame. At the organisational level this means that the impact of decisions may include a time-scale beyond the lifetime of the intended delivery (for example, lifetime of infrastructure).

The time-scale of mainstream accountings may provide timely feedback in an economically manageable entity, but this is inadequate for highlighting the concerns of the social accounting project. A monologic account is more likely to be standardised into annual or quarterly reports regardless of the impacts a decision may have on other periods. Long-term time-frames are often seen as unreliable and therefore marginalised or reduced to discrete pieces of analysis, such as NPV.

If the fourth attribute of *ownership* is to adhere to the process of co-developing an account(s), then no one person should own a dialogic account. However, there might be multiple accounts of the same situation, with threads relating more specifically to their political or cultural concerns. As knowledge is co-produced the account is a by-product or medium of shared dialogue. Where an account is owned and legal remedies are sought (for example, copyright), typically by the entity which constructed it, then it can be considered monologic²⁵. Non-individual or entity ownership does not mean that accounts cannot represent an individual or group's authentic way of knowing. The framework in which a dialogic account is presented is merely seen as the starting-point for broad debate and, as such, people should not be excluded on the basis that they do not 'own' an account. While each account is simultaneously a non-account from another viewpoint (Bebbington, 1999), the idea that one person or group should own an account is in conflict with the idea of Freirian dialogics, as it excludes some from the debate.

The fifth attribute of a dialogic account considers who might have a *legitimate voice* to both (re)construct and (re)interpret an account. A dialogic account requires the input of a wide group of stakeholders coming from a range of viewpoints (Bebbington et al., 2007b). The multi-perspectival position is intended to include 'experts' and 'non-experts', rather than any one discipline or paradigm determining who can contribute, as mutual respect for multiple-perspectives is necessary for 'true communication' (Freire, 1983a). The act of identifying who might be an 'expert' could be difficult if an account were constructed in a dialogic manner. The notion of a broad group of people having input into an account is consistent with the social accounting project, as legitimate voices should not be restricted to 'economically powerful stakeholders' (Boyce, 2000; Gray et al., 1997; Unerman, 2007). Furthermore, legitimate voices may come in the form of shadow/silent or anti-reports, such as those produced by Greenpeace, McSpotlight and CorporateWatch. In a similar vein to the above, removal or marginalisation of a right to oppose is a contradiction in a society which claims a

²⁵ Mainstream accountings may include the lodgement of annual reports with various regulators who also govern the minimum content. In such an instance mainstream accountings cannot be seen as entirely monologic. The dialogic or banking heuristic allows for the exploration of enabling and limiting influences and, as such, it is unfair to label *all* mainstream accountings as *entirely* constraining. However, a counter-critique might suggest that regulators are in turn heavily influenced by the corporations they 'govern'.

political tradition of questioning truth claims. Such a right to oppose could also be expected in society's sub-structures, such as accounting (O'Leary, 1985, p.100)²⁶. If the right to speak and to be heard is upheld, then those with greater familiarity in constructing an account should not dominate the conversation. This means that accountants should not impose their view of the world on others but, instead, facilitate a dialogue with stakeholders about their views (Bebbington et al., 2007b) and highlight the contestable nature of accounting (Brown, 2009).

In contrast to the dialogic account, a monologic account privileges experts, often from a single discipline. Such an act frequently excludes people from the decision-making process because they do not have an understanding of accounting. The legitimization of a single discipline above others is problematic for sustainability issues, as these are often held up as examples of multi-disciplinary problems (Pezzoli, 1997).

The sixth attribute considers the *knowledge claims* made in a dialogic account. A dialogic account must recognise the temporary, localised value of individual techniques and change these should they limit rather than facilitate questioning (Bebbington et al., 2007b). The recognition of accounting's socially constructed nature within dialogic thought means that the concept of a 'neutral' or 'objective' answer is rejected (in understandings of the social world). It is rejected on the grounds that such terms deny the process of how beliefs are constructed and thereby limit the possibilities for a raising of consciousness (and change). The use of such terms evokes suspicion that debate is being closed down in order to gain unquestionable support for a particular idea at the expense of another. The rejection of a 'neutral' or 'objective' answer is also viewed with suspicion by some writers in the social accounting (and dialogic) project because their work is based on social constructionist epistemologies. Under such an epistemology, accountants are most likely 'subjective 'constructors of reality': presenting and representing the situations in limited one-sided ways' (Morgan, 1988, p.477). To claim that one side is more correct than another would suggest that dominant power relationships exist over the co-production of dialogic knowledge. As the SAM does

²⁶ Although people have the right to speak, in Freire's view they also have the right not to speak (Shor and Freire 1987, p.102)

require truth claims to be made during (re)construction, one side may be privileged. However, this privilege should be made explicit and recognised as temporal.

On the other hand, a monologic account portrays a sense of timeless truths and unquestionable facts²⁷. Such an historic portrayal may restrict questioning, especially if prepared by an ‘expert’ such as an accountant. Superficial questions, such as the basis of ‘technical’ judgement, may be permitted, but questioning the underlying truth claims, such as the concept of objectivity, would be discouraged.

The seventh attribute of a dialogic account considers the *scale* of an account as an important feature for gaining access to information and raising consciousness. A dialogic account promotes the use of various scales in order to produce a meaningful account of a reality. For example, a neighbour to a factory may wish to gain an understanding via a local account rather than a highly aggregated global set of accounts. The organisational entity itself does not necessarily provide an appropriately scaled account of its operations. An account must be meaningful for the local and cultural contexts rather than only one group, where highly aggregated accounts are used to calculate a return on capital. Accounts that are highly aggregated and narrowly focused to one user-group are likely to be viewed negatively by social accountants. To provide ‘real accountability’, accounts need to provide information between the organisation and people in a manner that can be readily understood (Gray et al., 1997, p.353). Accounts which fail to provide information on a scale that can be readily acted on deny people their information rights and ability to engage. Social accountants have typically called for the scale of accounts to be flexible. For example, some accountants have had a project focus, as in the SCC and the SAM, while others have viewed an aspect of the entire organisation, such as FCA (Herbohn, 2005) or estimated accounts of an eco-system (Jones, 2003).

²⁷ Issues of significant social and environmental harms, such as climate change, are typically taken as starting premises by a number of social accountants, and therefore not strictly constructionist in this respect. However, the social accounting project is typically more sympathetic to social constructionist approaches than mainstream accounting research.

In comparison, a monologic account is less flexible, with the organisational entity typically being the centre of an account. While monologic accounts might provide information at various levels (for example, project or organisational) this will only occur if it does not detract from shareholder wealth maximisation. For example, if commercial sensitivity risks shareholder wealth maximisation, information is usually highly aggregated²⁸. As a result it is difficult to exercise a person's ability to reflect critically in an organisation that might have consolidated a multinational company onto several pages.

In keeping with the purpose of a dialogic account, the eighth attribute, *communication sites*, does not formalise or dictate who can communicate with whom. Instead, formal communication structures are seen as limiting the flow of information and its debate. In a dialogic accounting process, any intersection within an organisation or between organisations is an opportunity to communicate (Bebbington et al., 2004). Social accountants have long rejected the idea that an account must be produced by the organisation and formally presented to a narrow user-group, namely the owners of capital (see Gray et al., 1996, Chapter One for fuller discussion). Social accountants think of accounting as being an integral part of a democratic framework and, as such, accounts serve a large group of people with a broad mandate. This has consequences for the communication of an account as it may initially be produced outside of the organisation (for example, an anti-report) or it might be produced by non-accountants (as can be seen in the case of the SAM).

The communication sites for a monologic account exist typically as a single boundary between the organisation and community. Such a boundary is usually relegated to those 'authorised', such as public relations, senior members of the finance team, CEO or chairperson, that is, positions defined by formal internal structures. This is not to suggest that the communication from a CEO is monologic, but to assert that an account may *only* be communicated by a CEO would be considered monologic.

²⁸ A dialogic account and monologic account may manifest themselves in the same way under conditions where the scale of the account does not detract from shareholder wealth maximisation.

This section has detailed eight Freirian attributes and has highlighted the commonalities with the social accounting project. The inclusion of dialogic attributes in an organisational account provides the basis of a heuristic I use to evaluate ‘good’, ‘real’ change occurring in the application of the SAM. If these dialogic attributes were present in the SAM applications, this may indicate greater potential for morphogenetic change, which would be consistent with a sustainability agenda. The following section will explore how the attributes mentioned above might be viewed with the application of a social accounting technology, the SAM.

Table 4.2: Eight Dialogic Account Attributes

Attribute	Dialogic	Monologic
Purpose	Medium of critical reflection and raising of consciousness.	Convince, subdue, legitimate and manage (for one group over another).
Content	Heuristic learning-images, metrics, general language. Unpredictable content.	Economically manageable aspects of business, formal and standardised language often monetary in value. Predictable content and presentation.
Time-scale	Flexibility in time-scale to reflect natural action cycles as appropriate.	Standardised annual or quarterly reports. Long-term time-frames often seen as more uncertain and therefore marginalised.
Legitimate Voices	'Experts' and 'non-experts' inclusive and polyvocal.	Privileging of experts, single discipline.
Knowledge Claims	Multi-perspectival, temporal, knowledge is co-produced but contestable.	Ahistoric, general portrayal of timeless truths and unquestionable facts.
Scale	Scale is flexible. May consist of highly aggregated or detailed information.	Organisational entity and other formal structures, often highly aggregated to avoid 'commercial sensitivities' being divulged.
Ownership	No one person or entity can own an account.	Intellectual property owned and reinforced via legislation if necessary.
Communication Sites	Any intersection between or within the organisation is a valid communication site.	Single boundary between the organisation and community. Defined by formal internal structures.

(Adapted from Bebbington et al., 2004)

4.5 Dialogics and SAMs

The SAM is a social accounting technology deployed to further aims of the social accounting project by engaging directly within organisations. It appears that the SAM possesses some dialogic attributes detailed above. For example, it has been claimed that the application of the SAM may foster critical reflection on the sustainability or unsustainability of an organisation, create site specific insights into sustainability (Bebbington et al., 2007a, p.234), change the way people conceptualise organisational practices (Bebbington, 2007a, p.66), and foster tangible changes at the organisational level (Bebbington, 2007a, p.53). In this section the attributes that might be expected in a dialogic and monologic account are discussed, with a specific focus on the SAM. A hypothetical example is then provided to contrast dialogic and monologic SAM applications, based on the upgrade of a sewerage treatment facility by a city council. The exploration of these attributes within the hypothetical SAM application sets up the evaluative criteria from which truth claims can be made about the effectiveness of the SAM in an organisational setting.

Overall, a dialogic SAM would see the problems explored more in terms of sewerage treatment being a by-product of a particular mode of living rather than something requiring an engineering solution, for example, unsustainable pouring of waste into the ocean may be examined as a symptom of a social structure. In this hypothetical situation the monologic SAM highlights that the *only* conceivable solution would be to implement a high-tech structure to treat sewerage, based on the dominance of engineers and accountants in the decision-making discussion. The hypothetical examples consider first the attributes that would be expected in a dialogic application of a SAM to the sewerage treatment facility.

4.5.1 A Dialogic SAM

The *purpose* of a dialogic SAM is to create a medium of critical reflection so that broader elements of sustainability can be raised and acted on. A dialogic SAM would be envisaged as serving as a tool to assist in reconceptualising the project to which it was

applied, that is, in this case, the initial problem of sewerage requiring treatment. This aspect of unsustainable living might be problematised in a manner which facilitates a broader group of people acting on this information. For example, upgrading a sewerage treatment facility might be considered an output of an unsustainable system that should be rethought in a holistic manner. This purpose would have implications for the type of content included, as the *content* of a dialogic SAM would be decided on by the people constructing the account. The elements and weightings of the SAM would be determined by various community groups, including the council. The elements and weightings comprising the SAM would be the result of dialogue. Such dialogue would not need to be consensual, and more than one SAM might be constructed if the voice of a group or individual were lost with the construction of only one SAM. Alternatively, the SAM might be replaced by another tool or more meaningful process, as determined by the group. In such an instance the SAM would be viewed as a starting-point, in which (for example kinaesthetic or heuristic content) frameworks for decision-making could evolve, and some groups in the community might choose alternative ways of voicing their thoughts on the proposed sewerage facility.

The wider inclusion of content in this hypothetical project would be complemented with a broader *time-scale*. When considering the projects an organisation is undertaking, a dialogic SAM might look 50 or 100 years into the future, rather than be restricted to formalised reporting time-scales. Other sewerage treatment SAM applications might have different time-frames to complement the same scenario. Used in this manner, accounting serves more than a limited, retrospective view. The sewerage treatment facility might be considered beyond its entire lifetime, as its impacts may reside after it is decommissioned. A similar approach would also be taken in respect of the scale of an account in this hypothetical application of a SAM. The *scale* of a dialogic SAM is likely to extend wider than the effects of the sewerage treatment plant and, potentially, could explore pressure placed on water systems via pollutants, such as storm-water. Scale may be determined via the eco-system parameters. To include elements beyond the traditional accounting entity concept is an essential part of highlighting interrelationships between actions within the project team and associated consequences.

In considering the fourth attribute of a dialogic account, *ownership*, the participants who constructed the account and anybody who had an interest in the issues that may be raised (or not raised) would own the account. The SAM is viewed as a starting-point for debate and, as such, the rights to democratic debate should not be infringed. The council would be free to share the SAM framework with anyone and subsequently anyone could construct or deconstruct a SAM as they saw fit. This broad view of ownership would extend to whoever might be involved in constructing an account. Council ‘experts’, such as accountants and engineers, may still be present and could contribute to the construction of a dialogic SAM. However, the role that *legitimate (voices)* experts perform would be one of facilitation, as all voices should be heard and represented (and resourced). Various SAMs (or counter SAMs) might be produced to ensure that differences are raised, and provide a mechanism for ‘experts’ and ‘non-experts’ to ensure their voices are not lost. ‘Expertise’ in applying a SAM to the sewerage treatment facility might include neighbours, community groups, employees and ratepayers. Such groups might be considered to have different kinds of expertise and ideological orientations, all of which are legitimate (except for those who wish to close down debate and are intolerant of other voices).

The flexible nature of the SAM content and the broad group of people involved in its construction mean that it becomes the product of the social and historical contexts at the time of its construction. The *knowledge claims* within the SAM are temporal and, as a result, always open to questioning and subject to re-exploration, both now and in the future. For example, the options presented in the construction of the sewerage treatment SAM might shift, due to people rethinking the weightings, based on changes in their values. Such rethinking should not be limited by parameters around who can communicate with whom. In the construction and questioning of a dialogic SAM there should be no restrictions on who can *communicate* with whom. If a council operations member wishes to dialogue directly with Iwi (or Iwi representative) etc, then this should take place. Reciprocal rights would also apply, as Iwi would have a right to speak directly with the council. The SAM in this instance could not be considered private or

confidential as this would place significant restriction on to who could communicate with whom.

4.5.2 A Monologic SAM

The *purpose* of a monologic SAM may be used for ‘experts’ to demonstrate to lay people (as they are not a meaningful part of the debate) that the most efficient action has been taken in regard to a particular project. The SAM could therefore be used as a vehicle for council ‘experts’ to demonstrate to ratepayers that the most efficient solution has been selected on their behalf. The use of the SAM in such a monologic way might serve to ward off attempts to more stringently regulate reporting, or serve as a public relations exercise to demonstrate desirable organisational behaviour with a degree of pseudo-participation, that is, the sewerage treatment facility might be painted green and branded eco-friendly.

The *content* of a monologic SAM would be presented as part of a formal business report and may be seen as a mere extension of a managerial toolkit in the same capacity as mainstream conceptions of cost-benefit analysis. The SAM would have to stick with ‘best practice’ methodology, otherwise ‘findings’ or ‘results’ might not be seen as ‘accurate’. Such a view of content places much heavier emphasis on the SAM as an accounting output rather than on the process of constructing it. More than one SAM of the proposed sewerage treatment plant might be presented, but this would be in line with a sensitivity analysis rather than an expression of tension in the underlying cultural or political assumptions. The ‘best’ sewerage treatment plant would most probably be selected on the basis of the cost-benefit type analysis. Information outside this domain would more likely be considered ‘biased’ or ‘subjective’.

A monologic SAM would use whatever *time-frame* is legally required or considered ‘best practice’, as determined by ‘experts’ in the field. Annualised projections used in capital budgeting situations might be the most efficient use of organisational resources as these are likely to be readily available for the sewerage treatment plant. It is unlikely the plant would be considered over its entire lifetime other than in an NPV perspective

for calculating the ‘best’ option, as outlined above in the monologic content section. This narrow interpretation of time-scale may also be applied to decisions involving the scale of the account. The *scale* of a monologic SAM would not need to consider any impact beyond building the treatment facility, which would exclude any effects outside the entity, unless legal recourse meant a duty of care was owed. External impacts to the immediate project would likely be considered too difficult to evaluate and should be avoided in the name of ‘rigour’, unless some standard or guidance was in place.

Ratepayers or other members of the public are unlikely to be considered ‘qualified’ or sufficiently skilled to enter the debate in a meaningful way, and would not be regarded as a *legitimate voice*. If ‘non-experts’ of finance or sewerage treatment were admitted to the debate this should occur later in a ‘consulting phase’, as it would likely be viewed as too resource intensive to have their contribution earlier. Skilled decision-making should be left to ‘experts’ in the construction of an account and should be the domain of accountants, with input from engineers. The inclusion of the ‘correct’ people (that is, ‘experts’) would provide a strong basis from which to make ‘rigorous’ knowledge claims. The *knowledge claims* in a monologic SAM would mean a ‘correct’ and ‘right answer’ would be provided, while glossing over any deep tensions. Groups other than accountants, council management and engineers would not have sufficient knowledge or scientific training to lodge knowledge claims. A SAM used in a monologic way might be seen as a vehicle with which to conduct benchmarking exercises that could then be compared with international sewerage treatment plants.

The provision of benchmarking activities might result in a more efficient and cost-effective organisation. As such, attempts would have to be made to protect this competitive advantage, and ownership ‘rights’ exercised. If the SAM were used in a monologic manner it would then be *owned* by the organisation which patented it. As a result the council would need to pay royalties to the organisation that developed the SAM framework. Deviations from the original best practice SAM would be viewed as a breach of this copyright.

In considering the final attribute, the monologic SAM would need to be both constructed and communicated via formal *communication* channels. A council team leader or delegated communications staff member would deliver the SAM results to those requiring them. If the results of the SAM revealed inconvenient truths, the results would need to be ‘checked’, and if they could not be reinterpreted in another light, the SAM would not be presented.

The eight attributes above now form the DHF as a framework, used to evaluate the effectiveness of SAM applications. The table below summarises these attributes, and highlights some of the organisational conditions which might be present.

Table 4.3: Attributes of a Dialogic SAM and Organisational Conditions

Attribute	SAM Conditions	Organisational Conditions
Purpose	SAM as a medium of critical reflection to potentially reconceptualise the project itself.	<p>Organisation assists in creating spaces to enable transformation from within.</p> <p>Organisation assists in creating spaces for more than one transformation possibility from within.</p>
Content	SAM to include co-produced content and presented in multiple ways or SAM even replaced, as the framework is only a starting position.	Content provides medium for authentic voices with real-world problems to be voiced regardless of how previous accounts have been constructed. Board or management structure papers would not be standardised.
Time-scale	SAM to be flexible in time-scale to reflect appropriately natural action cycles.	<p>Account considers time-frame so that 'real world' problems of account constructors can be raised and critically discussed.</p> <p>Organisational audit procedures would not have to conform to yearly cycles, but would follow continuous audit cycles within the conversations.</p>
Legitimate Voices	SAM to include a broad range of people. Traditional notions of expertise heard, but not at the expense of others (who may be considered to have traditionally unrecognised 'expertise'). People also have the right to not contribute.	'Experts' in an organisation would be recognised for the special skills they bring and would be responsible for highlighting the contested nature of problems. This would include facilitation of dialogue (or at a minimum, the satisfaction of information rights, as some groups may not wish to dialogue) with groups outside the organisational boundary.
Knowledge Claims	A SAM produced under a set of influences during a period, is able to be explored with differing influences, both current and in the future.	There is no monopoly on truth claims as all have relevant realities to the participants. The account is not the reflection of one person at the expense of other, and leadership structure would be open to conflicting reports prepared by staff.
Scale	SAM may be produced on several different scales and not necessarily only consider the immediate project.	The organisation does not have to be the centre of the account. Instead the issue of relevance can take centre stage and second or third level impacts may still be considered even if they do not occur within the legal definition of the organisational entity.
Ownership	SAM is not owned by any one person.	The organisation would freely share the SAM framework and would not move to collect royalties.
Communication Sites	Any intersection between people or within the organisation is a valid communication site for SAM and associated discussions.	The organisation has a flexible boundary and facilitates communication occurring in multiple parts of the organisation and with people outside the organisation.

(Attributes adapted from Bebbington et al., 2004)

4.5.3 Critiques and Barriers to a Dialogic Account

Transition to a sustainable way of living requires people to have a vision for the future, but at the same time it will be strange and new (Gadotti, 2003). As a consequence of a new way of living, limit situations will arise that either prevent it from being realised in the first place or resist it once it is created. Bebbington et al. (2007b) categorise limit situations for dialogic accounting as falling into two main categories: the social-political; and the technical. A third, more general application criticism may also be added.

The social-political category is based on the premise that it is not in everybody's interest to want dialogic accounting. The current unsustainable state clearly benefits some people more than others and as a result it is unlikely these people will seek change. For example, in accounting, annual reports are typically geared towards the interests of shareholders, and efforts to broaden this mandate beyond lip-service are likely to result in resistance from the small number benefiting greatly from the status quo. Freire recognised there would be situations where it is not in everybody's interest to change, and states: 'I have already affirmed that it would indeed be naïve to expect the oppressor elites to carry out a liberating education' (Freire, 1983a, p.131).

The second category detailed by Bebbington et al. (2007b) is 'technically' focused. 'Technical' limits in terms of constructing and presenting a dialogic account might include the difficulty in obtaining data, increased resource requirements to construct (especially when new to all those implementing), and difficulty in departing from more standardised and known accounting frameworks. Cavanagh (2007) provides a detailed description of the difficulties experienced when applying a SAM, including those mentioned above.

The third and more general criticism is that Freirian dialogics is not relevant in a Western organisational setting²⁹. My thesis explores case-study sites in a Western

²⁹ This discussion arose at the 2004 CSEAR conference in Dundee during the presentation of Bebbington, et al. (2004).

centric organisation many years after Freire applied his thinking in a third-world socialist country in the 1960s and 1970s. The Western world still encounters limiting and enabling influences in an organisational setting and, as such, Freire's theoretical framework is useful in exploring these. It is not the slavish replication of his method which is important, but the appropriate and authentic recreation of transformational possibilities for many through the creative application of his thought, spirit, and practice. The exact, same application of Freire's literacy methods (for example, Freire, 1983a) in my case-study organisations would not be appropriate because the people in the organisations I explore are engaged in a different kind of work and socio-political context, and therefore seek a different form of transformation.

4.6 Chapter Review

This chapter has presented the DHF as a heuristic to evaluate the effectiveness of SAM applications. The need for such a heuristic comes in response to a call for social accounting technologies to be compared with more explicit 'yardsticks' (Gray et al., 1997, p.326) and in a broader socio-political framework (Dillard, 2007). In order to fully appreciate the relevance and assumptions of the DHF in evaluating SAMs, I have drawn on the historical context in which Freire developed his literacy methods. After viewing Freire's work in relation to the above context I identified four key themes that underpin Freire's work and detailed eight attributes that might be expected in a dialogic and monologic account. Last, I have used these attributes and explored their meaning in the context of the social accounting project, with particular emphasis on their utilisation in a social accounting technology, that is, the SAM.

Detailing the DHF signals the end of the theoretical constructs that are necessary to enter the organisational field. The social accounting technology, the SAM, and the evaluative DHF have been constructed and are now ready to be explored in an empirical setting. The following methodology chapter provides greater detail as to where, when, and how these previously discussed constructs will be applied.

Chapter Five: Research Design

5.1 Introduction

In exploring the *potential of SAMs to foster more critically reflective organisational accounts*, a number of choices and non-choices have been made. This chapter makes explicit some of the preferences exercised in respect of the above research question and considers them within the layered contexts of epistemology, theoretical perspective, methodology and methods (Crotty, 1998, p.2). In doing so, the chapter serves as a link between the theoretical framework developed in earlier chapters and the empirical section of this thesis.

The first section will briefly outline *what it means to know* by discussing my epistemological stance of social constructionism. Second, I discuss Laughlin's (1995) middle-range approach to theorising, and highlight the basis for this selection. Third, details of my methodology will be considered as an extension of the DHF developed in Chapter Four. Fourth, details of the case-study method used to explore the transformative potential of the SAM will highlight the context in which data was collected, and how it is analysed. Last, I conclude with discussion of the limitations imposed as a consequence of the above choices.

5.2 Epistemological Basis

The term *epistemology* originates from the Greek word *episteme* (Edwards, 1967) and is broadly concerned with exploring what is knowledge, how it might be acquired, and how people '*know what they know*' (Crotty, 1998, p.8). These questions of knowledge are important considerations because they shape the design of my study and, most importantly, the knowledge claims I make. In exploring the concept of epistemology,

and what it means for my study, it is helpful to place these within the context of my broader intellectual development.

I was first exposed to the idea of ‘good research’ as being ‘neutral’ and having distance from the object being studied, thus mitigating the risk of the researcher being ‘biased’ and producing ‘unreliable’ generalisations. Later, I was exposed to other methodological perspectives. For some years I lived a schizophrenic existence between the objectivism taught in behavioural psychology, financial accounting, and the socially constructed nature of reality taught in social psychology, gender psychology, and a social accounting course.

My discomfort in selecting an epistemological approach which seeks law-like generalisations filled me with a cognitive dissonance that did not subside until I was exposed to writers in the accounting literature who adopted various social constructionist perspectives (for example, Hines, 1989; Macintosh, 2002; Morgan, 1988; O’Leary, 1985; Puxty, 1991). My view of accounting and other social phenomena is more closely aligned with writers such as Morgan (1988, p.477), who describes accountants as being actively involved in the process of social constructionism rather than ‘engaged in an objective, value-free technical enterprise, representing reality “as is”’.

The term *social constructionism* originates from Berger and Luckmann’s *The Social Construction of Reality* (1967). Constructionism as adopted in my thesis can be described as follows:

...the view that all knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context (Crotty, 1998, p.42).

The adoption of a social constructionist perspective has implications for: the type of research questions asked; the way data is collected; the research instruments applied;

and the subsequent analysis of data. A research question using words such as *potential*, *foster* and *critically reflective* differs from positivist research questions which are more likely to contain words such as *effect*, *test*, *predict* and other ‘scientific aspirations’. A key difference is that the latter is embedded in an objectivist understanding where truth claims can be made by observing social phenomena in the same way we might view natural phenomena (for example, rocks and mountains). Social constructionist ways of knowing suggest that the observer-observed relationship is a dynamic one which denies the possibility (and desirability) of law-like prediction and control. Therefore social constructionist research does not seek observation, testing, and control in the same manner as more ‘pure’ objectivist studies.

In considering data collection, some methods are more apt than others for a social constructionist approach. For example, semi-structured interviewing is likely to be a richer source than closed surveys because the former gives a greater context to the social construction of reality. While data may be collected from a number of sources, the purpose is to provide a rich basis for exploration, rather than attempt to triangulate and discover new law-like generalisations. In respect of data that makes an exploration possible, interviewee responses appear appropriate because they are not considered wrong or right, statistically manipulated, nor serve (necessarily) as a basis for prediction.

The design of research instruments must take heed of data collection requirements to ensure they are congruent with a social constructionist epistemology, recognising that they will perform a role in constructing the reality of subsequent findings. The DHF contains categories that recognise this epistemological position, and draws heavily on the work of Freire. The highlighting of limiting or enabling roles facilitated by the social construction of reality is one of the fundamental elements of Freire’s work. Freire (1983a) highlighted his stance by stating that ‘men [people] “make” their own truth’ (Freire, 1983a, p.23) and, in doing so, may remain more or less oppressed or emancipated, dependent on being conscious of *how* their reality is constructed.

In analysing the data and selecting an appropriate theoretical basis, attention should be given to the socially constructed (and therefore context specific) nature of empirical

material collected. For example, although themes and patterns may occur in empirical material, the ‘ideal’ of universal generalisations may be traded for a more limited range of generalising of social phenomena. It is on the basis that limited empirical data can only be theorised over a limited range of social phenomena that the following section proceeds.

5.3 Theoretical Basis

This thesis adopts a middle-range³⁰ theoretical approach as described by Laughlin (1995). Middle-range theory proponents assert that theorisation of social phenomena should not be limited to universal or grand theory, nor narrow empiricism, whereby data collection would form the sole basis of understanding (Laughlin, 1995, p.77). Middle-range theorists draw on ‘skeletal’ frameworks that facilitate theorising over limited ranges of social phenomena. When articulating middle-range theory it is useful to highlight the two theoretical positions either side, which give rise to the term *middle*.

A ‘high level of theorising’, accompanied by a ‘high level of methodological development’, is likely to provide a number of characteristics evident in deterministic research design. Laughlin (1995, p.80) proposes that this high-high combination is likely to seek a research design whereby generalisations are sought, typically via structured, quantitative methods. In addition to the pursuit of generalisation, the role of the researcher is deemed irrelevant or of having little influence on the overall *findings* of the study (Laughlin, 1995, p.80). This high-high combination is described as ‘wistful and incorrect quasi-scientific thinking of a highly questionable nature’ (Laughlin, 1995, p.79).

³⁰ The term *middle-range theory* as applied in accounting literature by Laughlin (1995) shares some similarities with the original use of the term by sociologist Robert Merton (1968). However, a number of differences between these two authors can be drawn. A key difference is that Merton (1968) has little emphasis on change, where Laughlin (1995) considers perspectives ranging from maintenance of the status quo to radical change. Merton’s low emphasis on change is unsurprising, given his functionalist perspective.

In contrast to the above high-high combination, a more grounded theory-type approach is described by Laughlin (1995) as having low concern for theorising (pre-data collection) and low concern for structured methodological frameworks. Laughlin (1995, p.80) asserts that low-low proponents do not place emphasis on seeking generalisations as they may simply ‘not be there’ to be *discovered*. In addition, the observer is viewed as being all important in the research process and would typically refrain from using highly structured methods. Laughlin (1995, p.83) views this low-low position as lacking the ability to learn from case-to-case and therefore risks having to ‘rediscover the wheel’ in each research setting.

The third and more favoured position adopted by Laughlin (1995) is that of the middle-middle approach. Proponents of middle-range thinking assert that generalisations are possible under some conditions and that the observer-researcher is an important part of the research process. Middle-range theorists suggest the aim of such framework ‘... is to design a methodology which sets “skeletal” rules for processes of discovery which still allows for variety and diversity in observational practice’ (Laughlin, 1995, p.81).

A middle-range approach uses theory to make sense of the empirical data, collected in a similar manner to a heuristic. The heuristic constructed in this study is derived from the work of Freire (as developed in Chapter Four) and is used both to pose questions and to analyse empirical data. Using a heuristic-based framework or theory to pose both questions and analyse empirics is congruent with middle-range thinking.

An interpretation of Freirian dialogics was selected as the theoretical basis for the DHF because it provides a critique of the system under which people live and illuminates constraining and enabling characteristics. In Freire’s (1983a) most prominent work, *Pedagogy of the Oppressed*, the specific mechanism of illiterate people not being eligible to vote is highlighted as a limiting situation, which Freire sought to change. In the context of my research, Freire (via the dialogic heuristic) provides the impetus for asking what might limit and enable a transition to a less unsustainable way of living, in an organisational context, with specific emphasis on organisational accounts.

The above question is predicated on change being required to move away from the current unsustainable situation, described in the opening section of Chapter One. More specifically, the SAM might be viewed as an accounting technology that may assist or detract from such a transformation to a sustainable way of living. Middle-range thinking is congruent with Freirian dialogics in respect of the issue of social change. Laughlin (1995) asserts that concern for change ranges from maintenance of the status quo through to more radical change. The potential to recognise transformative elements in a setting is an important consideration of this thesis because the pursuit of progressive change is inherent in sustainability (as outlined in Chapter One).

Freirian dialogics is also congruent with middle-range thinking because of the explicit encouragement Freire gave for his work to be *reinvented* for local settings (Freire, 1998a, p.75). Such an explicit statement suggests that Freire recognised theory as being limited to the range of social phenomena to which it can be applied. The social constructionist stance taken by Freire further reinforces this need for reinvention, because people will ascribe different meanings to their situations in different settings. In the context of this thesis, each application of the SAM is likely to yield varied responses, with law-like generalisations being unlikely. The use of a theory possessing skeletal properties is therefore better suited to my research objectives.

The construction of the DHF provides a skeletal theoretical framework which is a necessary but deficient component of the research design. To complete the research design, consideration must be given to the empirical material that will ‘flesh out’ the DHF. To aid the application of the DHF a descriptive organisational narrative must first be in place. Laughlin’s (1991) organisational change framework provides the basis (as outlined in Chapter Three) for constructing the descriptive organisational narrative and was selected for two reasons: first, it facilitated a descriptive organisational account of the activities, events, people and processes salient in the applications of the SAM; second, the change framework is ‘skeletal’ and allows the researcher to add complementary theoretical frameworks to focus on items of interest in the descriptive account. Using Laughlin’s (1991) change framework in conjunction with the DHF

provides the necessary descriptive organisation of empirics and enables the analysis and theorising of those empirics.

5.4 Methodological Basis

The research methodology can be considered the research strategy or plan of action that links the earlier theoretical considerations with the specific methods and tools employed to collect data (Crotty, 1998, p.7). As alluded to in the section above my thesis draws on heuristic inquiry to explore further the limiting and enabling potential of the SAM in relation to sustainability. The heuristic employed serves as the basis for questions in the case-study sites and, later, for analysing the data collected. An overview of the heuristic and other research instruments (detailed later in this chapter) is depicted below.

Figure 5.1: Diagrammatical Representation of Methodology and Methods Employed

The word *heuristic* derives from the Greek word, *heuriskein* (Arnold, 1994, p.720) and may be described as a tool ‘helping people to learn’ through an exploration of possibilities (Sinclair, 2003, p.682). The use of a heuristic is based on exploring divergent possibilities rather than converging rules and in this sense is not for making a final judgment or final evaluation. In the context of my thesis this exploration relates to how people experience the SAM and how these experiences are collectively manifested in organisational settings, which have enabling and limiting situations.

The DHF constructed in Chapter Four forms the basis for the heuristic tool that is used both to ask questions and analyse the experiences collected. Used in this manner, the DHF shares theoretical overlap with a middle-range approach, because both Freirian dialogic theory and empirical data are deemed necessary elements for understanding social phenomena. The skeletal construction of the DHF purposefully takes into account that the meanings given to the SAM and sustainability (via the empirical sites) have particular relevance to the transition to or from a more sustainable way of living.

The DHF was adapted from Freire’s work to construct a heuristic which can be accessible in a Western-centric organisation. Heuristic inquiry is complementary to the work of Freire, who uses the terms *banking* and *dialogic*, along with various pictures, as heuristic devices. Freire selected those heuristic devices because the political voice of peasants was restricted, due to their inability to read or write. Freire’s work at an abstract level has a number of synergies with the social accounting project (as detailed in Chapter Four). However, to take the exact same heuristic devices Freire used as an operational vehicle (that is, pictures of peasant related activities) is not logistically appropriate in my study of social accounting technologies in a Western-centric organisation.

Researchers who have drawn on heuristic inquiry suggest that within every person there is a creative and meaning making capacity (for example, Moustakas, 1990), and that these meanings should be made more visible (for example, Douglass and Moustakas, 1985) with heuristics. These two characteristics of heuristic inquiry lend themselves to making visible the limiting and enabling aspects of sustainability within an

organisational context. The culmination of how these threads are operationalised in the empirical site will now be discussed.

5.5 Research Methods

Research methods are the techniques or procedures used to gather and analyse data (Crotty, 1998). The DHF developed in Chapter Four and described above can also be considered a technique or tool in the collection and analysis of data. To apply the heuristic inquiry detailed above, rich and contextualised empirical material is needed. Case-study research is described as a suitable method to explore research questions that require rich and situated data (Flyvbjerg, 2004). Data from case-study research is described as compatible for use with heuristic tools, because law-like generalisations are less likely to be sought (Lincoln and Guba, 1985a).

Case-study inquiry investigates a few cases in-depth and typically constructs these from naturally occurring phenomena (Hammersley and Gomm, 2000, p.3). This type of research is defined by the interest in individual cases and not the method used (Stake, 2000, p.435). Case-studies are a useful research strategy in exploring complex, situated and problematic relationships (Stake, 2000, p.440), and can provide ‘thick’ or detailed description (Stake, 2000, p.439). A frequent criticism of case-study research is the lack of ability to generalise (Ruddin, 2006). The extent of such a criticism is dependent on what the reader deems ‘validity’ to be (Ruddin, 2006, p.799). This study does not draw on the case-study method to produce statistical inferences (consistent with a positivist approach). The aim of using a case-study approach in this thesis is to explore holistically and observe themes occurring within the empirical site (in conjunction with the skeletal theory highlighted in the previous sub-section). ‘Validity’, given the context of this thesis, is dependent on selecting a reasoned (and therefore defensible) theoretical basis, designing a theoretically consistent research instrument, as well as collecting and coding data in a ‘defendable’ manner (Johnson, 1997, p.282; Lincoln and Guba, 1985b, p.300). An important component of ensuring a ‘valid’ case-study is to provide the context in

which the researcher operates. Where positivist research makes significant effort to mitigate ‘bias’, social constructionist case-studies typically seek validity in highlighting the environment in which the researcher operates.

5.5.1 Case-study Project, Role and Funding

This PhD is part of a wider research project funded primarily by the Foundation for Research Science and Technology (FRST), a NZ Government research funding body and Landcare Research Ltd, a Crown Research Institute. The six-year FRST project focuses on the key issues faced by society in transitioning to a more sustainable way of living, namely ‘the understanding of sustainability, attitudes and behaviours shown by individuals and organisations’ (Gordon, 2003, p.4). The project aims to develop new ways of thinking, new tools, and processes in organisations and communities.

This PhD contributes to the overarching objective of the FRST project by exploring the development of new assessment tools in organisational settings. This is most closely aligned to Objective 2 of the project:

Objective 2: Sustainability assessment - integrating the sustainable development dimensions. What processes can be used by organisations seeking positive reinforcement, rather than accepting trade-offs, between the dimensions of sustainability? Our research will enable decision and policy makers to assess the impacts of alternative pathways on all dimensions of sustainable development (Gordon, 2003, p.5).

The second objective comprised of multiple SAM applications across four different case-study sites. Each SAM application had a sub-objectives leader, a Landcare Research team member and one PhD candidate. The sub-objectives leader identified the case-study site, made initial enquiries, attended the first meeting and periodically monitored the progress via both formalised reporting and informal discussion. The Landcare Research team member was responsible for collecting and inputting data into

the SAM. My role as a PhD candidate involved observing, reflecting on and documenting the process in which the SAM was applied in order to collect sufficient data to realise the required 'outputs'. The 'outputs' required of me as a researcher involved the submission of an organisational report, detailing findings of the case-study site, a submission to an academic journal, and submission of a PhD thesis. My formalised role facilitated access to the case studies and, in turn, people, on two levels.

The first level considered is access to the case-study sites. A research organisation already holding a pre-existing relationship with the organisation of study is appealing to a new researcher with limited contacts. Such an institution-to-institution relationship provides almost instant access to a range of people throughout the organisation and provides a greater ability to call on institutional support where issues of people making themselves available or confidentiality concerns are raised. This first level of access was made available, as Landcare Research (the lead research organisation) held relationships with both institutions where the case-study sites were situated. The established relationships became important when seeking interviews (see Appendices 5.1 to 5.3 inclusive) and confidential material. I was informed that such time and information would be made available because of the institutional agreement. At other times institutional obligations did not elicit the access I sought. In those circumstances I drew on previously established individual relationships to gain access to people's time and documents.

The second type of access relates to members of the research organisation and supervisors. The division of labour necessary in a collaborative research project means interaction is necessary, which provides the emerging researcher with insight into other projects being undertaken. This second type of access led me to a wide range of resources such as the Centre for Social and Environmental Accounting Research (CSEAR) library, UK faculty, and the Landcare Research library. These additional sources of support were invaluable for identifying case-study sites and subsequently for making sense of what I saw.

This second form of access facilitated conversation with project team members that was used in two ways; first, it generated lines of enquiry for more formalised settings; second it solidified my understanding of what was occurring within each SAM application. However, the material collected from other members of the project team was only considered to constitute ‘data’ once it had been recorded digitally or by way of notes in an interview setting. This process was established to remind people of what the data would be used for and was a means to satisfy VUW’s human ethics requirements.

5.5.2 Case-study Sites

The two case-study sites consisted of a New Zealand city council and a New Zealand social housing provider³¹. Although both case-study sites can be considered to fall within the government sector, the size, history, political context, purpose and motivations for allowing access all differ. A commonality between the two sites is the desire to engage (or at minimum, to be seen engaging) in sustainability thinking and assessment. A second commonality is that the lead research organisation, Landcare Research, had previously established relationships (formally and informally) with both case-study sites at an institutional level.

The Council was the first case-study site explored and covered a sixteen-month period. The provision of services to one of New Zealand’s major cities requires the consumption of significant resources, employs in excess of 2000 people, and undertakes various infrastructure and social service projects. The Council considers itself a leader in sustainability (as stated in ‘the Council’s’ 2000 sustainability vision, p.1) and has appointed a sustainability co-ordinator as one initiative towards realising this vision.

The motivation for the Council to trial the SAM can be considered from a position of regulation and how some employees of the Council perceive the role of the institution. The main regulatory influence arises from the Local Government Act (LGA 2002) under

³¹ A third case-study site of Environment Waikato Regional Council was initially explored as a potential site and several SAMs applied. However, the short duration of the engagement and contractual nature of the work undertaken by Landcare Research meant there was insufficient data. However, the third case-study site provided further context for the application of the SAMs discussed in this thesis.

which councils must promote the social, economic, environmental, and cultural well-being of their communities. The operationalisation of these activities must be reported, and more specifically describe 'any identified effects that any activity within the group of activities has had on the social, economic, environmental, or cultural well-being of the community' (LGA 2002, Schedule 10.3.15D). A secondary motivation is the belief expressed (in interviews) by a number of Council employees ranging in seniority, age, and parts of the Council, that the Council should perform a leadership role in sustainability.

The combination of an existing relationship between Landcare Research and the Council, the perception that the Council has a significant role to perform in regard to sustainability, and the recent introduction of legislation were all factors contributing to the site selection. In addition, the variety of activities undertaken by the Council led to agreement within the research team that the SAM had potential to be applied across a number of projects, people, and time-spans, and would provide depth and allow complexities to surface.

The second case-study site was a subsidiary of a New Zealand social housing provider, the Land Company. The subsidiary was formed to undertake a project to build in excess of 3,000 new houses. The subsidiary has a handful of permanent staff, consisting of a CEO, communications manager, development manager and support staff. However, on the initiation of building processes, the Land Company will indirectly employ hundreds of people and consume millions of dollars of resources.

The motivation for the Land Company to allow access for application of the SAM had much to do with the political climate existing at the central government level, according to the founding CEO. The land on which houses would be built was purchased from the New Zealand Defence Force through a one-off cash injection to the social housing provider. Since the new public management reforms of the 1980s there is rhetoric in parts of government that the Crown should not engage in activities that could adequately be carried out by private-sector organisations (Boston, Martin, Pallot and Walsh, 1996, pp.37-38). The development of housing was viewed by many in central government as

the domain of the private-sector and the commercial risk involved was considered unacceptable. A successful counter-argument was subsequently launched, stating that this development was about the New Zealand government demonstrating leadership in sustainability, according to the founding CEO. As such, the motivation to apply the SAM was seen by the founding Land Company CEO and the Landcare Research objectives leader as a favourable undertaking for the Land Company and Landcare Research, respectively.

5.5.3 Data Collection

Case-study data may come from a number of sources, including documentation, archival records, interviews, direct observations, participant observation and physical artefacts (Creswell, 1998, pp.61-62). The primary source of data collected in this study comes from interviewing people who participated in the application of the SAM. These interviews were conducted on an individual and group basis and were at times supplemented with documents and direct observations. Interviewing is among the most common and powerful ways we try to understand human-beings (Fontana and Frey, 2000, p.645). However, asking research questions directly would not always be readily understood by interviewees. To mitigate the above issue, a research instrument (Appendix 5.6) was developed to translate the research questions into ones which could readily be answered in a field setting.

The research instrument was based on the dialogic themes developed in Chapter Four and was intended as a ‘conversation starter’. The instrument was initially tested in an exploratory interview with the research team dividing into three separate roles: transcriber, question asker, and observer. Immediately after the exploratory interview the research team met to discuss key themes and how well the research instrument had met its desired objectives. The process of dividing the research team up for the initial interview provided an opportunity to discuss the effectiveness of the research instrument and to provide a preliminary assessment of the data collected. Where possible this process was repeated in later interviews with other members of the research team.

All forty-seven interviews³² were based on the research instrument, which was used in a semi-structured manner. While the sole use of pre-determined questions provided a good platform, there was a need to have some space to avoid the interview becoming a 'talking questionnaire'. The less structured the interview, the greater the richness and breadth of data (Fontana, and Frey, 2000, p.652). In the majority of situations, interviewees raised the most informative and conflict-laden aspects only after being asked 'is there anything else you would like to raise?'.

Decisions as to who to interview were largely based on who had contact with the SAM application and a willingness to participate. In all applications of the SAM, the project manager, researcher, and senior managers were represented in interviews. Where possible, a number of team members were interviewed. Access to operational managers was straightforward because I had the most contact with these individuals. Participation and access can also be viewed as having varying levels. For example, team managers had to be seen to make themselves available because there appeared to be a powerful (top-down) organisational norm that suggested formal agreements with outside organisations, such as Landcare Research, must be seen to be supported by management.

The 'willingness' or organisational norm, highlighted above, was not exercised at the team member level, and necessitated invitations to lunch (in order to conduct the interview), and other approaches were drawn on more frequently. I endeavoured to interview as many people as possible both inside the physical surroundings of their organisation and then later away from the office in a café or pub. Informal non-workplace surroundings yielded less guarded responses and contained more sensitive and confidential information. No interviewees declined, although some interviewees

³² One interview with the Council CEO was conducted by Landcare Research due to scheduling difficulties. The research instrument was discussed with the lead interviewer prior to the interview taking place.

were challenged to ‘find time’³³. No other pattern was noted for those interviewees who initially cited ‘lack of time to meet’ as a reason.

The above measures to obtain a range of interviewees in different organisational positions were an important aspect of my study on two levels. First, initial interviews suggested that the responses differed, particularly among senior managers and operational managers. Overall, I interviewed as many people as possible in both case-study sites, which is detailed (time-frame and positions of people interviewed) in Appendices 5.1 to 5.3 inclusive. Interviews ranged from twenty minutes to two hours in duration, with most averaging approximately forty minutes. All interviewees were offered the opportunity to read the notes and transcript of their interview, and in two instances this occurred.

Group interviews and meetings were led by the Landcare Research team member and often responded to questions within the research instrument (Appendix 5.6). Questions that had not been asked or that required elaboration of a particular line of enquiry, led me to ask questions and take a more active role. This more active role sometimes meant organising meetings, informal coffees and one-to-one interviews. This model of asking questions prevented repetitive questioning and facilitated space to address the data requirements of the research instrument. In forty-six of the interviews and meetings I made my own notes. These notes were clearly delineated from general project use as a contractual clause as part of the research agreement made reference to all empirical data collected by me as property of ‘the PhD candidate’.

The initial plan to tape and later transcribe was not possible due to the discomfort of some interviewees. In the early stages of the SAM applications all participants were willing to sign the ethical approval forms (Appendices 5.4 and 5.5) and consented to being taped. However, in a number of the applications, interviewees asked not to be taped. In some instances the mere presence of the dictaphone appeared to limit

³³ It was difficult to know if interviewees were challenged to make time for an interview or were uncomfortable about giving an interview and seeking an acceptable reason not to participate. In a number of situations I sensed it was the latter; making the interview off-site (preferably over a meal) and unrecorded assisted data collection efforts.

conversation and was voluntarily turned off. In situations where the dictaphone was turned off I made notes of the most significant aspects of the interview both during and after. No pattern was apparent for people who were uncomfortable with the dictaphone from the beginning of the research project. However, a pattern was noted with people who were comfortable with being recorded but then changed their mind. In such instances these people were senior managers who were in conflict situations.

To supplement the interview data, direct observations and document analysis were undertaken. Observations can provide a valuable contextual understanding of the surroundings in which events occur (Patton, 1990). I used the direct observation method rather than the participant-observation method and therefore performed a less active role in the construction and application of the SAM. A key reason for this (largely) observational role was my fresh introduction to the research process and a poorly formed normative position as to how social accounting technologies might be applied.

Observations provided greater depth to the line of questioning that was to be undertaken. For example, it was noted on each site visit that the large sustainability poster in the main foyer of the Council building changed. The prominent place of display *could* suggest that the Council formally supported sustainability issues and that visibility of ongoing sustainability initiatives was desired. In the Land Company offices large posters of the Sustainability Framework dominated the walls of the CEO's office. Large images, depicting various attributes of the eco-system and happy looking people, suggested how the Land Company might like to be viewed.

During the interview, observations might include stress, intonation, and hesitation in a conversation (Scollon, 2004, pp.166-171). These were important observations to notice as the removal of the dictaphone at such a point allowed participants to speak more freely. Observations differed as interview locations changed and I had to be aware of constraints that some people appeared to be operating under. For example, in two cases interviewees would start sentences and then stop abruptly if others walked by. In these situations the interview was changed to an off-site location. Observations from the above example provided an early warning that interviewee responses could be guarded.

In addition to observations, document analysis provided a greater context to the study (Lincoln and Guba, 1985a). Documents may act as stimuli for interview questions, can be collected with minimal cost, and are non-obtrusive (Hodder, 2000). This study made use of five key document sources: legislation, government reports, case-study organisation-issued material relating to sustainability, newspaper information related to sustainability assessment, and sustainability focused material from the accounting profession and standard setting authorities. The public nature of most documents collected was advantageous when accessibility was considered. Where non-public documents were used, informed consent was obtained. In some site visits to the Council, confidential or embargoed material was obtained. This was marked as confidential and stored securely until approval to use it was attained or the embargo lifted.

The combination of empirical material collected as part of a collaborative research project and the data collection choices outlined above provides a platform from which choices of analysis can now be made explicit.

5.5.4 Coding and Analysis

The process of coding took place on three broad levels. The first level involved writing a chronological descriptive account of each SAM application (including attempted applications). The processes of conducting, transcribing, and sorting data into a chronological account helped to provide a base level of familiarity necessary for ‘immersion’ and subsequent coding (O’Dwyer, 2004b). This base level of familiarity can also be considered the first level of data reduction as long pauses, interview conversation starters, and background conversations were removed.

The second level of coding made use of a coding research instrument (Appendix 5.7) to construct a narrative of organisational (non)change. The research instrument drew on organisational change literature reviewed in Chapter Three to highlight significant events, discussions, incidents and symbolism in each of the SAM applications. The categories for the instrument began with four broad codes: the type and nature of

organisational disturbance(s); the interpretative schema; design archetype; and sub-systems. These categories allowed me to formulate smaller categories based on findings from the interview transcripts, the chronological descriptive account, and notes I had made throughout the data collection process. An example of a smaller disturbance category is *legislation*. Such an event or discussion was then labelled '*Dis/Reg*' in the document it appeared.

In a few instances the categories or sub-categories could be applied more than once, and in such situations were given double-codes. On coding the data, using the coding instrument (Appendix 5.7), the categories and supporting material were written onto memo cards and cross-referenced to the source data. Each memo card contained a summary of the discussion or incident or symbolism and a supporting citation, most frequently a quotation from an interviewee or behavioural description. This process was repeated until no new themes arose and the selected categories were supported by multiple observations. Saturation of each of the categories was met when subsequent coding merely reinforced earlier observations without adding any new dimensions (Glaser and Strauss, 1967; Parker, 2007; Silverman, 2000). Each memo card was cross-indexed again to a control register (Appendices 5.9 and 5.10) which summarised the frequency of each category and allowed for multi-directional tracing of source documents, memo cards, and the applied codes (Denzin, 1978; Fox-Wolfgramm, 1997; Parker and Roffey, 1997).

The memo cards were then sorted into piles, where cards which said the same thing or were a slight variation were combined. Each pile of cards then provided the basis for the sections in Chapters Six and Seven. When written as a whole, the chapter provides a narrative of the aspects of organisational change made prominent in the application of the SAM.

The third level of coding draws on the DHF developed in Chapter Four to further develop themes and insights gained from the organisational narrative. This coding uses a dialogic research instrument (Appendix 5.8) to look for the eight monologic and dialogic themes within the organisational narrative, interview transcripts and documents. In a

similar manner to the above coding practice of using the organisational change categories, the discussions or incidents or symbolism of interest were coded, written onto memo cards and cross-indexed to a control register (Appendix 5.11). The coding largely took the same form of the eight categories of the dialogic research instrument, except for two cases. The first is the *purpose* category. This category became very large and was later divided into *monologic/dialogic purpose* and again into *reflection/problematisation/action* sub-categories. Overall, the dialogic analysis was considered less descriptive in nature compared with the organisational narrative, which enabled the insights from the two case-study sites to be explored under one empirical chapter.

The decisions made in the light of epistemological, theoretical, methodological and method choices imposed simultaneously non-choices and limitations. I now explore what I consider the most significant limitations of the above research design choices.

5.6 Research Design Limitations

In outlining my research design it is important to reflect on the conceptual limitations imposed. This reflection gives rise to questions about the two theoretical frames I have drawn on. First, in drawing on Laughlin's (1991) framework I have implicitly accepted some of the tenets of middle-range theorists. In doing so, I am mindful that the use of middle-range theorising, coupled with more critical frames, has drawn critique from some accounting scholars. Lowe (2004) questions if being in 'the middle' (for example, Laughlin, 1991) is any better than being on 'the end' (for example, Tinker et al., 1991) and asserts that middle-range theorists have not provided a convincing argument³⁴. As argued earlier in this chapter, the use of heuristic inquiry, Freirian dialogic theory and

³⁴ Lowe's (2004) critique has in turn drawn criticism from a number of authors. Two examples are Quattrone (2004) and Chua (2004). Quattrone (2004, p.243) suggests that Lowe's (2004) questioning is in itself problematic because its empiricist origins conflict with his constructivist writings. Furthermore, Chua (2004) suggests that Lowes (2004) arguments are contradictory in nature and difficult to make sense of.

middle-range theory can be considered complementary to one another and suitable for exploring the research question. The invitation by Freire to reinvent his work, his inference that social phenomena may only be understood over a limited theoretical range, and the skeletal properties of heuristic devices suggest that middle-range theorising is a suitable position to adopt in the course of this study.

More specific criticism has been noted by Chua (2004), who questions the use of critical theory and middle-range frameworks. However, it is the specific use of Habermas in Laughlin's work, not critical frameworks per se, that Chua draws exception to: 'I am unsure how Habermas's theories of 'universal pragmatics' and knowledge-constitutive lead down one middle path' (p.259). In such an instance this critique does not appear to invalidate my use of a Freirian inspired lens.

In considering the second theorist I have drawn on, three questions arise: are some research methods more dialogic than others; should my research be self-contained as dialogic, or could it be one part of a dialogic whole; and is my work in keeping with the spirit of Paulo Freire? These questions assist in exploring conceptually the dialogic limitations of my study and are complemented by discussion of the actual limitations experienced in Chapter Nine. I discuss each question in turn.

First, are some methods more dialogic than others? Freire recognised the problem of people following his methods in a manner that is in conflict with the overall dialogic project, and encouraged people to adapt his methods to the local context to create something new (Freire 1997, p.308). Social accounting researchers have echoed Freire, and argued that greater attention be given to *how* a particular activity is undertaken, rather than the activity itself (Thomson and Bebbington, 2004). *How* a particular method might be operationalised in the research setting may therefore be more important than the method itself. Freirian dialogics suggests that one must find 'the cracks' in the system and exploit these (Aronowitz and Giroux, 1985, p.106). Rather than following Freire's methods according to a prescribed format, it is congruence with the motivation and overarching objective which is of utmost importance.

The overarching objective of this thesis is to interrogate limiting and enabling aspects of accounting technologies, with specific regard to organisational change. The reason for such exploration is rooted in the idea of current social and environmental harms being unacceptable. The purpose of seeking change in order to address social and environmental harms is congruent with Freire (outlined in Chapter Four). In the context of this study, the methods must differ from those of Freire because the specific cultural and historical contexts differ. However, such difference does not mean my work is devoid of action or decoupled from social change. In the same way there are examples of critical research that seek social change, using methods more commonly associated with positivism (for example, see Shaoul, 2005³⁵). Research can serve to illuminate enabling or limiting characteristics and change, using a variety of methods.

Second, does my research have to be self-contained as dialogic? The response to such a question is dependent on the time-frame on which this research is judged, and what constitutes Freirian dialogics. Even a cursory glance at the work of Freire suggests that he spent a number of years developing, thinking, and reading. To evaluate any of those actions in isolation is to prematurely judge the whole. Freire advocates social change with careful thought. For example, Freire (1998a, p.74) elaborates on how change may be motivated by a number of causes and must be actioned in a manner that is congruent with the spirit of a normative position which the change agent intends.

In the current study, one SAM application, one interview and one lecture on my research would not necessarily constitute a dialogic act. However, combined with a wider body of actions, such as teaching programmes, the dialogic nature becomes more apparent. This thesis has provided space for me to develop my thoughts in regard to change and how this might best be operationalised. For example, I now have a more nuanced view into what might be considered a limiting feature leading to non-change at the organisational level. Prior to undertaking this research I had struggled to engage with research from the critical accounting school.

³⁵ See Crotty, 1998, Chapter One, for further discussion on how research methods do not have a one-to-one relationship with epistemological perspectives.

Third, is my work in keeping with the spirit of Paulo Freire? It is important to recognise that there are many varying interpretations of Freire and of dialogics. Roberts (2000) describes what he considers dubious interpretations of Freirian work. The most common problem arises from commentators not being widely read in Freire's work and citing only his more famous works (Roberts, 2000, p.16). The DHF draws heavily on my interpretation of Freire's work and, as a result, is subject to potentially dubious interpretation. The process of constructing an evaluative DHF makes explicit how I interpret Freire's work and, in turn, evaluate applications of the SAM. The process of making my interpretation of Freirian dialogics explicit can be considered an important element of reflexivity, as such a process has been far from linear. In responding to the interpretation question of my work it is necessary to be clear about my position and, in doing so, revisit prominent threads of Freire's work.

At the broadest level, Freire's work seeks to change the way we live because social (and, in his later works, environmental) harm is deemed unacceptable. In spite of this desire for change being congruent with my study, a number of differences exist, in particular, *how* change is sought. In my study I have chosen to work in a vastly different context from that of Freire, that is, within the organisation. I have selected this as the context to work in because I believe I can make the greatest level of impact, given the level of influence exerted by these dominant institutions of our time. I have also chosen the organisational site for accessibility reasons. Freire noted (Freire, 1983a, p.42) that any context was fraught with challenges, as working with oppressors paradoxically also means working with the oppressed (as Freire noted, those who are committed to the act of oppression are also oppressed themselves). In spite of the change in context, and the prospect of contextual challenges, the underlying issue of change remains constant. In summary, my work is in keeping with the interpretation of Freirian dialogics adopted in this thesis. Further discussion and reflection of the limitations experienced are provided after exploration of the empirical sites.

5.7 Concluding Comments

This chapter has highlighted the choices made in exploring how the SAM might facilitate more critically reflective organisational accounts and, in doing so, could enable a transition to a less unsustainable way of living. In particular, details of the epistemological, theoretical, and methodological approaches provide a greater context in which to understand the research plan (method). The development of the DHF and subsequent research instruments provide a basis for making explicit the above choices and for operationalising them with a degree of epistemological, methodological and method congruence. The above decisions are not without limitations, and three salient aspects, which question the dialogic congruence, linking Freire's work to the specific case-study sites, are reflected on with a degree of caution. The following three chapters will now action this research plan, thereby signalling the beginning of the empirical section of my thesis.

Chapter Six: Exploring The SAM Within An Organisational Context—The Council

6.1 Introduction

This chapter is the first of three which explore empirically the application and effectiveness of SAMs within an organisational context. In this chapter, six different SAM applications will be tracked in a New Zealand city council (the Council) and a descriptive narrative will explain that the SAM did not result in ‘real’ or ‘morphogenetic’ change. In constructing this narrative, Laughlin’s (1991) model of organisational change will be used to detail the disturbances, assemblages, and schemas implicated in the construction and implementation of the SAM. This narrative (in conjunction with Chapter Seven) will provide the basis for evaluating the effectiveness of SAMs using the DHF in Chapter Eight.

In the course of applying the SAM, two disturbances and three distinct phases were noted, which provide the basis for the chapter’s structure. The chapter begins by describing a disturbance in the form of a legislative change, which provided the impetus for the Council’s decision to apply the SAM. The first phase of the SAM applications involved an eco-library (applied retrospectively) and a community garden (applied in the context of a decision made in real-time). Following a secondary disturbance (the appointment of a new CEO), the third and fourth SAMs were developed for the construction of a civic building and the evaluation of waste disposal options, respectively. The final two SAM applications occurred several months later under an increasingly managed environment, involving a transport and social housing project. I conclude the chapter by discussing the assemblages that featured most prominently in the Council case-study site.

6.2 Disturbance

An organisation is described in Chapter Three as existing in a state of equilibrium until sufficient resistance, internally or externally, results in a change to an organisation's current dynamic or archetype (Greenwood and Hinings, 1988; Laughlin, 1991). Such resistance may arise with an event or assembly of components challenging an organisation's archetype and is referred to as a disturbance (Laughlin, 1991). Legislative changes are considered to be a potential disturbance (Bebbington, 2007a, p.227) and, in the case of the Council, provided the impetus to apply the SAM.

The introduction of new legislation, the Local Government Act (LGA, 2002), required New Zealand councils to maintain and enhance the 'social, environmental, economic and cultural wellbeing of their communities' (LGA, 2002 schedule 10 preamble). The legislation required 'any identified effects that any activity ...[that] has had [an effect] on the social, economic, environmental or cultural well-being of the community' to be embedded into decision-making processes and reported (LGA, 2002, Schedule 10.3.15D)³⁶³⁷. The term 'well-being' is used throughout the legislation and is described by Boston (2006) as having four main aspects:

- an economic aspect, concerning the capacity of the economy to generate employment and wealth to provide the perquisites for social well-being, such as health services;
- a social aspect, concerning the ability of individuals, families, hapu³⁸ and communities to set goals and achieve them, in such areas as education, health, community networks and associations, financial and personal security, rights and freedoms, and equity;

³⁶ In addition to the reporting changes required under the new Act, increased emphasis was placed on community participation and planning processes. How community participation and planning processes might be achieved was at the discretion of each council and is further explored by tracking each of the SAM applications.

³⁷ Inclusion of cultural well-being items were included under the social category of the SAM.

³⁸ Hapu is a Maori term for a small family group or sub-tribe.

- an environmental aspect, concerning the capacity of the natural environment to support, in a sustainable way, the activities that constitute community life; and
- a cultural aspect, concerning beliefs, values, customs, behaviours and identities, reflected in language, stories, experiences, visual and performing arts, ceremonies and heritage (Boston, 2006, p.3).

This new legislation also required councils to detail long-term council community plans in an attempt to embed long-term and sustainable thinking into the Council's planning processes. Underpinning the consultation plans are more detailed annual plans that provide a means for cascading the high-level objectives of the Act into the Council's archetype and in turn sub-systems. This cascading effect within the Council planning process differed from earlier legislation that placed greater emphasis on councils delivering services as directed by central government. Boston (2006, p.13) describes the legislation as giving greater autonomy to local government with a focus on addressing *community* expectations and meeting *local* needs.

In response to demands of the LGA (2002) the SAM was identified as a tool the Council would trial for a range of projects in partnership with Landcare Research, a Crown Research Institute.³⁹ It was envisaged that the SAM would provide a link between the programme of work detailed in the annual plan and the individual project level. One operational manager believed the SAM was a way of signalling compliance with the new legislation, stating that:

...in legal terms we can say, this is the rationale and process we have gone through... and here is our SAM... [M.6.16.06.05].⁴⁰

³⁹ Crown Research Institutes (CRIs) were formed in 1992 and are considered to be 'science research businesses' owned by the NZ Government. CRIs replaced the Department of Scientific and Industrial Research.

⁴⁰ Interviews were conducted on a basis of anonymity that prevented the direct use of names. To distinguish between interviewees I use a coding system, using a mixture of the interviewees name and the date they were interviewed.

This chapter will track the subsequent SAM applications and, in doing so, will explore the (non) cascading effect of this legislative disturbance.

6.3 Library and Community Garden SAM Applications

The library and community garden SAMs can be considered first-phase applications, and were both positively received by the Council staff involved in their construction. The first SAM was applied on a retrospective basis to an eco-library because the sustainability focus of the project appeared to lend itself to a sustainability assessment, and there was a desire from the sustainability co-ordinator to explore within the Council both the technical feasibility and political receptiveness⁴¹ of the model. The second SAM was applied on a real-time basis to a community garden which was due to be sold under a review of surplus land. The first SAM application remained largely within a project team, consisting of a sustainability co-ordinator, architects, engineers, and Landcare Research staff. In contrast, the community gardens SAM attracted much more attention as it was circulated among elected representatives of the Council.

6.3.1 Eco-library SAM Application

Informal discussions about the SAM with those on the eco-library project team provided an overwhelming opinion that the eco-friendly nature design of the library would be recognised both in the application of the SAM and more broadly among users of the library [M.16.06.05]. Initially information was collected through a series of workshops and presented as a draft, as depicted below in Figure 6.1. This figure depicts the net differences between the eco-library and standard library SAMs.

⁴¹ The term ‘political receptiveness’ appeared to be judged against the criteria of acceptance from those involved in the construction of the SAM and the subsequent presentation to elected representatives. If the SAM were constructed and presented without significant objection then it may be considered acceptable.

Figure 6.1: Eco-library SAM Profile

The SAM profile (Figure 6.1) went through several iterative drafts as more detailed information was gathered and discussed. In these discussions two broad themes were noted [P.16.06.05] and are evident in the SAM profile. First, discussion concerning the environmental aspect of the library dominated the first set of meetings. The library was described as an eco-library by a number of the construction team members and in project documentation. However, when the draft SAM was presented the most influential element in the library SAM was the social benefit gained from borrowing books. The presentation of the SAM profile had shifted the environmental focus to a second theme of anticipated social benefits of the project such as the lending of books.

Two additional salient features of the SAM profile included employment and money paid to the building contractors, falling under the social and economic capital categories respectively. These features, combined with the social benefit of lending books were significantly larger when monetised than any (net) environmental impact⁴². The small environmental difference between a standard build library and eco-library (when

⁴² I did not attend all the meetings for this first SAM application and am unable to comment fully on the process of monetisation (and the decision to monetise). However, discussion arose in the following application and this may give some insight as to the type of conversations that occurred at earlier meetings.

pictorially represented) suggests that setting the scale and items considered under each capital category need to be carefully considered. It was mooted that if the environmental aspects of an eco-library were considered against a standard library build in isolation of the other capital categories then the differences would be much greater [P.25.10.05].

Throughout the above discussions the relationship between Landcare Research staff and members of the project team was described by several staff as productive and friendly [M.16.06.05/P.16.06.05] with no formal contract apparent for services between the two organisations. The relationship between the two organisations was mediated by the Council's sustainability coordinator and the Landcare Research programme manager. In summary, the application of the first SAM was deemed 'technically feasible'⁴³ [P.16.06.05] by the library project team, and further it was concluded that such a tool would be useful when applied in real-time to assist with project decision-making. It was decided by the project team that the SAM could be applied on a larger project, and the decision pending on the community gardens appeared to be one in which a broader analysis was necessary so as to place adequate weighting on social and environmental aspects.

6.3.2 Community Garden SAM Application

The community garden was mooted for sale after the property group in the Council identified it as an economic loss, using Cost Benefit Analysis (CBA). The CBA analysis had considered the cost of employing Council staff to maintain the gardens and the positive cash flow that could be obtained from disposing of the land. An operations manager, involved in the first application of the SAM, suggested that the project evaluation from the property unit approached:

...the garden as just a place where there [are] lots of flies and composting going on and the occasional bit of tomato or carrot has been grown here but [questioned] what does it add? [M. 28.10.05].

⁴³ The term 'technically feasible' did not appear to be judged against any explicit criteria, rather it was used in a general pragmatic sense (that is, the SAM was constructed and implemented without any apparent problems).

In an initial meeting with the sustainability co-ordinator, an operational manager, and two members of the research team it was thought the SAM could highlight items not considered under the property unit's evaluation. In making the criteria tangible, the sustainability co-ordinator hoped that 'sustainability elements' might be easier to measure and to present and, in doing so, would make them less susceptible to being ignored. He stated:

It [SAM] will bring it [sustainability] onto the balance sheet or bring it in a way that can be assessed, discussed and looked at [P.3.25.01.05].

The capacity to raise social and environmental aspects not previously considered under the property unit's evaluation relied on having a 'credible' assessment mechanism. Having a sustainability assessment which contained a quantification of associated impacts was viewed by the project team as providing credibility and was a crucial element of the decision-making process (design archetype). The sustainability co-ordinator, an engineer, and an architect believed that numbers provided additional credibility, and given that the property unit was using numbers to defend the proposal to sell the land, then any counter argument should involve the use of numbers. The sustainability co-ordinator captured the sentiment of quantification by stating '... that is how people make up their mind[s,] looking at numbers' [C.2/3.16.06.04].

The process of quantifying elements for inclusion in the SAM involved the use of a report produced by PricewaterhouseCoopers (PwC) for Landcare Research. This report contained data from Statistics New Zealand, The Treasury, and several Ministries to form the weightings of each item included in the SAM. While items for inclusion in each of the SAMs were discussed at length, the relevant weighting for each item received less attention. Questions about the weightings in the SAM applications resulted typically in mentioning the PwC report, but no detailed discussion was evident in the course of meetings attended or interviews conducted. These questions and associated

discussion typically focused on *how* monetisation occurred, as opposed to whether monetisation *should* occur or whether it would be commensurate with sustainability.

One discussion arising in the course of constructing the community gardens SAM did explore the issue of quantification beyond the PwC report, and questioned whether sustainability elements should be monetised. In this conversation the concept of ‘bubble items’ was raised (see Chapter Three for fuller discussion on bubble items). While the impacts of the community garden could be separated and measured it was thought there was also something worthwhile about viewing the garden as a whole. For example, the garden might be viewed as a testament to community spirit. However, in spite of the difficulty in deciding whether to monetise some elements (particularly those under the social capital category) no bubble items were included because the project team thought the benefit of the garden as a whole was captured in the written report which accompanied the SAM profile. According to the sustainability co-ordinator, this non-inclusion resulted in more attention being paid to information contained in the SAM and less on the written material when the final report was presented outside the project team [P.N.25.01.05.].

The above report detailing the SAM was combined with the property unit’s evaluation, and provided the basis for elected representatives of the Council to make a decision on whether to keep or dispose of the land. The SAM drew attention to many of the project impacts that had previously been given little or no attention, other than to suggest the garden was a cost:

Nobody was going into bat for the community garden effectively, so the SAM was applied to it and it said ‘no’, actually the community garden has some costs *and* benefits [M.1.16.06.05].

The community garden SAM profile (Figure 6.2) distributed to the elected representatives highlighted the social benefit and the creation of jobs as two dominant and *positive* aspects. The social benefit category included items not considered in the

property unit's CBA, such as the reduction in health costs (for example, cost of obesity, mental-health, etc), educational benefit, the value of after-school holiday programmes, culture and identity, and crime prevention. The jobs category included the multiplier effects from Council spending and viewed this as a positive impact (because the SAM framed the project from a societal rather than entity-specific perspective).

Figure 6.2: Community Garden SAM Profile

The combination of the SAM and evaluation provided by the property unit was '...something the elected representatives warmed to and made a decision on'. [P.1.11.05.05]. After debate on the social benefits derived from having a community garden a decision was made by the elected representatives to retain the garden. The challenge from the property unit to sell the land was overshadowed by the social benefits highlighted, and those in the Council thought that the emergence of this aspect from applying the SAM was crucial to prevent the garden being sold-off to private housing developers.

Two key advantages were identified in using the SAM, according to the operational staff interviewed. First, the thinking process required in order to complete the SAM

highlighted the less visible benefits of the garden. In drawing attention to less visible benefits, the decision to sell the garden had been scrutinised by an alternative decision-making model. This scrutiny involved the interpretative schema being challenged by the SAM which raised questions that would not normally have been asked or explored in a standard project evaluation (for example, the cost of mental-health programmes). Second, the ability to quantify sustainability aspects in monetary terms had given greater visibility to what was being traded-off, and had fitted with the Council's metarule that credible project evaluations were quantified. The SAM was considered useful:

...because you could clearly say these are our assumptions, and this is our conclusion that it is worth this much, and that did change the decision [M.3.28.10.05].

This view was also echoed by the sustainability co-ordinator:

What you have done with the SAM is said 'no', it [community garden] does have a value and this is the value of it, and you really did turn around the decision. It really would have been developed [privately] if it had not been put through a SAM because there is no other way of defending it [M. 28.10.05].

A senior member of LCR, who sat in on the development of two SAMs, considered the process had changed how project members conceptualised sustainability in relation to their projects. The SAM result itself was not considered important in this process so long as it provided a frame of reference that facilitated debate about sustainability in relation to the project elements.

At that stage it almost does not matter what the SAM result is, it is just the process of people debating what should be in and what should not be... which is the important thing... but at the end you have got people with a lot better

understanding of what the issues are and what sustainability is about [G.5.11.05.05].

In the first real-time application to a project the SAM had challenged the existing archetype of decision-making. This challenge carried greater significance when elected representatives declared that the SAM should be used in other projects undertaken in the Council, and senior management would endorse carrying out more applications of SAM. A senior manager commented that tools such as the SAM were important if the Council were to embed sustainability into everyday activities, because:

... if we use traditional accounting techniques then we will always get the answer of it costing more because we are using the wrong tools and the wrong time-frame... [I.2.28.10.05].

However, the optimism voiced by members of earlier project teams about the SAM applications was about to be challenged by the appointment of a new CEO, who had different conceptions of sustainability.

6.4 Appointment Disturbance

The appointment of a new CEO, although positively anticipated by a number of operational staff, can be considered a secondary, internal disturbance. The sustainability co-ordinator considered the appointment significant because a sustainable development objective was included in the CEO's job description, which he believed was a cascading effect of the legislative disturbance. This inclusion led to the expectation that the newly trialed SAM would receive additional support from a senior position within the Council.

Soon after the appointment of the CEO a meeting was held to show how the Council would be restructured to embody 'long-term thinking' now required of local government. The restructure presented by the CEO was described as being of high importance 'because that is where sustainable development begins' [M.20.07.05]. Each of the new roles mirrored the new LGA as they focused around each of the *well-beings* (social, economic, environmental, and cultural).

A key lever in the restructure was to use the accounting and Human Resources (HR) processes (design archetypes) to achieve the outcomes sought. The accounting changes involved reducing budgets of activities the CEO deemed irrelevant in pursuit of the LGA outcomes and new structure. The new HR process involved the development of new competencies based on the level of each employee in the Council who directly contributed to the 'Long Term Council Community Plan' (introduced via the LGA). The changes announced during a meeting with staff cited the new LGA as a reason for the restructure. However, in a subsequent interview, the CEO supplemented this description of the restructure by highlighting the need for improved efficiency for local businesses. The CEO described the restructure as one that was challenged by operational staff:

They can sabotage it [restructure] in small [ways]... when I first put it [restructure plans] in there was huge resistance so I just went and took their budgets... I want more flexibility in terms of responsiveness to the business community [M.4.20.07.05].

One of the budgets withdrawn had funded the sustainability co-ordinator's salary. The decision was made by the CEO not to replace the sustainability co-ordinator because sustainability was considered too great a burden for any one person and the CEO considered this one reason why sustainable development had been so slow to progress in the Council [I.28.10.05]. Instead, the CEO believed sustainability should be part of the roles of all employees and championed by more senior members of staff [I.28.10.05]. A senior manager interviewed highlighted that two Council directors had been tasked with sustainability and it was also included in a number of people's job descriptions. The

senior manager expressed concern that this might create a ‘box ticking mentality’ to sustainability, and that this needed to be monitored and discussed more thoroughly with the Council’s most senior managers [I.28.10.05].

The decision to discontinue funding a sustainability co-ordinator because of ‘the burden’ placed on any one individual had parallels with the argument on the Council’s development of a sustainable development policy [P.11.05.05]. Earlier discussion with operational staff prior to the arrival of the CEO had indicated that development of a sustainable development policy would be considered on the arrival of the new CEO. However, the CEO made a decision there should be no specific sustainable development policy. The reasoning was that sustainability should be embedded into all the Council’s policies. The CEO stated:

We deliberately don’t have a specific policy around SD... rather we embed it [M.5.20.07.05].

Having noted this aspiration, no evidence was found supporting this claim at the time of writing. The Council’s CEO had a significant effect on the organisation because of the resources controlled by her office and her ability to influence the dominant interpretative schema of the organisation. The CEO recognised there were a number of approaches to sustainable development, but appeared to adopt an economic focus when it came to operationalise them in the Council. This perspective was illustrated by the CEO’s statement that:

...everybody might want clean air and everything to be green but this was of no overall benefit if people were economically poor [M.27.07.05].

The CEO provided a nuanced view of sustainability, which considered issues of intergenerational equity, the need for civic spaces, energy and waste impacts, operational and strategic demands for sustainability, but emphasised that trade-offs

would occur. The trade-offs made appeared to result in an economic focus which was further demonstrated with the example of a sustainable civic building⁴⁴, witnessed in a site visit to another council. The CEO described the new sustainable Civic Building as completely unsatisfactory because it looked like a gymbag [M.27.07.05]. The reasoning was that an unattractive civic building would struggle to attract ‘other businesses’ around it [M.27.07.05]. Two important considerations can be noted here. First, the CEO privileged aesthetic values above any sustainability features in the building (that is, savings to water, energy, etc) because of the impact this might have on other businesses. Second, the CEO’s reference to *other* businesses suggests the Council was also viewed as a business. The suggestion that the Council was *another business* was in direct contrast to the outgoing CEO, who viewed the Council as a *special business* which might adopt some corporate practices, but existed to serve the community rather than only be economically well managed [P.11.05.05].

This view of sustainability adopted by the CEO disappointed the same operational staff who had initially been enthusiastic about her arrival. The legislative disturbance which had created a perceived need for tools such as the SAM became undermined by the removal of the sustainability co-ordinator’s budget and the diffusion of sustainability responsibilities throughout the Council. A distinct split developed between the views of operational staff and senior management about what ‘sustainability’ was and the mechanisms (design archetype) necessary to embed it in the Council. While consensus existed at the level of the interpretative schema that sustainability was something to be pursued, a split in organisational mechanisms signalled what Laughlin (1991) termed a fractured design archetype (as discussed in Chapter Three). Fractures in the design archetype highlight fertile positions from which to launch further change, or in this case, to identify how change was not realised.

⁴⁴ This was particularly relevant, given the Council’s intention to undertake design and construction of a new civic building in the near future

6.5 Fracture

The application of two SAMs, along with the appointment of the new CEO, had raised tensions about how sustainability was viewed and subsequently operationalised in the Council. The difference in how sustainability was perceived was identified by a senior researcher as having three main elements. The researcher concluded that the more senior the staff member, the less they knew about the operational activities (where the SAM appeared most useful). Second, the short-term outlook and ‘fire fighting’ in the Council meant the focus at a project level was on matters such as industrial action, rather than sustainability. Third, the SAM exposed the rhetoric and lack of operational follow-through on sustainable development. The researcher stated:

I think ... the SAM is raising the bar on transparency and accountability of what the local authority does, and with the City Council moving from that easy rhetoric to practice is not something that they are necessarily able to do... [F.5.07.07.05].

The differences in how sustainability was viewed in the Council were largely divided among operational staff and senior management and elected representatives. A senior member of the Council management team diplomatically highlighted this division and suggested that ‘educating’ elected representatives about what sustainability meant at an operational level would be a beneficial activity.

It would be fair to say that [operational] staff were a little more ambitious about the words that should be used... I think it is more about politicians [elected representatives] understanding sustainability [I.1.28.10.05].

One reason for the division appeared to lie in the incentive structures for these groups, as they differed among elected representatives or senior management and operational staff. Operational staff wanted broader public debate of social and environmental issues and

spoke in terms of ‘the community’. Senior management and elected representatives were concerned about economic impacts, such as an increase in rates. This corresponded with the trade-offs noted in the CEO’s economically focused perspective of sustainability and the metarule that the Council was another business to be managed. A focus on economic influences which may impact on rates would detract from social and cultural aspects and the usefulness of the SAM. The sustainability requirements (social, environmental, and cultural well-being) embedded in the new legislation appeared to be decoupled from the main pressure on senior management and elected representatives. An operational manager described the difference in focus between staff and management:

We want more change, and the Council [senior management/elected representatives] wants less... If the rates increase by 20 percent then none of the Council [senior management/elected representatives] will be back again next year [M.3+5.28.10.05].

Application of the first two SAMs had raised what sustainability meant to different people and the actions that were (or were not) being taken to embed it in the Council. Both the SAM applications had been initiated without explicit approval from senior management, as one interviewee stated: ‘I don’t know who gave them [operational staff] the green light’ [I.4.28.10.05]. By the time senior management were aware of use of the SAM it had progressed to the stage where it was difficult to stop. The visibilities created by the SAM had provided an opportunity for operational managers to draw attention to non-economically focused forms of sustainability which had the potential to challenge the rhetoric of senior managers. The sustainability co-ordinator suggested that the first two applications of the SAM ‘were under the radar...’ [P.1.25.10.05] and now that it was more visible its legitimacy could be threatened. The third and fourth SAM applications were to take place in an organisational context with a shared interpretative schema, but a fractured design archetype, which threatened the legitimacy of the SAM.

6.6 Civic Building and Waste SAM Applications

The second phase of SAM applications involved the building of new civic offices for Council staff (hereafter referred to as ‘Civic Building’) and an assessment of waste disposal options. The design and construction of a new Civic Building was the third and largest (New Zealand) project to which the SAM had been applied, and the first where the experimental accounting tool could be used from the planning stage. The SAM was identified as a tool that would assist in the realisation of the core sustainability features intended for the building. The fourth application of the SAM was to evaluate and identify the most sustainable waste disposal option ‘... to inform policy and the Council’ [elected representatives] ‘about the most environmentally preferred options’ [M.2.16.06.05]. In addition to the SAM being used in an evaluative capacity, the waste operations manager anticipated that the SAM might be used in the consultation phase with the public, primarily as a means of communication.

6.6.1 Civic Building SAM Application

The Civic Building was to have a ‘strong sustainability’ focus and needed a mechanism to highlight how this could be carried forward into tangible results and sub-system. The sustainability intentions from the Environmental Sustainable Development Objectives and Strategy Brief (2004) were set at a high standard: ‘The development of new civic offices for the ... City Council to show Community Leadership in commissioning a building which demonstrates best practice in Environmentally Sustainable Development’ [EDS.P.1.2005].

In the first meeting with the project team (project manager, two team members and two LCR researchers) the project manager outlined a significant (negative) budget variance, which had placed pressure at an early stage in the project lifecycle. Further, he advised that ‘we already have a heap of consultants, including an energy consultant, for the environmental sustainable development brief...’ [CB.1.16.12.04] and questioned the usefulness of more consultants and researchers. When an outline of the SAM was

presented to the Civic Building project manager he expressed discomfort with a model that might change the pathway of his project. The sustainability co-ordinator (in his last month of employment) described the events as:

We started to use it [the SAM] on the new building and were told we could use it if it came up with the right answer [P.1.25.10.05].

There was an element of discomfort that the SAM might raise aspects of the project the Civic Building project manager preferred to remain closed. The sustainability co-ordinator could not provide this level of assurance and a decision was made not to use the SAM. The sustainability co-ordinator thought that if the decision-making framework (in this case, the SAM) did not match the thoughts of senior managers (interpretative schema), a new decision-making framework would be sought. Pressures on the project manager to deliver on time and budget meant that any tool used to evaluate the project had to be 'managed carefully' [P.5.25.10.05], and an alternative to SAM would be sought:

If you don't like what comes out... you are not going to change the inputs... you are going to use your own and completely discount the model [SAM] [P.5.25.10.05].

The decision not to proceed with the Civic Building SAM was raised with a senior manager, who acknowledged the situation and suggested that other projects existed to which the SAM could be applied. The senior manager suggested that introduction of the SAM had yielded different responses and less predictable decisions, compared to the use of traditional (CBA) project evaluation models. The less predictable nature of the SAM made its use problematic at times when certainty was desired. The senior manager stated:

... there has been some issues around people having an expectation around what an answer [SAM] will be and when the analysis has been undertaken the answer is different and [we are] struggling with that [I.3.28.10.05].

The sustainability co-ordinator believed that the decision not to apply the SAM demonstrated that senior management did not view sustainability as central to the Council. Immediately before departing he stated that the dominant thinking (interpretative schema) in the Council was not conducive to viewing the SAM as a useful tool:

I can't see it [the SAM] being used because it does not fit with what anyone thinks is important... anyone in a position of authority [P.3.25.10.05].

One reason why senior management were possibly not enthusiastic was because they were not actually involved in the process of making the SAM. An operational manager thought that senior managers viewed the numbers without any point of reference, describing this metaphorically as follows:

I liken it to the... cancer burn-time index⁴⁵. The cancer burn-time index did not mean anything to anybody, it is only after a few years of experience that it starts to mean something... [M.4.16.06.05].

A general theme developed that the staff constructing the SAM derived more value from this process than the end result. Typically, senior managers had little to do with the

⁴⁵ The cancer burn-time index is used in New Zealand to assist people in determining how long they can be exposed to ultraviolet light. The lower the index the greater the amount of time you can be exposed to direct sunlight. For example, an index reading of 6 means you can be safely exposed to 24 minutes of direct sunlight. An index rating of 12 means you can be exposed to 12 minutes of direct sunlight.

process, so potentially derived less value from the SAM applications. An operational manager described this difference in perceived usefulness:

It [the SAM] might help [name of an operational manager] and the practitioners get a better feel for it [understanding sustainability impacts of the project], but I don't think it is going to help them [senior managers] much in the political decision-making because they won't go through a lot of that process, this debate, and discussion [M.4.16.06.05].

An alternative explanation was that differing incentives existed for elected representatives, senior management, and operational staff. The need to deliver projects on time and within budget (and without a negative impact on rates) appeared to be in conflict with the social, environmental, and social aspects of sustainability initiatives. Senior management and elected representatives had their performance judged on the level of rate charges, whereas operational staff were judged on role specific criteria.

The termination of the Civic Building SAM was in conflict with the Council's rhetoric to pursue sustainability. After a meeting with senior management an assurance was given that sustainability was a central focus of the Council, and a new waste assessment project was identified for the SAM application.

6.6.2 Waste SAM Application

In providing waste disposal options to over 400,000 businesses and households, a sustainability waste group was formed in the Council to reduce the amount of rubbish sent to landfill. Recycling, organic waste, and landfill waste disposal options were considered under different costing structures. However, before a recommendation was given to the elected representatives the impact of each option required assessment. On the basis of earlier investigation the Council knew that much of the waste going to landfill was organic and could be disposed of differently. For example, organic waste could be collected from households and processed into fertiliser at a central plant (with

only the by-product going to landfill). Another option for disposing of organic waste involved each household having access to a neighbourhood community garden where they could dispose of their waste. The disposal of organic waste could take place at either a landfill, a community garden, or at a central processing plant.

Two SAMs were constructed to compare each of the above waste disposal options. Each SAM identified the impacts that would differ from the status quo method of landfill disposal (that is, each SAM detailed the net difference in landfill and a proposed alternative). The first SAM (Figure 6.3) illustrated the processing of organic waste through a central processing operation and self-composting. The second SAM (Figure 6.4) considered the processing of organic waste in the community gardens.

Figure 6.3: Central Composting SAM Profile

Figure 6.4: Community Gardens SAM Profile

The most dominant category in the organic waste SAM was the economic bar, comprising operational costs associated with the landfill and composting operations. In examining the SAM profile, several project team members were surprised by the smaller than anticipated environmental impact for both options. While the idea of putting waste into the ground was likely to be considered unsustainable, the visible nature of rubbish means that it may be over-represented in terms of how unsustainable it is compared with other methods of waste disposal.

The social category attracted the most attention, with the flow-on effects of employment affected detrimentally if the most 'sustainable' option were considered. The social benefit of the organic waste disposal SAM comprised indirect costs (for example, machinery maintenance, support services) and social benefits generated by the sale of compost (for example, taxes arising from the sale of compost). On presenting the above findings it was decided the SAMs would not be circulated further.

The waste-operations manager supported a belief held in the research team that the SAMs were not made public because employment was seen as too contentious if the most 'environmentally sustainable' option were selected, thereby challenging a metarule of economic sustainability. The option identified as having the least environmental impact appeared to have the greatest social impact because of the net loss of employment. To have a project where the Council knowingly and openly supported the loss of jobs for some ratepayers would be politically unwise. In favour of encouraging ratepayers to support the most environmentally sound option, the social consequences needed to be avoided or downplayed.

Discussion of employment also raised details about the types of jobs and the nature of 'good' work. For example, jobs in waste collection were low-paid, hazardous, and involved unsociable hours. The discussion exploring the interconnectedness that arose during creation of the SAM, highlighted a design archetype that conflicted with the metarule of senior management.

The tension between the design archetype and metarule was apparent when questions were raised during the process of constructing the SAMs. Questions frequently came back to the notion of cost for whom? The decision rules in the SAM regarded impacts on society as a whole, whereas some people asking questions viewed any impact on rates as a negative (cost). These questions led to discussion on whether waste could be considered a positive or negative item when divided into its various elements. For example, fertiliser signals the start of another process, the creation of employment and the health benefits of proper disposal can be considered positively. The cost of paying salaries (from the Council viewpoint), the environmental impact, and the hazardous roles in the waste industry might be considered negative. Discussion also touched on the interconnectedness of the various capitals and the potential to compare aspects, such as the economic benefit as a ratio against environmental degradation, for various project decisions.

The discussion and questions raised during the construction and presentation of these SAMs meant that for the second occasion in succession a SAM application visibly challenged the design archetype of the Council. The (by then) departed sustainability co-ordinator was unsurprised the SAM had raised these tensions and expected that moves would be underway to marginalise the SAM, in spite of the earlier declaration it should be used for every major decision in the Council. The former sustainability co-ordinator expressed this with some conviction because he had experience of a similar response to another tool, The Natural Step, also used in an attempt to embed sustainability thinking into the Council.

Earlier tools such as The Natural Step were originally embraced with enthusiasm by senior management, but as with the SAM it was described as 'too complex' [M.16.06.05] and later not used. The Natural Step methodology had been used in a real-time basis for construction of the Council library. During use of The Natural Step, senior management stated that it should be used for every major project undertaken in the Council and the principles should be included in project plans and preparation of business cases. However, the library project was the last major project where The Natural Step methodology was apparent. The rebuttal, justifying a departure from the

earlier decree, was that The Natural Step was time consuming, complex, and did not readily quantify the impacts of project decisions.

The same characteristics of The Natural Step rebuttal were now beginning to appear in interviews and meeting discussions in respect of the SAM. A meeting to debrief staff on the waste project referred to the SAM as resource intensive and too technical. Instead, a more aggregated cost-benefit analysis was regarded as keeping things simpler, according to a waste project manager, who had earlier described its depth of detail as the benefit of the SAM.

In a meeting unrelated to the waste project, the waste-operations manager raised the possibility of using the SAM for a particular issue under discussion with senior management. The prospect of using the SAM was met with immediate resistance in terms of both language and body-language:

...and I mentioned 'what about SAM?' And everybody rolled their eyes. And they went 'not that b####dy SAM thing'... but my reading of it was that it was too complex and it [was thought] didn't relate to the Council [M.3.16.06.05].

When questioned further the waste-operations manager explained that the SAM was not too complex and stated that the SAM was as simple as one could hope for, as sustainability was complex and interconnected. The operations manager suggested that if anything was further simplified, it would not make any sense. However, at a more senior level, the CEO considered the SAM or any sustainability tool would be better if simplified and standardised so it could be used across a range of projects in a more comparative manner.

...[the SAM] needs to be made more simple or at least [have] a more common approach... [M.7.20.07.05].

The termination of the Civic Building SAM and only limited application of the waste SAMs highlighted the design archetype being in tension with the Council's metarule of economic efficiency. The raising of this tension may explain in part why several months passed before further SAM applications were undertaken. After a senior member of LCR met with senior Council management, an assurance was given that the Council was 'fully committed to sustainability' [F/I.15.06.05], and transport and social housing projects were identified for future SAM applications.

6.7 Transport and Social Housing SAM Applications

The final two SAMs shared the commonalities of time and increasingly managed environments in which they were applied. The team members who had spoken of a desire to apply the SAM were replaced by a senior manager who selected 'appropriate' projects and subsequently directed project managers to apply the SAM. The fifth SAM was applied to a transport project where a decision was being made on whether to implement bus-only transit lanes. The Council's transport strategy document outlined the bus-lane corridor project as having potentially fewer detrimental ecological and economic effects compared with the greater number of people travelling (less efficiently) in cars. The final SAM application involved a joint social housing development with a national housing body, funded by central government. This social housing project was identified by the Council as having a positive social outcome that would be better understood by application of the SAM.

6.7.1 Bus Lane SAM Application

The senior transport manager viewed the intended application favourably in spite of having little or no input on the decision to apply the SAM to the project under his management. On further questioning, the senior project manager identified himself as the chairperson of a national sustainable transport group and thought the SAM would provide a better understanding of the economic, social, and environmental

interrelationships within each of the transport options. The transport project team members thought construction of the SAM might make them rethink some preconceptions they had at the beginning of the project, as expressed by one team member:

You have a feel if one is a better outcome than another, which is useful for...I'll give you an example: if we decide to either widen a road or just take out parking there are obvious cost implications, but there may be different implications for the residents, for the environment, for resource use, whatever. It is just comparing the options, I think that is quite a positive of [the] SAM [M.16.06.05].

Further conversations about the anticipated outcomes of the SAM contrasted directly with other comments made about the irrelevant and complex nature of the SAM. Two transport project managers thought the SAM would fit very well with the community outcomes the Council was required to fulfil under the new legislation. One manager stated:

It [the SAM] puts it into a language more akin that we talk about community outcomes...I can imagine a time when we have got all that learning under our belts and it would be really useful, and I guess that is why the executive team see reports of it [the SAM] because it goes quite well with the community outcomes stuff [M.1/2.16.06.05].

The two preliminary SAMs constructed for the bus priority project consisted of a 'business as usual' scenario in which bus lanes were not implemented, and a scenario where bus lanes were implemented. The two SAM profiles are depicted in Figures 6.5 and 6.6 below. The most notable difference between the two profiles was the change in travel-time savings. However, there was negligible difference between the two options when the environmental impact was considered. These two cursory observations from the profiles suggest that the 'sustainable' transport initiative may have positive social

impacts but, in terms of positive environmental impact, would contribute less than what might be expected.

At the time of writing, the SAMs had not been used to inform any particular decision made as part of the transport plan.

Figure 6.5: Transport ‘Business-as-usual’ SAM Profile ⁴⁶

Figure 6.6: Bus Lane SAM Profile

⁴⁶ A change in the ordering of the capital categories (that is, from social environmental, resource and economic) was due to a change in the spreadsheet used by a researcher, rather than a result of any deliberate action or discussion.

The bus lane SAM applications occurred over a brief period, with relatively few meetings, which in turn limited opportunities for discussion during their construction. The recent departure of the sustainability co-ordinator appeared to affect the internal co-ordination of the SAM meetings. Activities such as applying the SAM were central to the sustainability co-ordinator's role, whereas they were considered more of an 'add on' to members of the transport project team [P.25.10.05].

The SAMs remained internal to the project team, with no suggestion they would be viewed by senior management. The SAMs showed largely the expectations of the project team about bus lanes being slightly more sustainable, and such a result was considered uncontroversial. The uncontroversial nature of the SAM and fewer project team meetings to discuss the SAM (compared with earlier applications) meant that this SAM proceeded without the attention previous SAMs had attracted. As an archetype the SAM did not appear to raise any discussion which challenged the existing metarule or influence the project decision.

6.7.2 Social Housing SAM Application

The social housing project was identified by a senior manager in the Council as being appropriate for a SAM application in the same 'top-down' manner as the transport project. This 'top-down' application of the SAM was made apparent by the social housing project manager who referred continually to the SAM as something Landcare Research (under the direction of Council management) was implementing and that he merely provided the case-study and some information. The selection of this project by senior management and ongoing reporting from the social housing project manager to senior management therefore provided greater visibility of the SAM application. The increased attention of senior management was further supported by a Memorandum of Understanding (MoU) between LCR and the Council. The MoU detailed which projects the SAM would be applied to (MoU Landcare Research Ltd & 'The City Council', 2005) and transferred greater control to more senior levels in the Council, where the relationship was formally managed.

The increased attention afforded to the SAM applications appeared to have implications for the level of ownership and commitment levels of operational staff. The final application involved a much lower level of commitment to the SAM than earlier applications in the Council. A LCR researcher described the Council project team members as saying ‘here is the data, go do it’ [SAM], rather than a mutual discussion where the SAM was co-constructed [L1/2.21.10.05]. In this respect the social housing SAM was more like a consulting arrangement than something involving a series of discussions that emerged from the housing project team.

The absence of ongoing discussion, in the same way as earlier SAM applications, had changed the dynamic of the limited conversation which did occur. Instead of discussing and questioning elements in the SAM, a high-level mantra was repeated at every meeting, stating that ‘the SAM will assist us in long-term decision-making on social housing projects’ [C.16.06.05] without any nuanced detail as to how this might occur. Long-term decision-making was viewed as a means of mitigating the perceived mode of operating where there was a tendency of trading off short-term financial savings against building materials that would last longer. The housing project manager described the short-term thinking:

Previously it was just ‘go build something cheap’ without any thought.
[C.2/3.16.06.05]

The social housing project manager believed that the application of the SAM would highlight the underfunding of social housing initiatives in the Council. He stated that costs for social housing could clearly be identified in terms of the financial column, but the social and environmental impacts were hidden. It was envisaged in using the SAM that the hidden benefits delivered by his group would be made more tangible. However, rather than construct a SAM to gain insight into sustainability and social housing, the SAM was used to further a political agenda of gaining greater financial resources.

The SAM profile (Figure 6.7) indicated only minor pollution and environmental damage as a result of the housing development because the land was already in use prior to development. Land and primary energy resources, along with labour (used primarily in construction), were significant and had considerable resource impacts. The social benefits were more difficult to quantify and included a reduction in healthcare costs and non-shelter benefits of housing.

Figure 6.7: Housing Development SAM Profile

Immediately after presenting the SAM profile, a debrief meeting was held to discuss the results. Throughout this meeting the principal theme was the desire to conduct a benchmarking exercise. The project manager believed that now a process for constructing SAMs had been established, a benchmarking and automation exercise (whereby all data could be loaded into a spreadsheet without the need for meetings) could take place, and results from one project could be compared with another, without ongoing discussion. These comments concerned the research team because the benefit of the SAM, it was explained, lay in the construction rather than the end result. Although

different SAMs might be compared, the research team saw this as a basis for further discussion rather than treating the SAM as a spreadsheet producing a binary sustainable or not sustainable result.

A secondary theme throughout the debriefing was the need for greater understanding of the social impact capital category. The social impact category did not appear to inform the project team, and one LCR researcher with an interest in multi-criteria analysis suggested this model instead be used. A one-day workshop was held, and wide ranging discussion was noted among team members who were divided into smaller groups for discussion. Two hours into the workshop one of the groups announced that the entire process was problematic because they had not discussed what 'sustainability' is, and called for a change to the workshop programme. While the discussions were rich, the type and amount of data collected made the multi-criteria analysis unworkable. Without a frame of reference for discussions it was difficult to continue debate beyond the space and time of the workshop. The multi-criteria analysis was not applied in any further settings.

The final two applications of the SAM appeared to have little or no impact on the outcome of the project decisions and were considered uncontroversial. When interviewees were asked what difference the SAM made in these final two applications, responses typically included references to how they had enjoyed the process, as it made them think more broadly. However, it was difficult to see any visible change in thinking and no tangible change was noted in the project decisions.

The three phases of SAM applications detailed above can be explored in further detail by drawing on the concept of assemblages introduced in Chapter Three. Accounting technologies such as the SAM can be considered as a design archetype, existing in an organisational dynamic where a series of interconnected elements facilitate or resist change, dependent on how they are aligned. In revisiting the three phases of SAM applications, and identifying elements that were present or absent during some applications, the process of change can be explored in greater detail.

6.8 Assemblages

Early SAM applications contrasted to the latter in a number of ways. The applications with the most impact featured operational leadership, did not have permission of senior management, had a sustainability co-ordinator and an accountant present, discussed the new LGA legislation, and had a high-level of team commitment. Table 6.1 identifies some key characteristics which, for the purposes of discussion, may be broadly categorised into human agency and leadership, the role of the accountant, and legislation.

The limiting aspects of the SAM applications can be considered in parallel with other sustainability technologies, such as The Natural Step. According to the staff member who introduced The Natural Step to the Council, the approach failed to have organisational impact because ‘it didn’t have buy-in from senior management and the CEO didn’t like it; nobody really understood it and the senior managers refused resources for training staff to use it; there was no quantification;... and there was no legislative driver’ [P.25.10.05]. The SAMs with the least impact had a high level of senior management input, did not have a sustainability co-ordinator (that is, nobody to train others in the use of the tool), and had little discussion on the legislation requiring sustainability-related activities. The key difference between the limiting features of the two sustainability technologies was the quantitative aspect of the SAM. However, in later applications of the SAM the quantitative aspect was criticised for making the process ‘too technical’. This quantitative criticism may be considered a shared characteristic if the technical criticism of the SAM and The Natural Step was a politically acceptable way of marginalising the new design archetypes.

Table 6.1: Summary Table of SAM Applications

	Application	Library	Community Garden	Civic Building	Waste	Bus Lanes	Social Housing
Assemblage/ Characteristic							
Laughlin Descriptor		Colonise	Colonise	Rebuttal	Rebuttal	Reorientation	Reorientation
Senior Management Permission		N	N	Y	Y	Y	Y
Sustainability Co-ordinator Present		Y	Y	Y	N	N	N
Role of Accountant		High	High	Low	Low	Low	Low
Operational Leadership		Y	Y	N	Y	Y	N
Technically Feasible		Y	Y	Y	Y	Y	Y
Legislative Influence		High	High	Low	Medium	Low	Low
Team Commitment		High	High	Low	High	Medium	Low
Level of Discussion/ Meetings		High	High	Low	High	Low	Low
Level of Controversy		Low	High	High	High	Low	Low
Level of SAM Impact on Decision		Low	High	Low	Medium	Low	Low

6.8.1 Leadership and Human Agency

The above table indicates that the presence of the sustainability co-ordinator, accountants, and operational leadership were implicated in the SAM applications of greatest influence. These three elements highlight human agents as performing an influential role in an assemblage. Further, the SAM applications of the greatest impact had little involvement from senior management, suggesting that the presence of senior management was a constraining element. The ex-sustainability co-ordinator viewed senior management as the main constraint to embedding sustainability and, in turn, the SAM in the Council. He thought senior management understood they had a legal obligation, but had not seen the role of the SAM or other tools in fulfilling this. He stated:

Getting together the information... no problem. Getting the accountants to understand it... no problem. Getting people running the project to see the value... no problem... but the management only want to use it if it gives them the answer they want... the biggest barrier comes from the top [P.3/4.11.05.05].

The view of senior management as a constraining element was also echoed by a waste-operations manager:

I am continually disappointed by how the senior managers don't take these things up... The progress made in terms of getting sustainability embedded into the Council is astonishingly poor given the nature of the organisation. And there are a few advocates or a few shining lights and usually they get dampened down over time and then leave because they are so frustrated. [The] SAM will be threatened within the Council ... the bottom-line is 'what is the impact on rates', and I am continually asked that question, and that is why the Council asked me to remove the cost to the community [M.28.10.05].

The sustainability co-ordinator expressed the sentiments of both the LCR research team and several operational managers by stating that senior management and elected representatives were having to make transparent their views and actions on sustainability. The SAM as a tool provided an entry-point for operational managers to question legitimately what sustainability was and how it could be operationalised in the Council, because this information was needed to construct the SAM. The decreased agency afforded to senior management to rely on high-level organisational rhetoric was instead transferred to operational staff, who were able to question and make visible the organisational metarules of sustainability.

The SAM provided an opportunity to question legitimately organisational practices by creating a frame of reference that could be used to continue discussion beyond any one particular meeting. For example, when the Civic Building SAM application was prematurely ended, a follow-up interview provided an opportunity for rebuttal from senior management. The questioning from operational staff had made visible the prevailing organisational view on sustainability. Operational staff thought sustainability initiatives should focus on social and environmental impacts, whereas senior staff exhibited a more economic view. Consequently, senior staff believed that sustainability initiatives were good things to do, but social and environmental aspects should not detract from the financial position of the Council.

A key enabling assemblage, observed in Table 6.1, was the questioning and leadership demonstrated by operational staff throughout many earlier applications of the SAM. This leadership was most salient in the first two applications, where senior management were largely unaware of the application of the SAM. Leadership from operational staff to embed sustainability thinking appeared to be assisted by LCR in voicing the need for tools such as the SAM. Furthermore, one operational staff member who was influential in constructing earlier SAMs, was an ex-Landcare Research staff member. The assemblage of a group of operational staff who were committed to experimenting with the SAM, an outside research company, and a staff member who straddled both organisations had provided the unique dynamic which allowed the views of operational staff to be heard.

However, the change in design archetype was ultimately resisted by senior management. This was demonstrated when an operational staff member tried to use the SAM to demonstrate to senior management his conceptualisation of an unrelated project.

I put it [the SAM] up there and said ‘this is my conclusion’ and I got shot to pieces... I got my butt kicked, and part of the reason is because I am Council staff... It was not until Landcare Research came in, and then that was all right [M.4.16.06.05].

In later applications, a senior manager described the SAM as technically unworkable. However, the unfavourable view of the SAM was voiced only after several applications had provided operational staff with an opportunity to question the high-level rhetoric of sustainability in the Council.

The above analysis highlights the transfer of agency from one group of people in the Council to another in the early applications of the SAM. The capacity for operational managers and staff to question legitimately aspects of sustainability in the Council was mediated by the SAM. Quantification and inclusion of accountants in the construction of early SAMs appeared to lend greater credibility and, in turn, greater legitimacy to question further aspects of sustainability. This increased credibility, coupled with the SAM applications of greatest influence, can be observed in Table 6.1. The inclusion of accountants suggests that they may perform a special role in the human agency assemblage.

6.8.2 Accountants and Accounting

In the Council, accountants can be considered a sub-category of the human agency and leadership assemblage discussion above. Involvement of accountants and other members of the financial services team was viewed as part of an enabling characteristic in some earlier SAM applications [P.25.10.05]. Initially, the SAM was introduced to senior

managers by LCR researchers. However, from the perspective of senior management, the endorsement by the head of the financial services was viewed as the most significant form of credibility [P.25.01.05]. The sustainability co-ordinator believed the finance team held control over many activities that took place at the sub-systems level:

The director of finance and the financial services manager have significant influence... over what is budgeted for and what happens... So if you get them interested in a tool that helps them influence in a way that promotes SD then you are in a good space... and if you don't get any money then [no] initiatives don't get done [P.2.25.01.05].

The quantification of sustainability elements and support from the head of financial services created a discourse of money and numbers which had similarities to the design archetypes already used in the Council. In this way the SAM could be viewed as mimicking and thereby colonising a design-archetype which had existing legitimacy in the Council. The creation of this mimicked discourse provided a frame of reference which in turn legitimised discussion of sustainability initiatives in the Council. The ex-sustainability co-ordinator described the SAM as:

... a way of integrating all of that stuff into a common language of money that we have always used... and then producing a result as we have always done... that people need to make a decision on [P.4.25.10.05].

The importance of using numbers, associated with accountants, to challenge any decision was viewed as critical. This was most salient in the application of the SAM to the community gardens project. The quantification of a sustainability tool was viewed as an important component of any business case, as all successful business cases were believed to have some degree of quantification.

It [the Community Garden] would have been developed if it had not been put through [the] SAM because there is no other way to defend it [M.4.28.10.05].

Framing the SAM as an extension of a legitimate accounting tool provided credibility in the applications where accountants were present. Another mechanism which provided legitimacy and avoided marginalising the SAM (when the discourse was present) was reference to the newly introduced legislation.

6.8.3 Legislation

In reflecting on the application of the SAM it was initially thought that the two disturbances of the new CEO and legislation would create a context in which the SAM would be routinely applied in the Council. But the pressures exerted by the CEO and senior management team appeared to limit the uptake of sustainability matters, leaving legislation as a possible basis for a counter argument. The presence of the LGA throughout all the SAM applications and the varied results observed in Table 6.1 suggest that legislation was not the powerful counter-argument as hoped.

While the new legislation was typically viewed favourably in terms of using tools such as the SAM, reservations were expressed by some operational staff that the legislation might not cascade down to operational levels and might, instead, remain high-level rhetoric. One operational manager viewed the SAM as a lower level mechanism in which to embed sustainability thinking, but remained sceptical, waiting to see if the intended cascading affect would eventuate:

They [the legislative planning documents] do lift the game and you have to look at sustainability as it is important, but how that trickles down... is to be seen [M.6.28.10.05].

Legislation was viewed as a good driver at the high-level and was included at times in other documentation, such as job descriptions (as key performance indicators), but any cascading effect was not apparent. The contested nature of the term ‘sustainability’ and what actions should result from someone achieving this, in terms of job performance, remained underspecified. The number of people who had ‘sustainability’ in their job description diffused the ownership to the point it was seen as ineffective by several operational staff interviewed. The ex-sustainability co-ordinator described the inclusion of sustainability in jobs descriptions as follows:

I mean, if you do not know what it [sustainability] means, then it becomes meaningless, so then you can ignore it [P.3.25.01.05].

While the LGA mandates the auditing of the Council’s activities, it appears to focus at a level higher than project type activities. It was believed that until the audit process focused more rigorously on project-level activities the need for tools such as the SAM could not fit with the organisational track or equilibrium. The ex-sustainability co-ordinator highlighted this decoupling as follows:

... people might realise that SAM quite neatly helps you meet those requirements... but there is no driver at the moment. [P.3.25.10.05].

The presence of any one characteristic in Table 6.1 did not appear to guarantee the outcome of the SAM application. However, when viewed as an assemblage, it is possible to gain insight into some of the conditions necessary for the SAM to have impact on a project decision. The SAMs with the greatest influence on project decisions all occurred in the early phase of applications and can be categorised, using Laughlin’s (1991) framework, as a colonising of the design archetype.

6.9 Discussion

Early SAM applications can be considered as colonising design archetypes under Laughlin's (1991) framework because of the challenge they represented to the existing organisational archetype. Colonisation occurs when an informally elected group in the organisation forces others to accept changes or exit the organisation (Laughlin, 1991). Colonisation typically has its origins in the design archetype which then spreads to the interpretative schema and sub-systems of the organisation. In early applications of the SAM the construction and presentation appeared to change the way people conceptualised the project (the interpretative schema). The most salient influence was in the community garden application where the SAM was regarded as an archetype that should be established for future projects, and change was noted at the sub-systems level. However, the interpretative schema was significantly influenced and reinforced by the newly appointed CEO, whose view of sustainability placed a heavy emphasis on 'economic well-being'. As a result, the SAM (design archetype) was not in equilibrium with the interpretative schema and the associated metarule of minimising rate charges. The SAM subsequently failed to influence the decision-making process and previously established design archetypes of decision-making regained their dominant status.

This shift from one archetype to another, and return, is described in the organisational studies literature (see Chapter Three) as an aborted excursion (Greenwood and Hinings, 1988). In this case-study the SAM did not take hold and therefore remained in an embryonic state. Legislative pressures had clearly embedded the SAM which resulted in the change, albeit temporary. However, the organisation's inertia sought quickly to remove the SAM by reverting to previous project accounting mechanisms.

6.10 Conclusion

This chapter has tracked six different SAM applications in the Council, and highlighted that no morphogenetic change occurred. Early applications of the SAM in the Council influenced the way team members conceptualised the project and how decisions were made. In spite of an undertaking from elected representatives that the SAM would be used for every major project decision, the Civic Building SAM was ended prematurely. However, the process of constructing and applying the SAM had created a space for questions on issues of sustainability and made visible the different conceptions of sustainability in the Council. The SAM, as a design archetype, showed signs of challenging the interpretative schema of the Council. This challenge was reoriented by senior management taking a more active role in SAM applications and restoring a sense of organisational equilibrium between the interpretative schema and design archetype, which resulted in no morphogenetic change occurring.

A second case-study site, exploring a large scale social housing development, will now provide the opportunity to compare findings of the six different applications of the SAM in the Council.

Chapter Seven: Exploring The SAM Within An Organisational Context— The Land Company

7.1 Introduction

This chapter extends the empirical exploration by tracking the application of the SAM within the Land Company (a subsidiary of a social housing agency). The organisational characteristics of the Land Company allow comparison of the SAM applications in a different context from the Council, and provide a descriptive narrative for evaluating the SAM in Chapter Eight. In a similar manner to the previous chapter I draw on Laughlin's (1991) framework to detail the disturbances, assemblages, and schemas implicated in the construction and implementation of the SAM. The narrative constructed details the interpretative schema of the newly established Land Company as favourable for the application of the SAM and inclusion of sustainability initiatives. However, a change in leadership and budgetary pressures changed the dominant interpretative schema and subsequently rendered the SAM incongruent with the new organisational interpretative schema.

This chapter will begin by providing the context of the SAM application, highlighting the differences between the Council and Land Company case-study sites. The case-study site context will begin with a description of the Land Company's formation and the events that led to the establishment of the design archetype. The following section will describe a change in leadership as an organisational disturbance and discuss the subsequent effects on the organisational design archetype and interpretative schema. The next section will overview the SAM application during a stakeholder workshop and the reorientation of views on the usefulness of the SAM. I conclude the chapter by discussing the assemblages which feature most prominently and compare them with previous applications of the SAM in the Council.

7.1.1 Case Overview

The Land Company case-study site has both similarities and differences compared with the previous application of the SAM in the Council. The most notable shared feature of the two sites is that they are heavily influenced by New Zealand government policies and exist for reasons other than profit maximisation. This shared feature is not purely coincidental; Ball and Grubnic (2007, p.244) allude to government performing a special role in the pursuit of sustainability via the delivery of 'tangible policies and programmes' that give 'substance to the idea of living sustainably on the planet'. However, on another level the case-study sites differ in at least three ways. First, the Council and Land Company have dissimilar structures and funding arrangements. The Council's governance structure involves the election of representatives from members of the local community, whereas the Land Company has appointed managers and receives taxpayer funding directly from central government. In the Council case-study site, resources for sustainability initiatives were withdrawn by senior management in response to different influences from operational staff. In the Land Company, all staff were appointed and acted under a shared set of pressures.

Second, the Council is an established organisation, with an excess of 2,400 staff, and will operate into the foreseeable future. In contrast, the Land Company is a newly formed organisation which consists of four key staff members, and will cease to exist on the completion of the development. The difference in time of operation between the two case-study sites may mean that the interpretative schema of the Land Company is more sensitive to the application of new design archetypes (such as the SAM), because of its embryonic state. This embryonic state of the Land Company may also have implications for the rate at which the (non) influence of the SAM application occurs. The size difference between the two sites means that the elected representatives/senior management/operational staff categorisation is not as distinct. In the case of the Land Company site, the CEO was also the chartered accountant. In the Council, role differentiation meant that elected representatives, senior management, operational staff (including accountants) were different people.

Third, the Council was approached by a member of the research team, whereas the CEO of the Land Company approached the research team and invited the application of the SAM within his organisation. This leadership initiative is an important element to consider when comparing the initial commitment levels in the two case-study sites and their application of the SAM.

When the differences between the two sites are considered as a whole it becomes apparent that different pressures and organisational dynamics need to be considered when tracking the application of the SAM. The third difference of leadership provides the starting-point for tracking the application of the SAM in the Land Company.

7.2 Leadership and Disturbance

The head of a social housing agency viewed housing in a holistic manner and provided leadership for activities previously considered beyond the mandate of a social housing provider. These activities included energy efficiency programmes to better insulate houses, pilot programmes jointly funded by the Ministry of Health, and the inclusion of design features to minimise social problems associated with government funded houses. There was evidence that social housing was considered in a much broader manner than previously. The Land Company development manager stated:

... there is recognition that you can't just improve the housing. If you are going to improve a community you have to get those community connections going [B.1.21.09.06].

The holistic approach adopted by the head of the social housing agency and a series of New Zealand government policies⁴⁷ had prompted a search for a large development site

⁴⁷ Policy directives and research undertaken by central government agencies include: The New Zealand Sustainable Programme of Action (Department of Prime Minister and Cabinet, 2003); Urban Design

for a sustainable urban housing project. More than a year passed before the New Zealand Defence Force announced the closure of an airbase near a major urban centre. This announcement led the head of the social housing agency to make a proposal to build a sustainable urban development, which was later accepted by the New Zealand Cabinet. Such an acceptance from central government was not surprising when considered against the backdrop of a third-term left-wing government, seeking to expand the role of government in New Zealand. Further, the leader of New Zealand's longest serving government⁴⁸ viewed 'building a sustainable nation' as a core objective and one that could not be delivered via an invisible hand (Clark, 2007).

Once approval from the New Zealand Cabinet was gained, a subsidiary called the Land Company was created for the purposes of constructing the sustainable urban development. The head of the social housing agency selected several staff and told them: 'this project is not just a development of houses... or making as much profit as possible' [H.01.12.05]. The head of the social housing agency emphasised the need to satisfy central government policy, because the business case put forward to Cabinet was contested by the New Zealand Treasury. Representatives from the New Zealand Treasury had contested the proposal for the development on the grounds that central government should neither be involved in a private-sector activity nor carry the financial risk. The head of the social housing agency and the Land Company CEO successfully reframed the debate from 'economic maximisation and development risk' to 'sustainability to serve government policy objectives' [G.12.09.06]. Without the reorientation towards a more holistic sustainability frame, the potential to 'do something good' was being overshadowed by an economic focus [G.12.09.06]. The CEO developed the view that:

Protocols (Ministry for the Environment, 2005); The Social Report (Ministry of Social Development, 2004); NZ Bio-diversity strategy (Ministry for the Environment, 2004); New Zealand Sustainable Cities Programme (Department of Prime Minister and Cabinet, 2003/2004); Quality of Life in New Zealand's Six Largest Cities (Gravitas Research, 2001); and Building the Future: The NZ Housing Strategy ("Social Housing Provider", 2004).

⁴⁸ This sustainability focused government was also lent support by a minority party which focused on 'green' issues (Bale, 2006; Geddis, 2005).

... we needed to shift the debating ground. We needed to be arguing on our strengths rather than arguing from a position which means we shouldn't do anything... a lot of these [accounting tools] and others I found ... seemed to apologise for a lack of commercial success [G.3.12.09.06].

A development manager in the Land Company viewed materialisation of the holistic vision as a challenging task, made possible by the leadership ability of the head of the social housing agency.

[the head of social housing agency] is one of those visionary leaders, and I do not use the term lightly, in terms of ... government agencies... he instantly would have seen the opportunity presented... I think all the way through his thinking and drive...[was essential] [B.2/3.21.09.06].

The narrative of the Land Company CEO was one of sustainability, to avoid an undue emphasis on economic maximisation of the site, and to ensure congruence with several government policies. His view of sustainability was driven by central government policy and was broader than an economic approach to sustainability. The CEO described the pivotal nature of sustainability to the development as follows:

If we took out [the] sustainability [vision and objectives] ... then there would be no justification for government being involved...The justifications [for this sustainable urban development] are around equity issues, around urban form, and all around self-sufficiency; all these are sub-sets of sustainability [G.5.12.09.06].

The announcement of the airbase closure, combined with the leadership of the social housing agency, provided the disturbance necessary to initiate the construction of New Zealand's first sustainable urban housing development. This disturbance can be considered an assembly of events (announcement of the closure) and conditions (policy

directives) that were connected through the leadership of the head of the social housing agency⁴⁹. This chapter will now track the subsequent formation of the Land Company and the application of the SAM.

7.3 Formation

The first tasks of the Land Company CEO were to physically (sub-system) and conceptually (interpretative schema) set up the new company. He began with the latter, as he had been briefed by the head of the social housing agency to ‘tell a story’ [H.01.12.05] that would not place undue emphasis on the economic maximisation of the development and result in ‘just another housing development’ [H.01.12.05]. The CEO described the series of assemblages which led to the formation of the Land Company as follows:

What happened is that during [head of social housing agency] stewardship we realised that we were looking for a different urban form that addresses many of the needs that cities were going to face... but the notion of sustainability is the glue that holds it all together... We ended up with a coalition of different political drivers over the last three to five years which were a whole lot of things heading in the same direction [G.1.12.09.06].

The Land Company CEO constructed some broad principles about the meaning of sustainability for his development, which formed the basis for the sustainable urban development framework he hoped would translate high-level policy objectives into tangible results. The Land Company, with a newly formed sustainability frame of

⁴⁹ Both the Land Company and the Council had disturbances that involved central government initiatives. However, the Council was directly affected via legislation, whereas the Land Company was affected via a series of wider government policies (that is, the infusion of sustainability into various government initiatives at the same time as rethinking the Defence Force strategy).

reference, was still subject to the institutional pressures of both central government and the construction industry. This meant that the sustainability framework or newly formed interpretative schema would remain threatened.

An example of pressures existing at an institutional level was provided by the Land Company development manager, who stated that the construction industry managed risk, with private developers replicating the concepts and processes that had been used before. The development manager believed that private developers had little incentive to change and implement sustainability features because this had potential for significant loss. He highlighted the inertia of the industry as follows:

...a developer is somebody who has an idea, and that idea was probably what was done previously. He then goes and finds a block of land... employs a team of consultants... and those consultants are probably people he has worked with before... so it is all influenced on what has been done before [I.2.21.09.07].

In spite of wider institutional forces, the embryonic nature of the Land Company meant that the already influential power of the CEO was magnified. The CEO demonstrated several elements that may have led to the successful shift from a focus on economic maximisation to one of sustainability. The first was a keen sense of the political landscape. Throughout the meetings and interviews the CEO was aware of the viewpoints different agencies had and how they were reached. For example, when the newly formed company began meeting with various other government agencies it was met with resistance in some situations and receptiveness in others: 'We did a little bit of work with [city council⁵⁰], not so much with Defence, because Defence was only interested in getting maximum dollar out of it...' [G.1.12.09.06]. Initially there was some resistance to the newly formed company from a local council. The local council, although initially receptive, raised some opposition as they thought the involvement from central government may threaten the possibility of job creation and economic development in the region. Social housing communities typically have higher levels of

⁵⁰ Note: This is not the council that was the subject of the previous chapter.

unemployment and lower incomes than the general population. The CEO stated that the council was operating under the impression that:

There was the thinking that with a shortage of jobs, a shortage of industry...[and] we [the Land Company] were going to come in and build three thousand state houses [G.2.12.09.06].

The Land Company CEO had an understanding of how each agency approached the development, determined who he would work with to achieve the overarching vision of the project, and reflected on who might jeopardise this vision.

Second, the CEO had a strong vision as to how he wanted the site to look and the associated symbolism. His office walls were adorned with concept drawings which he would regularly refer to in meetings. In conversation, whether it be chance meetings in the supermarket or taped interviews, the CEO spoke about the vision and sustainability every time we met. He frequently mentioned ‘that you have to have a strong vision’ [G.6/7.12.09.06].

Third, the CEO was acutely aware of the need for a design archetype to reinforce this vision or interpretative schema. After establishing the vision of how a sustainable development might look he decided that this vision should be in equilibrium with the decision-making frameworks and went in search for tools that were complementary to the vision. In arguing for this sustainability concept, he had been challenged and knew the challenges would continue. This made the selection of frameworks (design archetypes) that would further develop and evaluate the concept very important, particularly at the early stage of development. The CEO described the importance of having a vision as follows:

It is too easy to say ‘here is a commercial development scenario’ with a few social or environmental justifications tacked onto the end. You have to say ‘no, the vision is this’ and we use the values and tools we associate with that.

Otherwise you end up serving another agenda. It tends to f##k up the vision basically [G.5.12.09.06].

The identification of a framework (design archetype) served the purpose of reinforcing the vision and helped to guard against other competing agendas. The CEO stated that the vision and framework were important and must be actively managed:

A framework must be in place to protect the vision of sustainability, and we must continually be wary that these ideas are not lost along the way... Ideas around sustainability must be anchored in the design, and there must be ownership and management [G.1.24.11.05].

Fourth, the networks, friendships and policies the CEO made or drew on throughout government, provided the CEO support for raising and reframing the debate from a purely economic perspective. He described this amalgam of people and policies as follows:

So we were able to take a lot of what was already there and present it in a way that, at a project level... showed you could align different streams of government in a way that could make sense [G.6/7.12.09.06].

The interpretative schema of the Land Company appeared to subscribe to a series of metarules that were broader than economic maximisation. This interpretative schema was constructed under the leadership initiative of a CEO who recognised other competing agendas and acted to ensure his was heard. His awareness of the political landscape, development of a sustainability vision and associated symbolism were important elements in constructing the interpretative schema. However, in recognising that a sustainability vision would not necessarily translate to a sustainable urban

development, the CEO went in search of a design archetype which would reinforce the recently constructed interpretative schema.

7.4 Design Archetype

The search for a design archetype which would protect the vision of urban sustainability led to a discussion with the Land Company management team about the meaning of ‘sustainability’ for the project, and how this might translate into the ‘design build’. To link the interpretative schema with what might become the tangible elements (that is, sub-system) it was decided to articulate a framework which would embody the vision of the development. The vision became articulated in the form of the [Land Company] *Sustainability Urban Development Framework*. The formation of this document gave some indication of the commitment and level of discussion that had occurred before the CEO engaged the LCR research team to apply the SAM. Construction of this framework may also explain why the CEO quickly recognised the possibilities of the SAM and how they might be developed in the context of his project.

The *Sustainability Urban Development Framework* defined ‘sustainability’ for the site development and detailed how the site would be transformed. The overarching vision for the site was translated into four spheres: environmental, economic, social, and cultural. Each sphere comprised several elements, with an objective and an indicator which was capable of measurement and comparison with other projects or standards. The structure of the framework is depicted in Figure 7.1, using the example of the environmental sphere.

Figure 7.1: Sustainable Development Framework

The four sustainability spheres and related objectives are detailed below.

The development must:

- enable the capacity of the natural systems of the [local] environment to absorb the impact of human activity;
- enable the [local] community to contribute to economic growth and improved productivity;
- enable all sectors of society to access [the site] and to achieve and maintain a reasonable level of well-being both as individuals and as part of the wider community and
- allow people to celebrate their own cultural heritage while also enabling residents to share values, beliefs, customs, behaviours, identity and a sense of place and community [p.5.Urban Sustainability Framework].

The CEO had been frustrated by the tools found in his search to build the sustainability development framework for the site. Such tools appeared to lack the capability to take high-level concepts of sustainability to a more detailed level of realisation. When the CEO learnt about an earlier presentation given by Landcare Research he requested a presentation. The CEO was then given the same presentation of the SAM as senior managers in the Council, but it produced a contrasting response. He identified the SAM as a tool which might assist people to create and explore the various elements of sustainability detailed in the sustainability framework. In doing so, the SAM had potential to create something that was not present or previously known. The CEO described the SAM as follows:

[The] SAM is a heuristic device in some ways. It is not about getting it right or entering into some longstanding dialogue as to whether your definition is better than mine. You have to say [the] SAM is about the outcomes of discussions of those users, and identify the holes... [G.8.12.09.06].

Unlike senior managers of the Council, the Land Company CEO did not view the SAM as a tool that might produce a 'technically correct' number for any one particular situation. The Land Company was at an early stage of development and the CEO recognised that was where the SAM could be most beneficial, because it might identify areas on which to focus and highlight the different social and environmental impacts of the options.

I mean my numbers [for the SAM] might be wrong, but providing I use the same numbers for each scenario... I am helping people understand why one thing may work in a particular situation and another might not. That is where... you identify the key risk areas and the dynamic elements...[G.4.12.09.06].

The CEO viewed the SAM as more of a discussion tool which might assist with decision-making, and placed less emphasis on it as an evaluative tool for analysis. The

SAM, along with other tools, was not viewed as being objective, as the pursuit of objectivity was considered futile and dishonest. The CEO stated:

... it [the SAM] is more of a discussion tool. As an evaluation tool it might be useful? ... But let's get real; if you are dealing with issues that are not known and are quantum that will shift and anything... that is subject to interpretation... Any attempt to come down here and say 'I have got a tool that will tell you what is right and what is wrong' will be met with 'who is the bullshit artist?' [G.4.12.09.06].

The SAM was considered an essential part of the design archetype to 'assist with the big decisions' necessary to convert the concept drawings from his wall into concrete reality on site [G.24.11.05]. The CEO was looking for a tool as part of the decision-making process which would provide: 'A wider way of thinking about things other than just risk, reward and dollars' [G.1.24.11.05]. In doing so, it was decided that the Land Company board should be presented with the SAM to demonstrate how it could be used in conjunction with the [Land Company] *Urban Sustainable Development Framework*.

In direct contrast with the Council case-study, the CEO anticipated that the senior management or board would benefit from the SAM because it gave them relevant information and the ability to question detail if necessary. The CEO anticipated that the SAM would make the board members reconceptualise the project by raising questions that may not have been asked if the SAM had not been applied. In this instance the purpose of the SAM was to 'tease out the big ticket items' [G.1.24.11.05] and to highlight how they might relate to other social and environmental impacts. The CEO stated:

It has to answer questions that they [the board] would have not necessarily asked themselves because they might not be in a position to formulate them [G.4.12.09.06].

Development of the *Urban Sustainable Development Framework* and appointment of operational staff marked the end of the CEO's contract⁵¹. His final task was to recommend a new CEO to the board and provide them with a full brief on taking the social housing project into a new phase. However, the CEO's optimism for applying the SAM was about to be challenged as the development moved from a concept stage to one of delivery, and a new CEO was appointed.

7.5 Appointment Disturbance

The appointment of a new CEO for the Land Company signalled the beginning of a new phase; according to the new CEO: 'we are now in a stage where we are taking the concepts to a delivery phase' [B.2.28.03.07]. The newly appointed CEO had an extensive background in managing large-scale urban design developments, including several developments with sustainability features. His language was that of 'deliverables', 'indicators', 'benchmarks' and 'milestones' [LC.28.03.07], which differed from the earlier CEO, who spoke of 'vision', 'debate' and 'learning'. A difference in language may partly be explained by the different roles the two CEOs performed in the project. The first CEO created the interpretative schema along with the design archetype, and the second CEO needed to deliver the corresponding sub-systems. The second CEO viewed the deliverable role of the sustainability objectives as being in conflict with meeting the basic project constraints of delivering on time and on budget. The second CEO stated:

The board want to be leading edge, and so we went through best practice... still, it is not an easy equation [to have sustainability objectives] and we have commercial objectives that have to be justified... and, to be frank, one of the

⁵¹ At the expiry of the CEO's contract with the Land Company he rejoined the central project team within the social housing agency.

issues we have as a development team is maintaining that [sustainability] focus [B.1.28.03.07].

The second CEO viewed the further development of the sustainability framework established by the first CEO as ‘very important’ [B.28.03.07] because this is how the development as a whole would be judged. The second CEO wanted to see explicit measures of sustainability that proceeded along a continuum rather than an achieve/not-achieve scale. He believed that explicit measures might allow performance indicators to be placed in contracts with developers to enable monitoring of performance. Prior to the contracts he also thought the SAM might demonstrate to developers that they would be able to charge a premium for the houses developed, and they would therefore pay a higher price for the land and include more sustainability features. Clearly, the purpose of the SAM had changed.

The second CEO viewed the purpose of a ‘sustainability measurement’ system as one that ‘recognised the good work’ [B.28.03.07] being carried out. Without a measurement system which was sensitive enough to recognise changes in issues such as water-use and carbon released into the atmosphere, then recognition of the ‘good work’ was at risk. In the absence of incentives he suggested there was no reason to continue down a ‘sustainability path’. He stated:

...it [sustainability] is largely voluntary and people are doing it for good reasons... but we also want to be rewarded... otherwise we will bugger off and do standard stuff and pay lip-service to it [sustainability], and sell it and still make a packet [B.5.28.03.07].

One way ‘recognition’ might be forthcoming was to make a business case to local authorities on the basis of the SAM. The ‘business case’ proposed by the CEO was to present local authorities with evidence that the site had less impact on the environment, which in return would fast-track the building approval application process. The CEO

considered this might provide an incentive for others in the construction industry to include more sustainability features while the overall regulatory cost to the approval bodies remained constant. In this respect he described the process as a ‘win-win’ [B.28.03.07].

A second form of recognition that might have been forthcoming from local authorities was by way of rates relief. The CEO’s reasoning was that if the development consumed fewer resources provided by a city council then the sub-division as a whole should be charged less. In addition to receiving discounted rates the CEO had identified carbon credits under the New Zealand Emissions Trading Scheme as another example of how his work might be recognised. The above examples demonstrate how the change in CEOs shifted the focus of sustainability features from intrinsic motivations to extrinsic motivations. In early conversations with the first CEO he implied the need to protect people and the local environment, signalling it was an intrinsically worthy cause, regardless of external recognition. The first CEO further signalled that if external recognition was forthcoming in the form of rates relief and carbon credits that would ‘be a welcome bonus’ [B.28.03.07] as opposed to a necessary justification to move the project forward.

The difference in how the CEOs approached the development had implications for others employed by the Land Company. A key member of the research team commented that the change in CEO appeared to influence how the board and other operational staff viewed the SAM. Earlier, the board had viewed the purpose of the SAM as largely a sense-making activity to assist the decision-making process. The board, presumably acting on advice from the CEO, were now supporting the development of a specific indicator set, a view that was primarily championed by the newly appointed CEO. The researcher stated that:

In moving from [old CEO] to [new CEO] and the board trying to limit down to a fairly specific indicator set, rather than understanding the need to have a model that makes sense of all the indicators [was apparent]... [F.1.02.04.07].

However, the board were still keen to hear about the possibilities for the site. The board agreed that the focus should be on the development of specific sustainability indicators, but this was pursued with less conviction than by the CEO. This split in approach between the board and the CEO was not as openly hostile as the fracture in the previous case-study site, but it should be noted that the *operational staff* in the previous case-study were more ambitious about sustainability, whereas in the latter case *the board* were. A researcher described this difference in approach:

I mean, the board said they really want to push the boundaries of sustainable development. So they want to have the potentially more radical options put to them. I mean, my discussion with the [CEO] was different [C.2.17.11.06].

The SAM was now viewed differently by a number of operational staff involved in the project. In contrast to the first CEO, the communications manager viewed the SAM as being able to provide ‘hard data’ that would enable private sub-contractors to charge a premium for adding sustainability features. He thought the SAM would therefore be largely quantitative and ‘reasonably accurate’ [B.N.28.03.07]. However, the communications manager shared the view of the former CEO in respect of the primary advantage of the SAM being the ability to *connect* or *present* information to different people in a number of forms [B.N.28.03.07]. The communications manager thought private developers might focus more on the quantitative data, while others, such as the ‘general public’ would probably make more use of the pictorial view. The pictorial view, along with the quantitative and written forms provided a mix of mediums, which the communications manager viewed as appealing when having to relate to different audiences.

However, not all operational staff viewed the SAM as a vehicle to promote a ‘win-win’ approach to sustainability. The development manager appeared to subscribe more closely to the views of the former CEO. The manager was aware of the recent rise in sustainability issues in the construction industry and believed the motivations behind the

rise were largely profit driven. The development manager was excited about this project because he saw it as being driven by government policy rather than being profit focused. He described earlier projects, in contrast to the current one, as follows:

On previous projects...it is often a compromise between sustainability and commercial aspirations... only leaving them [sustainability features] in when forced to by councils or when there is a marketing advantage [I.1.21.09.07].

Several members of the research team thought the change in the CEO, combined with the underlying commercial pressures, had significantly changed how sustainability was viewed and, in turn, the purpose of the SAM. One key researcher thought the concept of a sustainable build was impressive, but the practicalities of implementing it would be in continual tension with the bottom-line result. Several members of the research team anticipated that the SAM would be used to identify a few low-cost sustainability features and to justify their implementation. Unless the debating ground could be transformed, the end result was expected to be significantly short of the founding CEO's vision. The key Landcare researcher thought that the development team wanted outcomes from the SAM that were not intended. The majority of the development team now appeared to want a 'technical tool' that would assist with the marketing of the site, as opposed to a tool that would facilitate discussion of sustainability thinking.

In spite of the change in the purpose of the SAM there was an expectation it would continue to be used, especially in respect of the board's desire to consider a range of sustainability tools. The next phase of the project involved making decisions about the type of infrastructure that would be used in the development. One of the major infrastructure decisions to be made involved the type of drainage in the development site. This was the first major development decision to be made about the site, and the CEO wished to include others in the process to discuss the implications for other related infrastructure options. He proposed that a stakeholder workshop be held with a range of design and construction consultants, a regional council representative, a city council representative, and an energy specialist, as well as with a social housing representative

from central government. Further, the CEO requested that three SAMs be constructed, detailing standard drainage systems and a sustainable drainage system.

7.6 SAM Workshop

The SAM workshop provided an opportunity to pilot-test the SAM on an infrastructure decision, rather than the development as a whole. The design contractor had prepared three scenarios, specifying the costs and time-frame for each option. The scenario and cost data provided sufficient information to construct three SAM profiles. The lead researcher on the project took the role of constructing the SAMs from the cost data provided and met with the CEO, development manager and communications manager prior to the workshop. During one meeting the CEO sought clarification in respect of *how* monetisation took place and what elements should be included. He stressed the need to have ‘rigorous data’ that would provide the basis for further discussion [B.N.28.03.07].

The first SAM detailed what a standard drainage option might look like for the housing development. The second SAM detailed what a standard drainage option might look like if some additional sustainability features were added. The final SAM detailed what the development might look like if all sustainability features identified for the drainage infrastructure were adopted. Immediately prior to the workshop the CEO stated that the standard stormwater SAM could be dismissed because it was not in keeping with the intentions for the site. Therefore two SAMs were presented, an enhanced conventional drainage option and a sustainable development drainage option. These two SAM profiles are depicted in Figures 7.2 and 7.3 below.

The enhanced conventional SAM profile was dominated by capital expenditure and associated maintenance costs, with little social and cultural impact noted. The negative environmental impact appeared small in relation to the other categories. Although the environmental impact was regarded as small, it was still considered important, as any

outflow of the stormwater system would flow into a class-one environmentally sensitive area⁵². The benefits for option-two, the sustainable development scenario, included: local employment for maintenance of the rain-gardens; increased visitation, and subsequent local expenditure; improved walkability and associated health benefits; reduced vehicle emissions; enhanced bio-diversity; reduced accident rates, and educational value.

The Land Company SAM profiles were considered under different capital categories from previous applications. In the Land Company SAMs the resource usage heading had been removed and replaced by a cultural capital category. This change took place at the request of the CEO so there would be better alignment between the *Urban Sustainable Development Framework* and the SAM. The resource category items were now considered under the economic and environmental headings. Cultural items previously considered under the social heading were now identified and included under the separate cultural heading.

Figure 7.2: Enhanced Conventional Stormwater SAM Application

⁵² Class-one environmental areas require a higher level of resource consent and any negative environmental impact is closely monitored by a central government agency.

Figure 7.3: Sustainable Development Stormwater SAM Application

The SAM was presented in conjunction with a set of sustainability indicators being considered for the site. These indicators were part of the *Sustainable Urban Development Framework* and included measurable aspects under each sustainability sphere (see Figure 7.1 earlier in this chapter). The research team had envisaged that the SAM might facilitate discussion that would highlight the interrelationships among indicators.

At the conclusion of the presentation, a number of different themes were raised. One of the first discussions focused on the assumption that the lifespan of the site was estimated at 90 years. The assumption, which had served as the basis for monetising elements within the SAM, had significant opposition and the group decided a longer time-frame was appropriate. Discussion then turned to flooding, water-tanks, and the ‘free-rider’ problems experienced with water infrastructure in some parts of the city. The group as a whole believed that people living in residential areas (such as the proposed development) did not have enough information to make good decisions on water

consumption and its associated effects. Many in the group believed the concept of turning on a tap, with water always flowing, meant that water was viewed as an infinite resource. It was apparent that elements included in the SAM served as a catalyst for discussion. In one instance a regional council representative asked about elements *not* included. This representative stated that iwi⁵³ were not adequately represented in the SAM and were not present at the workshop.

The sentiment of the final discussion of the day was expressed by a senior LCR researcher who said we should remember that the world would have changed by the time the development was finished, as we would be ‘living in a post-oil world’. The conversation stimulated by the SAM presentation was the most broad ranging of the day, suggesting that the SAM, when used in conjunction with other sustainability tools, had the capacity to provide a frame of reference which could elicit a host of questions. Minutes of the workshop were noted by the research team and the Land Company for further discussion.

The presentation and subsequent discussion of the SAM during the stakeholder workshop appeared to demonstrate the possibilities of the tool. However, the CEO did not share the same enthusiasm as many other workshop participants, and the elements raised during the stakeholder workshop were not raised again during subsequent meetings I attended. The earlier enthusiasm for applying the SAM was about to change.

7.7 Reorientation

The workshop discussion, facilitated by the presentation of the SAM, was mixed with the CEO’s reservations. His concerns focused on the inability of the SAM to perform the same functions as a direct indicator set. The principal LCR researcher counter-argued that the SAM could help make sense of the indicators and the *Urban Sustainable*

⁵³ Iwi is the Maori word for local community

Development Framework. The SAM, used in this sense-making capacity, was intended to act as a catalyst for debate rather than to produce a ‘technically correct’ answer based on ‘best practice’. However, the CEO remained wedded to the belief that the ‘data produced’ by the SAM was not ‘rigorous’ [B.28.03.07]. Members of the LCR research team believed that the business case the CEO was preparing for the New Zealand Treasury had direct bearing on his criticisms of the SAM. The sentiment of the research team was voiced by one researcher, who stated:

... I think it was because [the new CEO] was doing his business case, and part of that included a detailed cost-benefit analysis, and he wanted more information than the [SAM] report delivered. He came back and said ... he should be able to take it from the SAM and put it in the Treasury report [C.2.17.11.06].

The research team believed that the inclusion of elements in the SAM deemed ‘inappropriate’ by the CEO provided further grounds for his criticism of the SAM as a technically deficient tool. One example of an element deemed inappropriate by the CEO was the inclusion of mental health. The CEO was adamant that the inclusion of ‘suicide’ and ‘crime’ should be removed because they would create bad publicity for the site. He further suggested that there was a need for the research team to be ‘solution driven’ as ‘experts in the field of sustainability’ and that the problem of finding a suitable measure was the responsibility of the research team [LC.17.11.06]. Instead of looking at ‘negative’ aspects the CEO wanted more ‘positive’ elements to be included. The inclusion of the ‘negative’ items had given rise to what appeared to highlight the dominant interpretative schema of the organisation, particularly concerning the approach to sustainability: sustainability was acceptable as long as it either supported what was done or could fit in with the business model. The CEO phrased his objections as follows:

I guess the other side of it is ...things like the number of suicides being a measure. I mean I have to have my marketing hat on in my role. I am trying to sell the vision, and I can’t just say [fewer] people are dying [B.4.28.03.07].

At the moment [the] SAM does not reflect the specialness of the development...Things like suicide and crime detract from what we are trying to do [B.1.27.11.06].

Immediately following the stakeholder workshop the CEO called another meeting with the research team. He was visibly frustrated with the SAM and associated discussions because he could not see how it could fit with the project objectives. The lead researcher was equally frustrated by this, as she had reiterated the purpose of the SAM in previous meetings and documentation. However, the expectations of the SAM had evolved since those discussions and writing of the SAM report. The primary purpose for using the SAM had moved from being a discussion tool with which to make sense of various indicators to being a measurement and marketing tool. The CEO asked:

What is the purpose of doing this?... I don't really want anything in the framework that cannot be measured. What I want is a sustainability report card [H.1/2.30.01.07].

The SAM was not intended to be a tool which could provide direct indicators to measure actual versus planned performance, and as a result fell short of that objective. The SAM was viewed by the CEO as not having the required technical capacity. The CEO described what he wanted:

But really, it seems to me... indicators are really useful because you can have a checklist. I mean, we don't want a simple checklist, but we want something that is robust [B.4.28.03.07].

The attitude taken towards the SAM appeared to be shared by a greater number of the operational staff interviewed. The SAM was now viewed by the development manager as a tool to *provide* a piece of analysis, where greater emphasis could be placed on the

result rather than on the *discussion* arising during the development of the SAM (emphasis added) [I.N.21.09.07]. The development manager originally thought that the SAM would be useful in developing the business case being sent to the Treasury. However, he had become concerned that the SAM might not present the development very well. The development manager no longer appeared to view the SAM as a tool to assist in decision-making. His indifference in using the SAM was implied as follows:

I am not sure at the end of the day that it is going to make a huge difference to what we do at [the site] because the SAM stuff is going on at the same time as we are making decisions [I.3.21.09.07].

The inclusive style of co-developing a SAM to tease ‘out the big ticket items’ in developing the site had now been replaced with a different model of interaction. A *consultancy* type model was expected by the CEO, as opposed to the research organisation *facilitating* the application of a SAM with the Land Company. The CEO expected to be presented in meetings with a SAM report which would contain clear recommendations, rather than having a SAM emerge during the progress of a discussion. An extract below, from an interview, highlights the CEO’s consultancy model expectations.

CEO: The problem was that it was not solution driven. I mean the technical advice we get from Landcare [Research] is first-class and technically astute.

Interviewer: And in a sense is that what you expected?

CEO: Yes. I thought SAM would work the same way... at times it was theoretical gobbledegook [B.6.28.03.07].

The brief exposure of the SAM during the stakeholder workshop appeared to raise a broad range of questions. However, the brevity of the exposure and the expectation of a consultancy type interaction between the research team and the Land Company minimised the impact of the SAM. The secondary disturbance of the new appointment

appeared to change the path the SAM was taking. The interpretative schema underpinning the design archetype was being reoriented and, as a result, the SAM was no longer in equilibrium. The message delivered by the CEO appeared to be: ‘we are still into sustainability but *your* tool is no good’ [paraphrased by research team member and emphasis added: B.28.03.07]. Movement from one interpretative schema to another had significant consequences for the application of the SAM. The salient elements of this shift will now be explored.

7.8 Assemblages

When coding empirical material for the Land Company site, two assemblages stood out: leadership and human agency, and policy and legislation. Although these two assemblages also appeared in the former Council case-study site, a number of differences exist. This section will now discuss these two assemblages and compare them with the former case-study site.

7.8.1 Leadership and Human Agency

The change in CEOs provides a stark contrast in how each viewed the purpose of the SAM and demonstrates the powerful role of the CEO in shaping an organisation’s interpretative schema⁵⁴. An interpretative schema may either support the use of tools, such as the SAM, or create a discourse to render them useless and ‘not technically’ capable. The first CEO aligned a series of policy directives, created a legitimising narrative, gathered a small group of people and formulated a design archetype. He was passionate about ‘this one [the development] being different’ and appeared to communicate this passion to the board [H.24.11.05]. The second CEO, under pressure to deliver on time and on budget, did not share the same view of sustainability. It is

⁵⁴ Throughout the application of the SAM in the Land Company site, no accountants were involved. Instead the CEO handled all the finances, thereby further increasing the level of influence he had on the newly formed organisation.

possible that the SAM may have raised too many inconvenient or ‘negative’ things that disrupted his ability to deliver. The second CEO was pivotal in reorienting the interpretative schema and, in doing so, the purpose of the SAM.

The motivations of the two CEOs regarding sustainability were also in direct contrast. The first CEO viewed the provision of sustainability features as inherently ‘good’ things and legitimate ends in their own rights. The latter CEO viewed the provision of sustainability features as something that was ‘good’, but conditional on external recognition.

The pivotal role of a CEO is a similarity across the Council and Land Company case-study sites. In both cases, a change in the CEO signalled the demise and eventual non-application of the SAM. Application of the SAM amidst the changing of the CEO may in these circumstances be considered a diagnostic for the climate of sustainability within an organisational context. To merely interview a CEO on his or her views about sustainability does not yield the level of insight compared with interviewing a CEO about a design archetype, tasked with embedding sustainability. The application or non-application of the SAM provided insight into tracing which individuals in the organisation were involved and why they were important to embedding sustainability thinking, in spite of the subsequent (non) transformation to a more sustainable way of living.

In both case-study sites the CEO provided an important linkage to the board or elected representatives. In the case of the Land Company the first CEO had recommended use of the SAM, but the second CEO had advised against its use. When the SAM was initially presented to the Land Company board, discussion, in respect of some questions initially asked, appeared similar to the first presentation of the SAM to the Council the. The first questions had centered on how something that is a financial cost to the entity could be portrayed as a benefit on the SAM profile. When explained that the SAM represented impacts on a societal basis, a member of the Land Company board ‘translated’ what this meant to other board members, who were not so readily accepting of the researcher’s explanation. The board member paraphrased it to mean ‘the Land Company was making

an investment in the community and had to be judged accordingly' [C.17.11.06]. It is worth noting that the board member, who took the societal view and applied it to this SAM, was also a board member of an organisation that was widely recognised for its work in sustainability reporting. The assemblage of a CEO who advocated for a sustainability frame (on the basis that it should be done for its intrinsic value), coupled with a board member who appeared to share the same views, allowed this metarule to become embedded within the newly formed organisation.

Leadership on sustainability thinking came from more senior levels in the Land Company, whereas, in the Council, operational levels were more proactive. In the early stages of the Land Company development the pressures exerted on both the board and the CEO included the construction of a concept (that is, sustainability) that legitimised the involvement of central government. In the latter stages the pressures differed, and the second CEO became involved in the *delivery* of the concept, and judged accordingly for his performance. In the Council site, the pressures remained the same, with the metarule of rates minimisation being greater for senior staff and elected members throughout the SAM applications.

7.8.2 Legislation

Legislation and policy directives from central government are important assemblages, as they performed a significant role in creating an organisational disturbance in both case-study sites. In the case of the Land Company, the alignment of several streams of work initiated by central government provided the justification for the site development to proceed. The first CEO aligned these streams to provide a legitimising narrative of sustainability against a backdrop of economic maximisation pressures. The alignment of these sustainability elements, inherent in central government policy, appeared to have intrinsic motivation. The metarule in this case was that such sustainability provisions should be provided because it was a 'good thing to do' and an end in itself. This metarule contrasted with the approach adopted by the second CEO.

The second CEO wanted further changes to local government legislation, in terms of sustainability projects, to be fast tracked and recognised via financial incentives. The changes suggested by the second CEO do not challenge the profit maximising metarule inherent in the way many in the construction industry approach sustainability [I.N.21.09.07]. The metarule underpinning change of legislation is that social housing can be provided in a sustainable manner, if, and only if, there are external rewards.

Two important points arise in considering legislation with respect to sustainability. First, it appears that legislation can work in a variety of ways and create any number of behaviours. The differences may be explored in identifying the purpose behind legislation implicated in sustainability thinking. For example, the purpose of legislation, as suggested by the second CEO, focuses on ‘recognising (or compensating for) good work’. This contrasts with the first CEO, who implied that legislation is required for sustainability because it is an inherently worthwhile objective. Second, the importance of individuals ‘aligning the streams of government’ to achieve sustainability thinking appears to be significant. The power of a structure appears to be at the discretion of agents, particularly those occupying leadership positions, who can either harness or ignore it.

7.9 Discussion and Concluding Comments

The first CEO anticipated that the SAM would perform a significant role in the decision-making process of the Land Company’s operations. The newly formed subsidiary was headed by a CEO with an agenda to build a sustainable urban development that would be a unique first in Australasia. The first CEO had significant influence in developing the interpretative schema of this embryonic organisation and implemented a sustainability framework which was to be supported by the SAM. However, a secondary internal disturbance of a new appointment changed the interpretative schema and, in turn, the ‘deliverables’ of the SAM. The purpose of SAM was reoriented, and deemed unable to deliver what was required.

The changing of an interpretative schema that leads to the changing of a design archetype (in this case the SAM) is described by Laughlin (1991) as second-order change, and is depicted in Figure 7.4. This figure illustrates the change of an interpretative schema, leading to the establishment of a new interpretative schema, design archetype, and sub-systems. In many instances this change might occur over a lengthy time-frame and have several temporary stages of development (characterised in Figure 7.4 as interpretative schemas 1a and 1b). However, the small size of the Land Company, combined with the embryonic stage of its development, and change in CEO, meant that this evolution occurred quickly. The temporary nature of the Land Company as an organisation may have further contributed to the rate of change to the interpretative schema. The Land Company was in a design phase and lacked significant sub-systems; the rate at which change to an interpretative schema may occur is quicker compared with a more established organisation with significant sub-systems.

Laughlin (1991) describes the changing of an interpretative schema and subsequent design archetype as an evolutionary pathway. This evolutionary pathway is characterised by the majority of the participants choosing and controlling this change. This can be contrasted with the attempted colonisation by operational staff in the Council, where change to the design archetype was not initially controlled or agreed to by senior Council staff.

Figure 7.4: Second-order change: Evolution

(Adapted from Laughlin, 1991, p.221)

The interpretative schema of the Land Company appeared favourable to the application of the SAM and sustainability thinking. However, this interpretative schema appeared to be subject to second-order change, morphogenetic change. In the case of the Council, no change appeared to be made to the genetic code of the organisation. Taken together, the empirical sites suggest that changes to the design archetype will only be successful if they are made beforehand or simultaneously to the interpretative schema. For example, the interpretative schema of the Land Company saw the initial application of a new design archetype progress without resistance until the secondary disturbance of the new CEO occurred. This appears to align with the organisational literature discussed in Chapter Three, where morphogenetic change occurred. In the previous literature, morphogenetic change occurred in a railway empirical site (Laughlin, 1991). In this case the change of design archetype occurred subsequently to the change in interpretative schema, when business directors and the CEO directed resources into a new way of operating.

The most salient aspect arising from both case-study sites is the role agency performs on the design archetype (the SAM). The role of the researcher and other agents in the

organisation was highlighted in a debriefing interview with the principal researcher. He viewed the leadership of sustainability initiatives and inclusion of the SAM in project decisions as being entirely dependent on the people implementing them. Given the less than desired impact the SAM applications had within the case-study sites he believed the role of the researcher, acting in the capacity as a change agent, had to be rethought. He stated that it was people who made the SAM work:

I don't think you can go in and drop it [SAM] on the table and hope that it will happen [F.3.02.04.07].

The empirical discussion to this point provides a narrative of the activities undertaken, the assemblages that appeared to have influence, and whether change may have occurred. While providing a level of insight, this narrative is problematic on two levels. First, although morphostatic change appeared to occur in one instance this remains underspecified. In order to make a claim that the SAM applications were implicated in 'good', 'real' change (or if change even occurred), a normative reference point of some kind is required. Second, providing a detailed narrative of *what*, *when*, *why* and *who* does not adequately explore the role of agency: the *how*. The empirical focus of this thesis will now turn to explore the process of *how*, within the normative framework (DHF) developed in Chapter Four.

Chapter Eight: Evaluating The Sustainability Assessment Model

8.1 Introduction

Chapters six and seven provide a descriptive narrative of the SAM applications, detailing what occurred, when, and with whom. These chapters provide a valuable but insufficient level of insight to evaluate whether the SAM applications promoted ‘good’, ‘real’ change necessary for more critically reflective organisational accounts. In responding to the research question, this chapter will evaluate the SAM, with reference to an explicitly normative framework, namely the DHF, a Freirian inspired heuristic.

The DHF, constructed in Chapter Four, illuminates dialogic interactions within the organisational narratives, constructed in Chapters Six and Seven, which may lead to change necessary for more critically reflective organisational accounts and sustainability (for example, Bebbington, et al., 2007b, p.356). Most notably, the DHF extends the skeletal model of organisational change by exploring the aspects of agency, noted in the application of Laughlin’s framework as being important. In evaluating the presence of dialogic interactions, several questions arise:

- i. First, what is the purpose and process of a dialogic account;
- ii. Second, what might be contained in a dialogic account, who would construct it, and how might this be done; and
- iii. Third, what would be the size, time-frame, and ownership of a dialogic account?

In responding to these three questions and drawing on the descriptive narrative, the effectiveness of the SAM applications will be evaluated. In making such an evaluation, ‘good’, ‘real’ change necessary for critically reflective accounts (and in turn sustainability) can be detailed.

This chapter is structured by exploring the above questions in two principal sections. Earlier empirical chapters noted that the aspirations in applying the SAM were not realised after a series of disturbances. The difference between initial and subsequent applications therefore provides the opportunity to contrast the SAM before and after the noted disturbances. The first section will draw largely on empirical material from the initial application of the SAM and discuss the presence of dialogic attributes. The second section will draw largely on empirical material from later SAM applications and discuss the non-dialogic attributes present (that is, what is the purpose and process for a non-dialogic account). The two sections, taken as a whole, will provide a snapshot of dialogic aspirations in the early application of the SAM and the non-dialogic realisation in later applications.

8.2: Dialogic Aspirations

The contrast between early SAM applications and the later applications is evidenced in the Council applications. Initially, the SAM influenced how team members conceptualised the project and made decisions. However, after the appointment of the second CEO the SAM was deemed ‘too complex’ by senior managers and had little influence on project decisions [M.16.06.05]. In the Land Company, the application of the SAM was requested by a CEO, who viewed it as an essential mechanism to support his vision of sustainability. However, following the appointment of a second CEO, the purpose of the SAM was reoriented and deemed technically deficient. In both case-study sites the SAM, as a design archetype, appeared to progress without resistance until the appointment of new CEOs.

The following section tracks the dialogic aspirations present in the earlier applications. Each sub-section outlines the attributes of the DHF and discusses them in the context of both case-study sites.

8.2.1 Purpose and Processes of a Dialogic Account

The purpose of dialogic accounting is to co-develop an account that fosters questioning, consideration of alternatives, and action (Thomson and Bebbington, 2005, p.520). This co-development may involve the presentation, consideration, and synthesis of many personal or collective accounts of the same situation (Thomson and Bebbington, 2005, p.518) which facilitates a ‘raising of consciousness’ (Bebbington, et al., 2004). It is against this backdrop that the purpose and processes of the SAM will be considered.

When applying the SAM in the Council and Land Company case-study sites, it became apparent that both exhibited dialogic purpose and processes. The exploration of what constitutes a dialogic purpose in each of the case-studies is further explored by comparing the processes followed with Freire’s (1970, 1998a, 1998b) three interrelated processes of change: *problematization*; *reconceptualisation* and *action*⁵⁵ discussed in Chapter Four.

8.2.1.1 Problematization

The first category, *problematization*, involves the identification of situations which limit the realisation of a desired way of being or particular action (Gadotti, 2005, p.2). Problematization may involve the facilitation of reflection, asking questions, and making visible unsustainable practices (Freire, 1970, p.10). Problematization is considered to provide a valuable space in which to create agency that can be exercised by those working in the organisational boundary and is therefore an important element of SEA engagement (Bebbington et al. 2007b, p.369). Such space may be created by ‘dialogic processes that seek to deconstruct the sense of powerlessness experienced by individuals and reinstate belief in their agency’ (Bebbington et al. 2007b, p.366).

⁵⁵ The problematization, reconceptualisation, action categories are described by Freire as the purpose of any dialogic action.

The first part of constructing the SAM required participants to identify the important elements of a sustainability account, which facilitated the raising of questions⁵⁶. In the Council case-study site a number of examples were gathered where aspects not previously considered were discussed because ‘the SAM [process] forced people to ask questions’ [M.4.28.10.05]. An operational manager highlighted an earlier discussion where contents of the SAM were being decided and he drew on the inclusion of employment in the waste collection industry to illustrate the raising of questions and additional elements that had not previously been considered. He said that because of unsocial hours, hazardous activities, and low pay he regarded waste collection jobs as low quality, stating:

The question is about quality jobs. We’re talking about people collecting rubbish and... that’s mucky ... so the question is really... you’ve got the jobs... but they’re low quality, low-paid jobs... [C.28.16.06.04].

The operational manager believed that to ask questions that may not have previously arisen and to include the response in the SAM afforded the people who worked in these roles a new visibility. However, the asking of questions can be considered a necessary but deficient element in the wider concept of problematisation and facilitating change. The capacity to ask questions in a manner that fosters agency for those in the organisation is a more crucial aspect when considering change.

The emergence of elements not considered in earlier project evaluations was assisted by the SAM serving as a frame of reference for discussion. This finding is comparable with earlier SAM applications (Bebbington and Frame, 2003, p.8; Bebbington, 2007b, p.67). Many of the elements included in the SAM were raised during meetings where a basic SAM was presented and then re-presented at a later meeting in a similar manner to the dialogic educative process outlined by Coulson and Thomson (2006, p.262). This ongoing presentation and discussion created a frame of reference to further develop

⁵⁶ In a similar vein, Freire’s work in asking people to identify words that were relevant to their everyday lives promoted the asking of questions and challenging the status quo.

conversation. This frame of reference provided participants a space not only to look at individual items, as in the employment example above, but also consider how these related to each other. One conversation, representative of many witnessed in earlier applications of the SAM in the Council, involved consideration of which items should be included in the waste SAM application. This conversation was the result of several other discussions, using the SAM as a frame of reference, where the interconnections, limitations and possibilities were able to be developed. Although several project managers in the Council expressed this sentiment, it is most succinctly captured during an interview with a waste project manager who said:

I think it challenges policy makers to look at the interconnections between things and to step outside the square... for example, the taking of waste to [disposal site] in trucks affects emissions and other road users... along the lines of road accidents... but that is something we have never thought of before... [M.3/4.16.06.05].

The broadening of discussion to include new items and consider interrelationships was also apparent in the Land Company case-study. The infrastructure SAM applications initially facilitated discussion which identified the wider societal forces acting on the organisation as a whole. The tension between making a return on capital and undertaking sustainable activities was identified by the development team during a meeting and later articulated by the Land Company development manager in an individual interview⁵⁷. The Land Company development manager described the limiting situation of embedding sustainability into the organisation as follows:

Various councils, including [name of local Council⁵⁸] and the regional council have been pushing the low-impact design approach to land development. I think

⁵⁷ Such a finding reinforces the work of Bebbington (2007b, p.114), who notes that previous experiments with the SAM highlight tensions where sustainability initiatives 'do not mesh' with current organisational routines.

⁵⁸ This is not the same council explored in the first case-study site.

on previous projects we have gone some way towards this, but it is often a compromise between sustainability and commercial aspirations. They will use these things when they have to or when it suits them... [I.1.21.09.06].

The tension between the return on capital and embedding sustainability features was further articulated in terms of risk. During construction of the SAM, the Land Company development manager emphasised the pressures on private developers to replicate what had been done before and thereby mitigate their risk exposure. As part of this strategy to mitigate financial risk, options that were viewed as 'different' were unlikely to go beyond the first phase of discussion. Sustainability as a concept was seen as a new development within the New Zealand construction industry and therefore involved change and risk. The development manager stated that an aversion to risk resulted in the replication of how projects were previously carried out:

... you can just end up with something that has been done before, but just on a bigger scale, or maybe something slightly better, but not in a whole new way... [I.2.21.09.06].

The exposure of elements which limited sustainability and highlighted the interrelationships of various project decisions were not necessarily welcomed aspects for all participants using the SAM. For example, in the construction of the Council waste SAM, one option featured a decrease in employment and waste. While the decrease in waste was largely considered a favourable aspect of the project (waste), the reduction in employment was controversial. The controversial nature of the content was deemed 'inappropriate' by senior management and the SAM was not circulated as per previous intentions [M.16.06.05]. An operational manager involved in the waste SAM application highlighted the problematising role of the SAM as follows:

I know it sounds a bit naf, but if you give a model that says this is an issue then you are raising issues that might not otherwise come to mind... so the SAM

might help with that, but it might also hinder, because it asks a lot more questions [M.1/2.28.10.05].

The processes of constructing and applying the SAM to project decisions prompted questions that may not have been previously raised. The SAM appeared to provide a frame of reference and space in both case-study sites to expose limitations and explore the interconnections among various elements. The emergence of questions and limit situations within a framework provided momentum to continue the discussion and served as an antecedent for the generation of new ideas. This generation of new ideas is viewed as important aspect of change by both Freire (1970; 1998a and 1998b) and social accounting researchers (Gray, 2002). Freire termed the generation of new ideas as 'reconceptualisation', and considered it an important element in any dialogic process (Palma, 1977, p.10).

8.2.1.2 Reconceptualisation

A dialogic account serves as a medium of critical reflection, with problematisation providing the catalyst for new ways of thinking and acting (Freire, 1983a, p.133). The process of applying the SAM was not something previously experienced by most interviewees. As a result, the new physical layout and task of populating the SAM spreadsheet was a different experience which included elements not previously considered. Discussions on which elements should be included in the SAMs served as starting-points from which to challenge construction of the SAM as a purely 'technical' activity.

The sustainability co-ordinator in the Council and the first CEO in the Land Company were both involved in the initial application of the SAM, in their respective organisations, believing it would make elements of sustainability more tangible compared with other project evaluations [G.30.01.06]. In the first pilot interview within the Council, an operational manager anticipated that a SAM might raise aspects of sustainability which would require those involved in the project to question and rethink

their activities. In response to a SAM application which had raised unexpected issues of unsustainability, the operational manager said:

... you might... say, 'well, hang on, we haven't thought about the best way of doing this... maybe we used to do this in the past...but we can think about what to do now' [C.22.16.06.04].

The response was to reconceptualise current activities and thinking. A further example was provided when the sustainability co-ordinator presented the SAM to a group of managers. The sustainability co-ordinator stated after the presentation that he expected the:

SAM will engage them [those involved in project decisions] in a different way and will prompt thinking in a different way because it is actually a simple tool we can use [P.3.25.01.05].

The influence of SAM beyond a 'technical' application was most apparent in workshops where re-presentations of earlier SAMs provoked wide-ranging discussion. A discussion, typical of many earlier meetings with the Land Company, involved the presentation of a hypothetical SAM and how the associated profile might look. On the presentation of a hypothetical SAM by a member of the research team, conversation among the project team focused immediately on how the SAM profile might be 'improved' if other scenarios were explored. One aspect of discussion focused on the energy consumption of the development site and how the negative impacts might be reduced. The researcher described the conversation as follows:

One of the guys [board member] I had been in a conversation with ... about renewable energy and what the impacts might have on the project... and then someone came in and talked about another source of renewable energy and how it could be done better and onsite [C.1.17.11.06].

In another example, a group of elected representatives from the Council decided a community garden was resource intensive, but added significant health, recreational, and educational benefits.

The processes of constructing and applying the SAM fostered the reconceptualisation of aspects in the project in both the Council and Land Company case-studies. However, reconceptualising new ways of thinking and acting was viewed by Freire as an insufficient pursuit in itself (Freire, 1983a, p.75). Instead, Freire emphasised action as an important aspect of the dialogic process, and introduced the term 'praxis', which combines thinking and acting (Freire, 1983a, pp.75-76).

8.2.1.3 Action

Action can be considered on several levels in the application of the SAM. First, and most tangibly, the challenging, reconceptualisation, and action on a particular project decision. Such a tangible change was witnessed in the community gardens application. The decision to sell the land where a community garden was located appeared to be a strongly favoured position held prior to the construction of a community gardens SAM. Use of the SAM facilitated action in the community garden project and provided a voice against the property unit's cost-benefit analysis, which recommended the land be sold. An operational staff member involved, stated:

What you have done with the SAMs is said 'no, it [the community garden] does have a value, and this is the value of it' [the community garden] and it [the SAM] did really turn around the decision [M.4.28.10.05].

The inclusion of a larger cross-section of people (compared with earlier project evaluation models) in the community gardens SAM can be considered another form of action [M.N.28.10.05]. This greater number and diversity of people, along with their

presentations of information, led to the emergence of elements not previously considered. The inclusion of views from people who worked in the garden facilitated a community survey in addition to the construction of a SAM. The people who worked in the garden did not consider the SAM gave sufficient weighting to social benefits which derived from the garden. The SAM provided an entry-point for a number of different people to discuss issues of the community garden and a potential avenue to act on this discussion. A member of the research team attributed the ability to have multiple iterations of the SAM as an important mechanism for including different views at different points in time, using the SAM as a frame of reference [C.N.14.04.05].

The momentum created by the SAM acting as a frame of reference appeared to facilitate the combination of thinking and action. Once again, the iterative process used in the construction of the SAM gave momentum to the conversation by providing a frame of reference, which can be considered as another level of action. A lead researcher, involved in both the Council and Land Company SAM applications, described the process as follows:

[The] SAM should go through a number of iterations... and the new one [SAM] is going to be based on the initial meeting and understanding of the project... and then we return and [re] present the SAM [C.6.14.04.05].

The frame of reference created by the SAM provided an entry-point for different people to enter the conversation at different times, and served as a linkage for the same individuals throughout the course of a project. The usefulness of a frame of reference was demonstrated when an MCA analysis was trialed in the Council housing project. The results of the MCA took several sheets of paper to tabulate and were not readily accessible⁵⁹ for follow-up discussion. In spite of the rich conversation debate progressed very little beyond the discussion of the initial meeting.

⁵⁹ This is not to suggest that MCA does not have participatory potential (for example, as discussed in Mendoza and Prabhu, 2005).

Action was also illustrated in the early application of the SAM in the Land Company case-study through a noticeable change in organisational discourse. The inclusion of the SAM, along with the *Sustainable Urban Design Framework* used by the Land Company, facilitated the reframing of existing discussion which had given undue emphasis to narrower economic aspects of the development. This reframing provided the opportunity to co-develop new alternatives where a new dialogue emerged, and was described by the CEO as follows:

It [the SAM] was tangible and it [the SAM] was real enough to have some credibility, but it was experimental enough for us to be able to move things... it was flexible enough for us to both learn as we went along and create something [G.3.12.09.06].

The application of the SAM in both case-study sites prompted questions, highlighted tensions between economic and sustainability initiatives, and reconceptualised how team members thought about their projects. The changed organisational discourse and project decisions indicate that action, problematisation, and reconceptualisation were present. Overall, the above elements suggest that attributes of a dialogic purpose and process were evident in the application of the SAM. However, examples provided in this subsection are drawn from early applications of SAM in the Council case-study site and the early phase of the Land Company SAM application. In this subsection, only one example has been drawn on from the later applications, that is, after the appointment of the new CEOs, which suggests that attributes of a dialogic process appear to occur prior to the disturbances noted earlier in empirical chapters.

In establishing that dialogic attributes were present in both the purpose and process followed in early applications of the SAM, the question of how these attributes might be manifested in an account (the SAM) remains underspecified.

8.2.2 Content, Participants and Communication of a Dialogic Account

This section responds to the second line of questioning: *what might be contained in a dialogic account, who would participate in the construction, and how might this take place?* Earlier discussion in Chapter Four emphasises the content of a dialogic account as a catalyst to open debate, temporal in nature, and characterised by unpredictability (Thomson and Bebbington, 2005, pp.519-520; Coulson and Thomson, 2006, p.262). Such content may involve heuristic learning in the form of images, metrics or general language suitable for the audience (Thomson and Bebbington, 2004, p.613), where something new is created. In using these attributes, empirical material from the case-study sites may be drawn and compared.

The inclusion of images, metrics or general language is likely to highlight the contestable content of an account and facilitate discussion, rather than treat the content as an ‘infallible truth’ (Boyce, 2000, p.53). In the Land Company site the first CEO viewed the SAM as a tool to assist the co-development of something new for the purposes of discussion. He believed the SAM did not have to be one person’s view or another person’s view, but rather the creation of something that existed as the outcome of discussion, with a central focus on content that facilitated discussion. He stated:

... it is not about getting it right or entering into some longstanding dialogue about whether your definition of sustainability is better... you have to say [the] SAM is about the outcomes of discussion [G.8.12.09.06].

The unpredictable nature of the SAM was illustrated in a number of applications in the Council. In the transport SAM application, the transport manager anticipated that the SAM might deliver unexpected results, stating that if the SAM did provide unexpected results, this would provide an opportunity for further exploration as to why differences occurred.

We believe this is the answer [gesturing with his hands towards a document]... but if it is not... if out of the assessment comes an answer that it is not a

sustainable approach, then this will help with the decision-making by finding out why [M.3.16.06.05].

The anticipation of new and unpredictable content appeared to arise from the way information was presented in the SAM. The SAM facilitated the presentation of information in several different forms: metrics, pictorially (in the form of a SAM profile), and general language. The presentation of accounting information has implications for whoever interprets it, how it is interpreted, the actions and decisions made (Warren, 2005)⁶⁰, and is therefore an important feature of a dialogic account (Brown, 2009, p.333). In both case-study sites the SAM profile was favourably received, particularly by senior management and elected representatives and board members. The elected representatives of the Council commented positively on the pictorial nature of the SAM as an initial entry-point into what ultimately became a rich discussion of the elements and interrelationships of the project. In summarising the tone of the elected representatives' views, the Council member who presented the SAM described the SAM as showing:

... it [the project] in a pictorial way that made the Councillors [elected representatives] feel comfortable [P1.11.05.05].

In a follow-up interview with a senior researcher, reasons why the elected representatives felt comfortable with the SAM were explored. The senior researcher believed the SAM profile provided an initial and straightforward way to present relatively complex information. However, as discussion progressed the elected representatives asked questions that required reference to the text and numerical information used in the construction of the profile. In this situation the SAM provided the necessary level of detail and could simultaneously provide a comprehensive

⁶⁰ Also see the 2009 *Accounting, Auditing and Accountability Journal*, special issue on 'Accounting and the Visual'.

overview expected in board meetings. The senior researcher commented on the well-received presentation of the SAM profile:

I think the visual aspect is a real benefit because it presents you with a picture, a graph showing the costs and benefits under each of the categories, and I think the visual representation is valuable - better than just the text or the numbers [G.2.11.05.05].

The mix of content, in particular the SAM profile, was also well received by the Land Company's communications manager. He considered the presentation of the SAM profile as a favourable entry-point for communicating relatively complex information to people from a variety of backgrounds, which therefore broadened debate to include people who might not otherwise have been considered. He stated:

... the concept of presenting the information simply, in some pictorial way, is a good one ... We are talking here about a diversified, mixed community, so... there will be people from a whole host of backgrounds [B.6.21.09.06].

The presentation of the community gardens SAM was the most prominent application in which several forms of content were used; pictorial, numerical and general language forms were used. During the presentation of the community gardens SAM, attention turned to the inadequacies of all these forms. In spite of many elements of the community garden being monetised individually it was thought this process did not capture the 'value' of all items in their totality. A waste-operations manager thought the educational and health benefits could be viewed as overarching favourable aspects of the garden and, as such, should have been recognised in an account such as the SAM.

You've just got the perfect example – Home Composting. I mean you can measure stuff, but that's going to be above all, for all the benefits... all that

educational [learning] fits in here... all the health benefits... you could just put a value on the cost... but there is a bubble above it ... [C.15.16.06.04].

To overcome the inadequacies of the content forms, the project manager suggested to elected representatives that items such as health, education, and the sheer beauty of a garden should sit above any analysis in the form of an immeasurable bubble item⁶¹.

The visual, textual, numerical, and unpredictable nature of the content in the SAM was evident across both case-study sites and can be further considered by exploring the knowledge claims used to construct each account. Chapter Four notes a social constructionist approach as essential in the construction of a dialogic account, such as the SAM. Social constructionism is an important part of change and facilitating agency, as it acknowledges the role people perform in both constructing and deconstructing myths that limit change (Freire, 1983a, pp.125-126). Such recognition of the socially constructed nature of knowledge may provide a necessary ingredient of change required for a less unsustainable way of living (Thomson and Bebbington, 2005).

Explicit discussion of knowledge claims was rarely witnessed during operational team meetings where the SAMs were discussed. However, in the early applications of the SAM, there was some evidence that those engaged in the construction of the SAM were adopting a social constructionist approach. The first Land Company CEO viewed the SAM as one mechanism to take government policy, along with other high-level agendas, and facilitate discussion that was not entirely output driven. The CEO viewed objectivity as a myth in regards to government policy, and stated:

I think anyone who says government policy is based on objective criteria is fooling themselves... so in a sense it is a discussion tool... and it is why a tool that says 'we are not going to tell you what is right or wrong',... but here is

⁶¹ Bubble items are considered non-measurable items that can be pictorially represented on the SAM profile. See Chapter Three for a fuller discussion.

something that allows you to assemble bits of information in a way that could crystallise your thinking about something [G.4.12.09.06].

Early meetings in the Council suggested a similar approach to the Land Company's CEO was adopted. In these early meetings the general consensus in the project team was that the process and debate of sustainability issues should be privileged over any particular output [C.N.16.06.04]. The output of a SAM was not viewed as some infallible truth derived from following a set of 'scientific rules' [C.N.16.06.04]. It was thought by two researchers and the Council sustainability co-ordinator that the importance placed on discussion meant the library and community garden SAMs took considerably longer to construct than subsequent SAMs within the Council [C.05.04.05. and F.05.04.05]. The social constructionist approach that appeared to be adopted in the early applications of the SAM was supported by all members of the research team [EM.01.06.05].

A member of the research team suggested that the socially constructed nature of the SAM was not readily apparent to many in the organisational context. He thought that even if the social construction intent behind the SAM was not explicitly acknowledged, those adopting an objectivist stance would be challenged. The researcher stated that the SAM gave the appearance of being objective and was therefore more acceptable to decision-makers when first examined. However, on using the tool it was thought that decision-makers would have this knowledge claim problematised. The research team member stated that the SAM:

... pretends to be a scientific tool in a positivist way and to measure and evaluate a project for its sustainability characteristics, but I think the greater value is that it engages institutions in thinking about sustainability in a way that is palatable to organisations... [the SAM] gets that entry-point, and in a sense it is a Trojan horse to get into the power structures... [F.2.05.04.05].

The principal researcher thought that the dialogic attributes illustrated with the above content were the result of a greater number of people being involved in the construction of the SAM compared with previously used project evaluation tools [F.03.11.06]. The researcher stated that the research team were seen as facilitators in the construction of the SAM, and he suggested that all voices were considered legitimate [F.03.11.06]. Considering who is a legitimate voice and involved in the construction of an account is the second facet of the question addressed in this section, and an important dialogic attribute.

Discussion in Chapter Four emphasises that construction of a dialogic account requires a broad definition of legitimate voices from a range of perspectives (Thomson and Bebbington, 2005, p.520). This multi-perspectival position is intended to include the voices of ‘experts’ and ‘non-experts’ alike, rather than privilege economically powerful stakeholders (Brown, 2009, p.317). When the above dialogic attributes are compared with the empirical material of both case-study sites, it is evident a broader group of people were involved, compared with earlier accounts.

The first Land Company CEO viewed the role of the ‘experts’ as facilitators of discussion that would result in the co-development of alternatives [G.N.01.12.05]. The first CEO recalled a tense meeting between himself and a group of sub-contractors. He favoured the mutual learning approach, and noted that not all sub-contractors shared his viewpoint [G.N.06.09.06], stating:

... we sat down with our preferred suppliers for our interim urban design exercise and said: ‘stop telling us what you know because you don’t know enough; we don’t know enough either, so let’s use this as an opportunity to find out some more’ [G.06.12.09.06].

In the Council case-study site, the library and community garden SAM applications were the two most salient examples which included a broader range of ‘expertise’. The sustainability co-ordinator noted that prior to the SAM application, mainly accountants

and analysts from the Council's property unit were involved in the community gardens project. He stated that the additional elements introduced under the social, cultural, and environmental headings meant that others had to be involved: for example, users of the garden, and others parts of the Council that were associated with the garden. To obtain the information to effectively complete the SAM a series of discussions and meetings had to occur. The sustainability co-ordinator stated that:

It [the application of the SAM] was another process which did involve more people. It [the application of the SAM] was a process of assessment, which set up a series of meetings or discussions to actually get the information [P.2.11.05.05].

So we have included a range of people to give us their perspective on... for example, the social and the cultural and the environmental. So that each ... person is not necessarily going to be able to do all of these... So it probably does include a wider range of people than would otherwise be included in the decision-making process [M.5.16.06.05].

In the construction of the community gardens SAM, a number of people who worked in the garden voiced concern that insufficient attention was being paid to social benefits derived from the garden. As a result, these people initiated a community survey and included the results in the text of the SAM presented later to Council. This inclusion suggests that the SAM was flexible enough to consider views of the group and to voice them in a mutually respectful discourse. The sustainability co-ordinator described the series of events as follows:

The community [gardens] people... were involved in coming up with some of the numbers for the social benefit. But... they did not think [the] SAM gave enough [emphasis] to what they saw [as] the social benefit ... that is why they went away and got community surveys and anecdotal reporting [P.4.11.05.05].

The sustainability co-ordinator thought the SAM facilitated the inclusion of a broader range of people compared with other project evaluations used (such as tools, outlined in Chapters Six and Seven) [P.N.11.05.05]. This view was representative of the early SAM applications across both sites. The requirement to collect and discuss a broad range of information in constructing the SAM fostered the participation of a broader range of people. This requirement also had implications for the way different groups of people communicated during construction of the SAM and introduces the third remaining facet of the question explored in this section: how is a dialogic account communicated?

The construction and subsequent reconstruction of a dialogic account does not dictate who can communicate with whom (Thomson and Bebbington, 2005, p.525) and, consequently, the lines of communication can be regarded as informal (Bebbington et al., 2004).

The early cases in the Council and initial discussion in the Land Company exhibited informal communication arrangements, where communication could take place at any intersection of the organisational boundary. Exploring early applications of the SAM in the Council highlighted that more dialogic lines of communication existed. The flow of communication in the first two applications of the SAM in the Council is diagrammatically represented below in Figure 8.1, with the bolded arrows representing the most frequent communication. This diagram can be contrasted with later applications, where the lines of communication are formalised (see Figure 8.2 for comparison).

Figure 8.1: Lines of Communication (early SAM applications)

In the early stages of construction the SAM attracted little attention from senior management of the Council. Several research team members thought communication was more frequent at the operational level in both case-study organisations, because the SAM appeared similar to mainstream project evaluations (that is, followed a methodology, and was numerically based) and appeared to be ‘business as usual’ [F.N.03.11.06].

The visual, textual, and numerical content in the SAM provided an entry-point for ‘non-experts’ to discuss impacts of the project and a frame of reference for ongoing discussion. Inclusion of a greater number of people appeared to be necessitated by the information demands of the SAM, which typically occurred using informal lines of communication. These dialogic attributes of content, participation, and communication have further implications when the third dialogic grouping of questions is considered: what would be the time-frame, size, and ownership of a dialogic account?

8.2.3 Time-scale, Size and Ownership of a Dialogic Account

Discussion in Chapter Four emphasises a dialogic account as having a time-scale that fits best with the project or type of account to be given (Thomson and Bebbington, 2004, p.10). For example, an account of infrastructure might consider the entire lifecycle of the materials used, and a garden project might consider natural seasonal cycles. All

applications of the SAM in both case-study sites used the minimum of a 100-year lifecycle. This time-scale was considerably longer than other project evaluations used by both organisations, suggesting that the time-scale attribute was in keeping with dialogic principles.

The CEO of the Council described the time-frame or time-scale for many activities undertaken by the Council as stretching into decades and saw the need for projects to use tools that were viewed beyond an annual planning cycle. The SAM fulfilled this need better than other tools previously used because it considered the longest time-frame. The CEO provided an example which highlighted the need to consider a time-frame beyond an annual cycle:

...maybe it's a sewerage upgrade that's got a 30-year life or a 50-year life... We operate in a sector which has one of the longest time-frames for any investment in New Zealand... [M.9.20.07.05].

The most in-depth conversation of the SAM time-scale occurred in the Council housing application. During an interview with a Council housing project manager the previous project evaluation models used were described as *short-term* [C.N.21.01.06]. The project manager stated that this 'short-term thinking' did not take into account the full costs and benefits over the life-cycle of a housing project. He thought that the ability to select a time-frame, when using the SAM, would allow a more 'realistic' time-scale [C.N.21.01.06].

This flexibility was also evidenced in the size and scale (that is, aggregated and disaggregated) of early SAM applications. A dialogic account promotes the use of various scales in order to produce a meaningful account of the constructor's reality (Bebbington et al., 2004). An account must therefore be meaningful for the local or cultural context and not provide only a highly aggregated snapshot of the return on capital (Thomson and Bebbington, 2005, p.525).

Several members of the research team thought that the SAM had the technical capacity to present information in both an aggregated and disaggregated manner [C.N.14.04.05; F.N.05.04.05; and L.N.03.11.06]. This flexibility of scale was highlighted during the use of the Council library application, where the SAM could be adjusted to look at an entire project or to focus on a particular aspect of the project. In the Council library project the initial SAM produced did not highlight the environmental differences between eco and standard-build libraries. Environmental differences were not highlighted because the social value of borrowing books overshadowed other elements of the SAM. However, using a flexible scale allowed focus on specific areas and interrelationships of interest. A research team member described the capability to focus on different aspects in a SAM profile during the construction of the library SAM application, stating:

One is an aspect we are not explicitly wanting to consider... and we want to focus on another area... and so you can chop out bits that have previously been considered and focus on aspects of interest [C.6.14.04.05].

The Library SAM was typical of early Council applications of SAM where scale and size were discussed in two main phases. The first phase required participants to view the project in its broadest context. After discussing the initial SAM, areas of focus were then identified. In the Land Company SAM, the parameters were set at a narrower level because members of the project team considered there were too many unknown aspects to the ten-year development project. However, in both case study-sites, research team members thought the SAM provided the ability to focus on areas of interest without losing access to the broader context [C.N.20.10.05; L.N. 20.10.05; and F03.11.06].

The flexible time-scale and scale and size, combined with the dialogic attributes demonstrated in the previous questions, suggest (correctly) that the last remaining aspect of *ownership* is also likely to share dialogic characteristics. Discussion of the ownership attribute of the DHF states that no one person may own a dialogic account in spite of multiple accounts of the same situation voiced by particular individuals during construction of the SAM (Brown, 2009, pp.316-317; Bebbington and Thomson, 2005,

p.520). Ownership of a SAM would be a contradiction for a model which has a purpose of fostering co-developed alternatives. The empirical material collected from the case-study sites and researchers supports the view that the SAM's ownership was in accordance with dialogic expectations.

The first two applications in the Council were viewed by the sustainability co-ordinator and two researchers as co-developments and experiments with Landcare Research and the Council. These applications of the SAM in the Council had parallels with another, a Maori-based organisation, where the SAM was to be simultaneously applied. While the quote below refers to the Maori organisation, a researcher working across both sites thought it applied equally to the early construction of the SAM in the Council. He stated:

I think they [participants in the organisation] are also involved and want to be involved in the actual process of developing ... [the SAM]. They don't want to just provide input [data]... [to the SAM] [L.2.21.10.05].

Early discussion with the first Land Company CEO echoed views of both the research team and the early constructors of the Council SAMs. The Land Company CEO believed the SAM was a joint effort, with different people and organisations bringing together the necessary elements to construct a SAM. The SAM and the process of constructing it was therefore a mutual learning exercise, where ownership could not reside with one person or group [G.N.24.11.05].

The most nuanced view of the SAM's ownership was provided by the principal researcher.

With one voice, I say BP, the steering group, and Jan Bebbington... and with another voice, I say Landcare Research... and with a third voice, I say it should be for all, for whoever wants to use it... [F.6.05.04.05].

The principal researcher provided a multi-pronged response, when asked who owned the SAM, which teased out the three main competing views that were partly elicited when seven other interviewees were asked the same question. The first view of ownership saw the SAM as being owned by the developers (such as Jan Bebbington) and those with intellectual property rights. The second perspective of ownership followed the lines of legal ownership and saw Landcare Research as having the rights to the SAM in its current New Zealand application. The third and most favoured perspective by the principal researcher was the idea that the SAM could not be owned by any one group. If the SAM were to be used as a democratising tool, then the idea of ownership would introduce problems of undue influence over the conversation.

The three questions evaluating the SAM against the dialogic attributes of the DHF highlight the transformative attributes present in many of the applications of the SAM. To this extent, the SAM or the process of applying the SAM may be considered dialogic. This chapter has explored the dialogic elements present in the process of applying the SAM. In doing so, it appears that dialogic attributes or transformative potential were witnessed in the early parts of the case-study sites, prior to the appointment of new CEOs. The table below summarises the transformative categories and emphasises the SAM applications, where they were present.

Table 8.1: Summary of Dialogic Attributes

	Attribute	Dialogic Description	Case-studies Present
Purpose and Processes of a Dialogic Account	Purpose	Medium of critical reflection and exploration of alternatives.	In the Council SAM applications dialogic attributes were most prominent in the first two projects, although some dialogic aspects were witnessed in the remaining project applications to a lesser extent. In the Land Company application dialogic attributes with regard to purpose were only present prior to the appointment of the second CEO.
	Process	The process of constructing an account fosters critical questioning, reconceptualisation and action.	In the Council the SAM facilitated the questioning of elements contained in the SAM, changed the way participants thought about specific projects and in one early application altered the decision made by elected representatives. In the Land Company the application of the SAM appeared to highlight assumptions about sustainability, assist in reframing debates and changed the organisational discourse.
S Participants, Communication and Content of a Dialogic Account	Content	Heuristic learning-images, metrics, general language. Unpredictable content.	The content of the SAM remained unpredictable throughout the applications in both case-study sites. This might go some way to explaining why the SAM was either terminated or shut down in some applications (that is, Civic Building and later the Land Company SAM). Images, general language and metric were used throughout all SAM applications.
	Knowledge Claims	Multi-perspectival, temporal, knowledge is co-produced.	This category was not explicitly discussed in the construction of the SAM. However, several discussions in both case-study sites inferred that a social constructionist stance was adopted in the early phases of the SAM applications. The inclusion of different items from different people in the construction of the SAM inferred that different perspectives may be included.
	Legitimate Voices	'Experts' and 'non-experts'. Inclusive and Polyvocal.	The community gardens and library SAMs were the most notable projects where additional people were brought in to assist with the construction of the SAM. In these instances the project team members were considered just different types of 'experts' using the SAM as a central reference point.
	Communication Sites	Any intersection between or within the organisation is a valid communication site.	The communication sites used in the construction of the SAM changed after the appointment of the new CEO within the Council. The change in the Land Company was not so noticeable because the structure was much smaller and the organisation was at an embryonic stage.
S ..	Time-scale	Flexibility in time-scale to	The flexible nature of the SAM application was

	Attribute	Dialogic Description	Case-studies Present
		reflect natural action cycles as appropriate.	most prominently discussed in the social housing application. However, all SAM applications had timeframes that considered the estimated lifetime of whatever project undertaken.
	Scale	Scale is flexible. May consist of highly aggregated or detailed information.	The scale of the SAM was discussed most prominently in the library application of the SAM. However, the technical capacity to change the scale remained throughout all SAM applications
	Ownership	No one person or entity can own an account.	Ownership was informal and shared in the first two applications of SAM within the Council and prior to the appointment of the new CEO in the Land Company.

8.3 Non-Dialogic Manifestations

Previous empirical chapters identified that the influence of the new CEOs in both case-study sites impacted the SAM as a design archetype. The following section will highlight the non-transformative (that is, morphostatic) aspects present in the process of applying the SAM across the Council and Land Company case-study sites. This section re-explores the three dialogic questions to evaluate the non-dialogic attributes of the SAM and cites material largely from later applications. The three questions are: first, what is the purpose and process of a non-dialogic account; second, what might be contained in a non-dialogic account, who would construct it and how might this be done; and third, who might own a non-dialogic account, and what would be the size and time-frame of such an account?

8.3.1 Purpose and Processes of a Non-Dialogic Account

The purpose of the DHF constructed in Chapter Four states that a non-dialogic account convinces, subdues, legitimates, manages, and marginalises any other alternatives (Bebbington et al., 2004, p.10). Both case-study sites exhibited this non-dialogic purpose

after the appointment of new CEOs. As the purpose of the SAM shifted from reconceptualisation to legitimisation, so did the process of constructing the SAM.

An example of a non-dialogic characteristic was the attempt to legitimate a pre-determined project decision in the Civic Building SAM application (in the Council case-study site). In the first Civic Building SAM meeting, the project manager stated he was hesitant in applying the SAM because it was not congruent with other project evaluations. When the researcher enquired why ‘the SAM did not fit’ with other project models [C.N.14.04.05], the project manager responded:

I only want to know about it [SAM] if it gives me the answer I want [repeated during interview C.5.14.04.05].

In this example, rejection of the SAM raised some assumptions about sustainability made by project team members. Sustainability within the project was acceptable as long as it would not impose an increased financial cost on ratepayers nor put at risk timely completion of the Council’s activities [C.N.14.04.05]. While the purpose of the Civic Building SAM was viewed by the project manager along non-dialogic lines, a dialogic aspect of the assumptions was also raised. Identification of these assumptions led to further discussion in the project team and wider Council, which provided an opportunity for research team members to question those involved in the Civic Building project on how the financial viability of sustainability fitted with the overarching sustainability documentation. Such questioning caused some discomfort for the project manager, and the research team was not invited back.

This underlying assumption about the limits of sustainability was further reinforced when a research team member interviewed the new CEO. The CEO acknowledged that the Civic Building SAM had been discontinued, and conveyed that sustainability should have limits. In stating these limits the CEO made visible the metarule of sustainability in the Council: sustainability must be ‘financially viable’ and not impose other costs, such as being visually unappealing [M.N.08.07.05]. When questioned about the aesthetic

appeal a sustainable building should possess, the CEO provided an example of a sustainable building in Africa. A building which saved water, energy, and provided a sound working environment was deemed deficient if other criteria were not met. The CEO stated that the African sustainable building discussed earlier was automatically dismissed as an option for the Council:

Unfortunately the building looked like a gymbag... there is no way anything like that would be acceptable, just no way... you need to be realistic [M.8. 20.07.05].

The decision not to use the SAM or results of the SAM in the Civic Building and housing projects respectively was repeated in the Council waste SAM. A decision not to distribute the SAM beyond the immediate project team was made on the basis that the SAM did not support the preferred option of the senior management and elected representatives.

No, we talked about this [distributing the SAM as a means to communicate various options] ages ago and he [project manager] did want to use SAM in there, but ... the SAMs produced wouldn't support the option they [senior management and elected representatives] were pushing [C.5.21.10.05].

The non-acceptance of the SAM's unpredictable characteristic and the increased visibility of the metarules surrounding sustainability highlighted a non-dialogic purpose. It also provided a tangible illustration by which to separate the Council's sustainability rhetoric with its interpretative schema and metarules. While the use of the SAM as a legitimating tool can be considered non-dialogic, the ability to problematise and reveal assumptions might also be considered dialogic. One research team member described the resistance to the SAM as one which exposed the Council's position on sustainability. The researcher stated:

... senior managers know they don't know everything that goes on within their sphere of operation and [the] SAM is potentially exposing that... I think another response is that [the] SAM is raising the bar on transparency and accountability... Moving from that easy rhetoric to practice is not something they are necessarily able or wishing to do in that level of detail... [which the] SAM requires [F.5.07.07.05].

The purpose of the SAM in later applications appeared to have the features of a legitimating mechanism, which was evidenced by the application of the SAM to a social housing project. The project manager involved in construction of the social housing SAM stated his intended purpose for using the SAM:

... from my point of view as a project manager, [the SAM will be] more as a backup or confirmation... ideally it [the SAM] will give us a chance to look back and say we have made the right decision... [C.1/2.16.06.05].

Instead of creating a broader group of feasible alternatives, the social housing project manager thought the SAM would reduce particular options and therefore assist the decision-making process. The manager described this reduction of alternatives as follows:

It starts off as a big funnel and then channels your thoughts and then channels the project a little bit more... [C.5.16.06.05].

As the purpose of the SAM changed, so did the language used for its construction. The term *benchmarking* was introduced in project meetings and used frequently with reference to the SAM [C.N.16.06.05]. It was thought the SAM would provide the opportunity to benchmark projects against a particular SAM index (where all categories of capital were netted off into one number). In spite of several research team members

suggesting this was not the intended use, the benchmarking concept was still favoured. It was thought the use of benchmarking, by comparing the SAM indexes of different projects, could provide evidence that a project should be carried out in a particular way.

... but the end result, from my point of view, was to come out of it [process of applying the SAM] with a set of numbers and say, ‘from now on we should be able to achieve, with careful design, a similar result or better’ [C.1.16.06.05].

Accordingly, the purpose of later Council SAM applications appeared to contrast directly with the early applications. Such contrast was also noted in the Land Company following the disturbance or appointment of the second CEO. The second CEO brought with him an organisational discourse which embraced a more managerialist stance, using language such as: ‘end-user engagement’; ‘monitoring capability’; ‘delivery’ and reference to the Land Company as a ‘client’ [B.N.03.02.06; H.N.16.08.06; B.N.16.08.06].

A number of researchers who interacted with the second Land Company CEO noted the difference in how he viewed the SAM compared with the former CEO. The new CEO did not emphasise the need for reflexive debate and co-development. The previous CEO, in comparison, had clearly stated that he and others did not know enough about sustainable construction. The principal researcher summarised the new CEO’s approach as follows:

... and when you ask him [new Land Company CEO name] he said he gets the answers from previous experience in [location], rather than saying ‘we don’t actually know what the answers are, and we need to open up dialogue to question and find out’ [F.2.02.04.06].

It was thought that the change in approach and language used by the second CEO may have been tied to the role he was expected to undertake [self-reflection note

M.N.15.08.06]. The role of the second Land Company CEO was one of *delivery* and the SAM was considered an important mechanism in ensuring the sustainability features were delivered. The CEO did not appear to view sustainability as an intrinsically worthy objective which people would follow. Instead, sustainability was a policy objective that could only be achieved with incentives, contracts, and subsequent monitoring. The SAM was viewed as one mechanism to assist in the management of sustainability, which needed to be made explicit and auditable. In an interview the CEO was asked what would occur without some of these management mechanisms:

Interviewer: what would happen if you didn't have those sustainability objectives and the SAM?

New CEO: I envisage that basically very little would be delivered... if they are not contractually outlined... because you need some kind of incentive [B.3.15.08.06].

...I would like to see a set of explicit measures at the outset... that we can track as the project evolves and is delivered [B.2.15.08.06].

The second Land Company CEO stated that the inclusion of direct measures within the SAM might provide an incentive for sustainability initiatives and foster wider recognition. He provided an example of carbon trading (newly introduced to New Zealand) as a situation where an organisation might receive financial and other benefits for undertaking (or not undertaking) a particular activity. He stated:

So that [inclusion of direct indicators and performance targets] has a direct long-term incentive or benefit for anyone involved in the project and hopefully serve as a broader benchmark... [B.2.15.08.06].

The purpose of the SAM within the Land Company now appeared to be one of legitimating previously conceptualised ideas. The views of research team members

involved in the project were captured by one researcher, who stated that the second CEO had adopted a means-end criterion for evaluating the SAM. If the SAM helped support a pre-determined outcome then it would be considered useful. The researcher stated:

I gained the impression if [the] SAM did help achieve some of his [new CEO] goals for [the development site] it would be considered useful and therefore good... but until then, his enthusiasm would remain the same [V.1.26.09.06].

The legitimating function of the SAM in the Land Company was ultimately not realised. The second CEO became increasingly frustrated during meetings where the construction of the SAM was discussed. It became apparent the SAM did not ‘deliver the correct answers’ and therefore became unusable:

Interviewer: so it muddled the waters instead of showing you where the big ticket items may be?

CEO: I mean, that would be fair to say. I mean, we didn’t go back and look at them further because it just got too hard [B.10.28.03.07].

The changed purpose of the SAM was also accompanied by a different way of interacting with Landcare Research. The pursuit of ‘technically correct benchmarking data’ had replaced the idea of ‘generating a new understanding of sustainability engagement’ via applied research [B.N.03.02.06]. The CEO viewed the relationship between Landcare Research and the Land Company as a commercial transaction. Based on the premise that the relationship was a commercial transaction, the Land Company was seen as the client, and could dictate the ‘product’ delivered, as if the research organisation performed a consultancy role. In an interview, the CEO described the relationship between the two organisations as one pertaining to a commercial transaction.

Interviewer: So I mean money did not change hands... so did you in some ways see us as being consultants to you in terms of that project?

CEO: Oh yes, I mean I would have happily paid for it.

Interviewer: And the research component... just couldn't see...

CEO: Or option D. I couldn't see and was not interested in [B.6.28.03.07].

In spite of the reoriented purpose of the SAM in the Land Company there was still scope for dialogic characteristics, such as problematisation. In one meeting where the purpose of the SAM was discussed, the second CEO exposed some of his assumptions of sustainability and how they were to be applied to the housing development. In a similar vein to the view of sustainability exhibited by the second Council CEO, the second Land Company CEO stated that commercial success cannot be compromised, and that sustainability should be delivered at no additional financial cost. He stated:

The conventional versus sustainable-build SAMs would provide an overview because the biggest challenge is to demonstrate that they are doing more than building a housing development. But, this being said, we can't use the social or environmental evidence for it to stand on its own feet. It [sustainability initiatives] must stack up on the financial front... [H.2.15.08.06].

In conclusion, the later applications in both case-study sites reflected the change in perceived purpose and associated processes of the SAM. The replacement of problematisation, reconceptualisation, and action with benchmarking and technical confirmation had implications for how each organisation interacted with Landcare Research. As a result, a shared mutual-learning exercise was no longer a necessary activity, if 'technically correct data' were required for benchmarking. However, the 'closing down' of SAM applications which did not deliver 'the correct answer' provided an opportunity for the research team to further the conversation and expose the metarules of sustainability. The agreements in place with both case-study site

organisations, and the visibility the SAM created, enabled the momentum of discussion to be continued beyond the immediate project.

In establishing that non-dialogic characteristics were present in both the purpose and process followed in later applications of the SAM, the question of how these might be manifested in an account (the SAM) remains underspecified.

8.3.2 Content, Participants and Communication of a Non-Dialogic Account

This section addresses the second category of questions: *what might be contained in a non-dialogic account; who would participate in the construction; and how might this take place?* The discussion in Chapter Four emphasises the content of a non-dialogic account as motionless, static, compartmentalised, impersonal or purely technical (Bebbington et al., 2004, p.10). Both case-study sites exhibited such non-dialogic attributes, most notably after the arrival of the new CEOs. During the later application of the SAM in the Land Company, the development team had viewed the output of the SAM as the most important aspect. The content and ‘final’⁶² output of the SAM must be ‘hard’. Follow-up conversations indicated that the term ‘hard’ meant (i) numerical, (ii) ‘scientifically-based’, and (iii) preferably comparable to an international benchmark of some description [I.N.21.09.06; and B.N.21.09.06]. The development manager stated the usefulness of the SAM would focus on:

... the end result, because we need some sort of hard information [I.3.21.09.06].

The second Land Company CEO informed the research team of his intention to use the ‘SAM output’ for the formal economic analysis presented to the New Zealand Treasury, and reinforced the requirement for the content of the SAM to consist of ‘hard data’ [B.N.16.08.06]. The time-frame for converting the SAM data into a formal economic

⁶² This is in contrast with Boyce’s (2000) normative view of social accounting as being contestable and open to debate, highlighted earlier in this chapter.

analysis did not permit detailed discussion and represented a ‘straight transfer of data’ [C.N.17.11.06]. The lead researcher described the process as follows:

He [new CEO] came back and said ‘well, what are these numbers based on?’ and inferred he should be able to take it from the SAM and put it in the Treasury report... they [Land Company] were working under tight time-frames to put their business case together... [C.3.17.11.06].

The requirement for SAM to produce ‘hard data’ was combined with a tight time-frame and accompanied by the implicit directive from the new CEO that only ‘positive’ elements should be included in the account. The requirement to include only positive content in the SAM is illustrated by detailing a meeting where the CEO became frustrated with what the research team had constructed. When presenting the SAM to the CEO he voiced his disapproval of mental-health proxies contained in the account. He drew exception to the proxies because he wanted to be rewarded for his sustainability initiatives and thought that inclusion of a lower suicide figure would still reflect negatively on the development. He stated:

I mean, I don’t want suicide in there as an indicator, and I mentioned it last time. I mean that is not something I could publish. I don’t want to be hit over the head for doing something good [H.2.30.01.07].

The Council case-study site was comparable to the Land Company site in respect of the requirement for ‘technically correct’ data in later applications of the SAM. The most notable instance of this requirement was illustrated in an interview with the social housing project manager. Rather than viewing the inclusion of sustainability elements as heuristics or proxies, the project manager emphasised the need for ‘the correct number’, so that benchmarking with other projects could occur [C.N.21.01.06].

The requirement for ‘technically correct’ or ‘hard’ data across both case-study sites is consistent with a non-dialogic account which may contain pre-given and ‘objective’ truths (Brown, 2009, p.316). The principal researcher, who had worked across both case-study sites, thought that most people involved with later SAM applications viewed the SAM in a positivist light and gave undue attention to measuring something ‘knowable’, ‘objective’ and ‘accurate’. The principal researcher stated:

... I think that the current market-place for assessment tools in New Zealand is largely driven out of a positivist model or structure... I don’t think that people fully appreciate there is a need for engagement in different world models... [F.1.02.04.07].

The earlier view of the SAM as a heuristic for mutual learning in the Land Company, and as a co-developed experiment in the Council, had been reoriented in later applications. Instead, ‘objective’ content was sought for benchmarking, which was evidenced across both case-study sites.

This change in the content of the SAM affected who could legitimately participate in the construction of the account. As the content of the SAM now focused on the pursuit of ‘hard’, ‘accurate’ and ‘technically correct’ data, the role of ‘experts’ now became more central. Considering who is a legitimate voice and involved in the construction of an account is the second facet of the question addressed in this section, and an important (non) dialogic attribute.

A non-dialogic account privileges the role of formalised experts, often from a single discipline and paradigm (Brown, 2009, p.317). This privileging of experts can be illustrated by drawing on examples across both case-study sites, most notably after the appointment of new CEOs. The second Land Company CEO viewed the construction of the SAM as the responsibility of the research team, because the team comprised ‘...smart people who are experts in this’ [construction of the SAM]... and should therefore take the role of constructing the SAM [H.27.11.06].

The privileging of experts was also evident in later applications of the SAM in the Council. In the Civic Building, transport, and social housing SAM meetings, researchers were introduced as ‘experts in the area of sustainability’ [C.N.17.11.06; T.N.16.06.05; and C.N.08.12.05]. This introduction contrasted with earlier applications where research team members were described as people who had ‘come along to help develop some sustainability tools’ [C.N.16.06.04].

While research team members were viewed as experts in the construction of later SAMs, one constant remained throughout all applications. All SAM applications involved the monetisation and weighting of elements considered important for the identified projects. In early applications of the SAM some members raised their discomfort with monetisation, both in principle and because too little value was assigned to elements they saw as more important. This finding is comparable with earlier United Kingdom SAM experiments where some participants expressed reservations about monetisation of the sustainability elements in the SAM (see Bebbington, 2007b, p.70). The reservation about monetisation is also congruent with other SEA literature (Bebbington et al., 2007a; Maunders and Burritt, 1991).

The issue of monetisation was most salient in the community gardens SAM. However, the response of those involved in construction of the SAM was to explore the issues of monetisation further. This resulted in other research (that is, survey and interviews) being conducted in the local community and then being included in the presentation of the SAM. In later applications of the SAM, issues of monetisation were raised but not discussed further.

However, the issue of monetisation was discussed at length among several research team members. In some instances it was noted that the fear of monetisation was that all activities might be socially constructed as ‘economic’, and therefore all forms of ‘capital’ in the SAM could be viewed as substitutable. One researcher thought the inclusion of ‘bubble items’ may not be given the same attention as monetised items, which would therefore privilege a one language or view of the world above another

[B.N.24.05.05]. While most members of the research team agreed with the notion that non-monetised items had the potential to be marginalised, all thought that the views of the principal researcher were accurate in describing issues of monetisation. He noted the difficulty in engaging some people:

... because at the end of the day you are going to monetise all of this, and it is not going to be a process everybody is comfortable with [G.5.11.05.05].

Discussion of monetisation among members of the research team also considered the benefits which emerged in the process of constructing of the SAM. In early applications, such as the community gardens SAM, those uncomfortable with monetisation were still heard (although at least one researcher inferred this was to a lesser extent). The SAM in this instance created a dialogue which made explicit the assumptions of its construction and provided those uncomfortable with those assumptions the space to be heard (in a similar manner to arguments offered by others experimenting with social accounting technologies, for example, Bebbington and Gray 2001; Bebbington, 2007b). When viewed in this light, the monetisation of this early SAM application *may* not have been as problematic for those against monetisation.

The change in approach in later projects to monetisation and the content of SAMs had implications for *how* the account was communicated. Earlier SAM applications had drawn on a broad range of people, whereas the privileged role of the ‘expert’, namely members of the research team, illustrated a more formal process in later applications. The formality adopted in the later SAM applications can be further illustrated by exploring how participants communicated in the construction of each SAM.

The DHF in Chapter Four refers to a non-dialogic account being constructed with formalised, top-down, and singular lines of communication⁶³ (Bebbington et al., 2004,

⁶³ This has significant parallels with Freire’s student-teacher heuristic, where the teacher fills the empty students with knowledge, as noted in Chapter Four and further elaborated in Thomson and Bebbington, (2004, pp.16-20).

p.10). The communication sites (excluding the first two applications of the SAM) in the Council may be diagrammatically represented as below (Figure 8.2). This change in communication (compare with Figure 8.1) coincides with the formalisation of the Memorandum of Understanding,⁶⁴ signed by the new Council CEO and principal researcher. The lines of communication for constructing the SAM closely mirrored the organisational structure.

Figure 8.2: Lines of Communication (later SAM applications)

Exploring the communication sites in the Land Company application is more difficult, for several reasons. First, the Land Company was a much smaller organisation than the Council, consisting of three main staff members who were involved in construction of the SAM. Second, the Land Company had a mandate and was legally required to consult the community in regard to sustainability issues. Third, the Land Company was at an embryonic stage in its lifecycle. These three aspects meant there was not a significant difference in the communication sites after the disturbances, highlighted in earlier chapters, were considered.

The focus on ‘technically correct’ or ‘hard’ content shifted the focus on to who could be involved in constructing an account. This shift in focus, combined with the changed objective of the SAM, led to a privileging of ‘experts’ and formalised lines of communication. Manifestations of the above non-dialogic attributes were also evident in

⁶⁴ The MoU formalised the relationship between Landcare Research and the Council. The MoU detailed which projects the SAM would be applied to and who would be involved.

exploring the third category of questions: what would be the size, time-frame and ownership of a (non)dialogic account? However, the prevalence of non-dialogic attributes witnessed was not as evident as several researchers anticipated [C.N.21.10.06; L.N.21.10.06; and M.N.21.10.06].

8.3.3 Time-scale, Size, and Ownership of a Non-Dialogic Account

In considering the time-scale, size or scale, and ownership of a non-dialogic account, it was anticipated that non-dialogic attributes would be present in all later applications. However, the time-scale and size or scale attributes remained mixed throughout all applications, making it difficult to categorise them as non-dialogic.

The DHF in Chapter Four described a non-dialogic account as one having a fixed time-scale that corresponded to formal or legal reporting requirements, rather than seasonal or natural time-frames. Although no fixed time-frame was imposed during the construction of the SAM, all applications considered the minimum of a 100-year time-scale. The SAM applications took place during an election year at both the Council and the Land Company⁶⁵. However, no cyclical impact was noted in either SAM application. Given that all applications had similar time-scales, it was not possible to compare early and later applications. The difficulty in exploring differences in the time-scale between early and later applications was also evident when exploring the differences of size or scale.

The scale of a non-dialogic account is fixed, typically within the boundary of the organisational entity or other legal or formal structures (Thomson and Bebbington, 2005, p.517). The absence of in-depth discussion in later SAM applications meant that issues of scale were not discussed among the project team (compare with discussion of eco-library application). However, the flexibility to adjust the scale of the account remained throughout all applications (that is, the SAM could be presented in both an aggregated and disaggregated form). Across both case-study sites the scale of the SAM included elements considered typically as falling outside the organisational boundary. All

⁶⁵ In New Zealand, local government elections for councils are held at different times from central government.

applications of the SAM included both aggregated information in the form of a SAM profile and disaggregated information in the form of elements that were consolidated to make the profile. In this respect the SAM did not exhibit non-dialogic scale characteristics.

In considering the final part of the question addressed in this section, ownership, a number of differences arose between early and later SAM applications. In contrast to a dialogic account, where no one person or entity can own an account, a non-dialogic account is typically owned via some intellectual property agreement and has the potential to be legislatively reinforced (Bebbington et al., 2004).

The later applications of the SAM in the Council exhibited both of the above non-dialogic features in regard to ownership. When the project manager of the social housing project was asked who owned the social housing SAM, his response captured the sentiment exhibited in the last three SAM applications (in the Council). The social housing project manager stated that the research organisation owned the intellectual property rights, but the Council owned the data. Several research team members thought this view of ownership was implicated, in the later three SAM applications in the Council, by the level of commitment demonstrated during construction of the SAM.

Later applications of SAM constructed in the Council presented a lower level of commitment compared with earlier applications, according to the research team members [C.N.21.10.06; L.N.21.10.06; and M.N.21.10.06]. The language used by interviewees in earlier applications included phrases such as ‘the SAM *we* constructed’ or ‘*our* SAM’ [C.N.05.16.05, emphasis added]. On the appointment of the new CEO, and after the departure of the sustainability co-ordinator, the language changed to reference the SAM as ‘Landcare’s SAM’ [M.N.16.06.05]. The perceived shift in ownership was illustrated in a meeting with the social housing project manager. In describing the process of applying the SAM, the social housing project manager stated:

At the moment it is really a project the Landcare [Research] people have picked up because the Council has bought into the SAM [C.1.16.06.05].

If we hadn't been asked to use it, well it wasn't exactly asked... it was more of a case of saying 'this is one of the projects that we have earmarked for Landcare Research' [C.5.16.06.05].

A similar shift in ownership can also be seen in the Land Company case-study site. The second Land Company CEO viewed the SAM as part of a commercial agreement where the research organisation provided the necessary expertise to construct the SAM. In a similar vein to later Council applications of the SAM, the CEO viewed the research organisation as owning the intellectual property rights and the Land Company as owning the 'numerical input' [B.N.28.03.07].

The second CEO viewed the relationship between the research organisation and the Land Company as one of a service provider and commercial user, respectively. With the relationship framed in these terms it was apparent that ownership of development of the SAM was the responsibility of the research organisation. This view of ownership also affected the accountability relationship, where the 'end-user' could state what was acceptable or not [B.N.28.03.07]. The commercial client-service provider arrangement was most visible when the second CEO drew exception to the inclusion of 'negative' elements that would affect his ability to market the development. The second CEO stated:

It is not really the marketing message I want to put in. I guess I had expressed that a couple of times, and I did not get the right sort of response... so my advice, as part of a commercial user, would be to make it relevant and to make it easy... [B.04.28.03.07].

Non-dialogic features in respect of ownership were over-represented in the later phases of the SAM applications. The Council's top-down approach to sustainability led

possibly to a decreased commitment compared with the first two SAM applications which were led by operational staff.

In summary, the three questions evaluating the SAM in relation to non-dialogic attributes of the DHF brought to light the non-transformative attributes present in many of the SAM applications. After reviewing these non-transformative attributes, it is possible to recognise they are not entirely non-dialogic, as many serve as the basis for further problematisation. In a similar vein to the dialogic exploration in the earlier half of the chapter, a distinct difference was found in the attributes exhibited after the change in CEO in both case-study sites. The non-dialogic attributes featured had a much higher frequency in later applications of SAM in the Council and in the later phase of the SAM in the Land Company. The table below summarises the non-transformative categories and details in which SAM applications they were present.

Table 8.2: Summary of Non-dialogic Attributes

	Attribute	Non-dialogic	Case-studies Present
Purpose and Processes of a Non-dialogic Account	Purpose	Convince, subdue, legitimate and manage.	Attributes associated with a non-dialogic purpose were almost exclusively exhibited in the final three applications of SAM in the Council and after the appointment of the new CEO in the Land Company. However, in all of these applications the SAM provided a basis for further problematisation.
	Process	Standardisation/ benchmarking, client-service provider transaction, external incentivisation.	The processes underpinning the pursuit of the above non-dialogic purpose changed in both case-study sites after the disturbance of the new CEO.
Content, Participants, and Communication and of a Non-dialogic Account	Content	Economically manageable aspects of business, formal and standardised language, often monetary in value. Predicable content and presentation.	In a similar vein to the above two categories, non-dialogic attributes were almost the exclusive domain of later SAMs. Where the SAM content was unpredictable, and the impact arising from unfavourable results considered high, the SAM application was terminated.
	Knowledge Claims	Ahistoric, general portrayal of timeless truths and unquestionable facts.	Discussion of objective data arose in the later SAMs in both case-study sites. There was only one mention of this prior to the appointment of the second CEOs.
	Legitimate Voices	Privileging of experts, single discipline focus.	After the appointment of the second CEO in the Council the research team was viewed as performing the role of experts, and their discourse privileged. After the appointment of the second CEO in the Land Company the researchers were viewed as experts and the Land Company, the client.
	Communication Sites	Single boundary between the organisation and community. Defined by formal internal structures.	The communication structure changed in the final three applications of the SAM within the Council. This category was more difficult to evaluate for the Land Company due to reasons cited under Figure 8.1.
Time-scale, Size and Ownership of a Dialogic	Time-scale	Standardised annual or quarterly reports. Long-term time-frames often seen as inaccurate and therefore marginalised.	This category was difficult to evaluate. As a general rule, earlier applications of SAM involved a greater amount of time discussing this category. However, all SAMs considered a greater period than other project evaluations previously used in the case-study sites.

	Attribute	Non-dialogic	Case-studies Present
	Scale	Organisational entity and other formal structures, often highly aggregated to avoid 'commercial sensitivities' being divulged.	The scale of the SAM remained flexible throughout all applications. However, greater time was spent discussing the scale in the first two applications of SAM in the Council.
	Ownership	Intellectual property owned and reinforced via legislation if necessary.	After the appointment of the second CEOs in both case-study sites, the intellectual property of the SAM was viewed as the property of the research organisation, and the data collected from the site was the property of the Council or the Land Company.

(Attributes adapted from Bebbington et al., 2004)

8.4 Discussion and Concluding Comments

In exploring the three categories of dialogic questions, the prominence of dialogic attributes were exhibited throughout the early phases of SAM applications in each of the case-study sites. Early SAM applications highlighted dialogic instances, where questioning provided visibility to the organisational metarules of sustainability; changed the way people viewed their projects; changed project decisions; included a broader range of people and content; and provided a space where organisational design archetypes and interpretative schemas were challenged. Later SAM applications were typically viewed as providing 'scientific' and 'technically correct answers' that had been produced by research 'experts' for the purpose of benchmarking. The purpose of later SAMs was underpinned by the requirement to legitimate current activities and to provide external recognition and funding. When this recognition was not forthcoming, the SAM was deemed technically incapable of delivering the organisation's requirements.

Two interrelated possibilities would partly explain the journey from dialogic aspirations to non-dialogic realisation: the first is that the disturbances, outlined in Chapters Six and Seven, imposed limits on which aspects of sustainability could be discussed and acted

on; the second, is that as the SAM became more embedded it posed a greater challenge to the existing design archetype and interpretative schema. For example, the visibility of sustainability assumptions highlighted the tension between organisational rhetoric and metarules. This challenge may have been more visible when new people were appointed to senior leadership positions. It is possible that previous CEOs who had agreed to the implementation of the SAM would have experienced cognitive dissonance (or other undesirable consequences) if they had reneged on such agreements. New CEOs may consider and review all organisational activities and change them without experiencing this dissonance. In the case of both empirical sites, the operationalisation of sustainability rhetoric breached the existing metarule of not having financial impact, and therefore a new equilibrium was sought.

The exploration of the three (non) dialogic questions illustrated that dialogic and non-dialogic attributes were present but at times were difficult to separate. For example, the termination of the Civic Building SAM application and closing down of associated debate suggests a non-dialogic act occurred. However, the visible nature of the termination provided researchers an opportunity to question senior staff in the Council which revealed previously hidden metarules relating to sustainability. This example suggests that a binary application of the DHF would be problematic in a rich empirical setting.

The SAM can be considered dialogic and to have facilitated more critical organisational accounts on one level, but non-dialogic on another. This finding is congruent with Freire's stance that tools can be both enabling and limiting (Freire, 1970, p.33). However, Freire also reminded his readers that it is people themselves and their agency that are paramount to any broader emancipatory impetus (Freire, 1983a, p.125). It is this later statement which holds particular relevance when the attributes in the DHF are explored alongside the assemblages from previous chapters.

The empirical material from this chapter, in combination with the earlier empirical chapters, highlights the attributes (for example, the creation of space to question, reconceptualise, and act) and the assemblages important for the processes of change.

The salient theme of agency, as a key component of an assemblage, is reinforced when the DHF is applied. The inclusion of a broader range of people and discussion, facilitated in the application of the SAM, coupled with leadership that viewed the SAM as a mutual learning exercise, provided the most notable and effective (dialogic) SAMs. Details of these and earlier findings are now reviewed alongside the research questions. Such a review provides a space to reflect on the contributions and limitations, and to discuss their implications for future research.

Chapter Nine: Conclusion

9.1 Introduction

This chapter will draw on the theoretical constructs and empirical material from the previous eight chapters to provide concluding comments. The thesis is set against the backdrop of social and environmental harms, which threaten the planet and the people who live on it (Freire, 1983a, 1998a, 1998b; Gadotti, 2003; Porritt, 2007). In recognising these harms, the SAM has been explored as one possible means to construct more critically reflective organisational accounts. It is envisaged that such accounts may facilitate ‘good’, ‘real’ change by creating new visibilities, influencing mental models, and by changing the activities of those within organisations (Bebbington, 2007b, p.53).

In exploring the primary research question of whether *SAMs had the potential to foster more critically reflective organisational accounts*, a series of sub-questions have been considered. This chapter will begin by reviewing findings of the sub-questions, introduced in Chapter One and explored empirically in Chapters Six, Seven and Eight. This review will provide a basis from which the contribution and associated implications of my thesis can be discussed. Finally, some reflections, limitations, and ideas for future research will be highlighted.

9.2 The Findings: A Review and Discussion

Findings from this research note that in some case-study sites SAM applications did facilitate more critically reflective accounts. These findings can be further considered on three levels: the SAM as a technical account; the SAM as an organisational account; and the SAM as a process.

The first level of questions explored the SAM in a functional light and addressed descriptive questions such as: *what* decisions did the SAM assist in making; *what* problems were encountered; *what* resources were required in constructing the SAM; *was* enough data available to complete the SAM, and *was* output from the SAM usable? The second level of questioning looked at the SAM and its effects in the organisation. For example, *did* the application of the SAM influence the project team's decision; *did* the SAM change or challenge organisational routines; *did* the SAM change the interaction between individuals in the organisation; *were* different people involved in the decision-making process; and *did* the SAM lead to the questioning of decision-making models and frameworks? Laughlin's (1991) organisational change framework was used to construct an organisational narrative for exploring these first two levels of questioning.

The findings detailed that the SAM was implicated in a number of project decisions, was more resource intensive than previous models used, could be constructed from readily available data (unlike early FCA experiments such as Abt, 1977 and Estes, 1972), and outputs were used in both informal discussions and formal presentations. Further findings detailed that a broader group of people were involved in constructing the SAM, compared with other models used, that applications prompted questioning, and that organisational routines were challenged. Chapter Six noted the community gardens SAM application as a salient example: where more people were included, questioning was facilitated and organisational routines were challenged. While these findings provide a basic level of detail, they fall short of addressing the primary research question.

The third level of questioning built on the organisational narrative by exploring *how* a critically reflective account might be fostered and provided the necessary information with which to address the primary research question. A DHF was constructed to explore whether the SAM applications had resulted in ‘good’, ‘real’ or morphogenetic change. These questions required a less descriptive approach compared with the above levels and focused on the *process* of constructing and applying the SAM. Such questions included: *how* did the SAM challenge organisational routines; *how* were more people involved in the process; *how* did the SAM change organisational interactions; and *how* did the application of the SAM provide a space to question and act in relation to current organisational activities and decision-making models?

In applying the DHF to the organisational narrative it became apparent that the SAMs created a space which could amplify the agency of operational managers and researchers to make visible and challenge the dominant organisational beliefs. First, the process of constructing the SAM fostered the raising of questions and debate with a broader group of people. Chapter Six noted one such instance where an operational manager in the Council captured the sentiment of project team by stating, ‘the SAM forced people to ask questions’ [M.4.28.10.05]. The questions and associated debate were further supported by the SAM being presented in several different forms and by its capability to act as a frame of reference between members of the project team.

Chapters Six and Seven illustrated examples where the early SAM applications provided momentum to debate of sustainability issues. Within this frame of reference, linkages could be made between the social, economic, and environmental aspects of any given project decision and new ways of acting could be reconceptualised. Further, Chapter Eight detailed several instances where reconceptualisation occurred. One of the most salient examples occurred in a Land Company board meeting where different energy solutions were raised. This finding compares with earlier experiments in the United Kingdom, which noted that the SAM was viewed as a point of reference where people could discuss the impacts of a project (Bebbington and Frame, 2003, p.8).

The capability of the SAM to act as a frame of reference facilitated new visibilities and was implicated in making the previously hidden metarules of sustainability more visible. The frame of reference meant that unexpected findings in respect of sustainability issues could be interrogated. For example, after the termination of the Civic Building SAM application, follow-up meetings with senior Council managers made visible the organisational metarule: *sustainability is fine as long as it does not have negative economic consequences*. In a similar manner, the application of the SAM in the Land Company highlighted the organisational metarule of sustainability as being *acceptable as long as it does not interfere with the timely and economic delivery of the overall project*. This finding extends earlier studies which state that the SAM (Bebbington, 2007b; Bebbington et al., 2007b, Cavanagh, 2005; Frame and Cavanagh, 2009) and FCA experiments (Antheaume, 2007; Herbohn, 2005) can provide insight into sustainability issues within organisations by detailing *how* this might occur. It was the visibility created by the SAM, acting as a frame of reference, which provided an opportunity to interrogate the organisational metarules of sustainability and, in some instances, change the project decision. However, the construction and application of the SAM did not go unchallenged.

Chapters Six and Seven noted that SAM applications in the Council and Land Company were terminated on the basis of ‘technical deficiency’. In both organisations the SAM had been regarded as ‘technically sufficient’ in early applications by operational and management staff. More detailed analysis indicated that it was the discomfort experienced by senior managers that led to the label of ‘technical deficiency’ being applied. In the Council case-study, a SAM was terminated before construction began because of concern it may ‘give the wrong answer’ [P.1.25.10.05]. In the Land Company, the SAMs were no longer used, because the inclusion of negative aspects of the development might have generated ‘bad publicity’ [B.1.27.11.06]. These examples provide further support to the assertion that it was not the technical deficiency of the SAM to foster an account, but the consequences of that account. This finding is congruent with Bebbington’s (2007b, p.114) description of the SAM not ‘meshing with organisational routines’ in some United Kingdom SAM applications. Such a finding is not unexpected, as Bebbington (1999, p.284) noted that SEA tools have been mooted

only to succumb to corporate and political pressures that rebut such tools as technically unfeasible.

The premature termination of the SAMs in both case-study sites meant that the dialogic aspirations were ultimately not realised. Further, the desire to close down debate in the Civic Building and waste SAM applications, along with the requirement to remove items that gave ‘bad publicity’ to the Land Company SAMs, was in direct contrast to the purpose of a dialogic account, as discussed in Chapter Eight. However, Chapter Eight urged caution in categorising a set of actions as lacking dialogic potential. The visible nature of terminating the SAMs provided an opportunity for problematisation to occur. In raising issues, asking questions, and prompting people to reflect on issues of sustainability, the SAM exhibited critically reflective properties. When these criteria are applied, the premature termination of the SAM applications indicate that these SEA technologies were implicated in ‘good’, ‘real’ organisational change.

9.3 Contributions

This study contributes to the social accounting literature by exploring empirically one SEA technology and further developing theoretical frameworks of organisational change. Such an exploration responds to calls for more well-documented studies of social accounting technologies (Gray, 2002; Herbohn, 2005; Larrinaga-Gonzalez and Bebbington, 2001). SEA researchers in Chapters One, Two, and Three noted that such explorations required consideration of what constituted ‘real’ change (Gray et al., 1997); greater detail about the process of SEA technologies in challenging unsustainable organisational activities (Antheaume, 2007); and progression beyond bold end-point statements that claimed change had or had not occurred (Larrinaga-Gonzlaez and Bebbington, 2001, p.287). Against this backdrop, two theoretical frames were selected to create an organisational narrative that could make sense of the data collected and later evaluate the SAM applications.

Laughlin's (1991) framework of organisational change was the first theoretical frame presented. This framework was used to detail the disturbances, assemblages, and schemas implicated in the construction and implementation of the SAM. In drawing on this framework it was stated that social phenomena such as SEA technologies could only be theorised over a limited empirical site, and that further 'fleshing out' was required. Such 'fleshing out' is regarded as a necessary extension for enabling an understanding of *how* organisational change occurs (Laughlin, 1991, p.210).

In the application of Laughlin's framework, the SAM (organisational design archetype) was found to impact the organisational interpretative schema (albeit temporarily). The Council and Land Company case-study sites followed colonisation (attempted) and evolutionary pathways of change, respectively, and legislation, leadership, and accounting assemblages were noted as important. These findings supported Laughlin's (1991) assertion that change to a design archetype is best made after a change to the interpretative schema. However, the details provided in the empirical sites allowed a richer description as to *how* these pathways were followed and 'fleshed out'. Findings that the SAM acted as a frame of reference, facilitated the raising of questions, and provided a space to reconceptualise the project, are examples of details provided in the course of exploring the empirical sites. These examples of 'fleshing out' Laughlin's skeletal model also respond to his earlier criticism of static empirical sites providing insufficient detail on the processes of organisational change (Laughlin, 1991, p.228) and the role assemblages perform (Larrinaga-Gonzalez and Bebbington, 2001, p.280). Data collected on the multiple applications of the SAM, the identification of assemblages, and the people involved, provided greater detail than had been considered in other applications of Laughlin's framework. This greater collection of data provided the empirical basis for commenting on the processes of a SEA technology and organisational change.

In the course of narrating the details of organisational change, using Laughlin's model, a series of value judgements were made. One such value judgement required a decision on whether the details collected during the course of the SAM application constituted

‘good’, ‘real’ (that is, morphogenetic) organisational change. It was this requirement which prompted the construction and application of the DHF.

The DHF provided a means to evaluate if the SAM applications enabled ‘good’ and ‘real’/morphogenetic change. When using an explicitly normative evaluative frame a series of questions were reflected on; for example, what knowledge claims were made about the SAM; what was the purpose of the SAM; what voices were considered legitimate? Chapter Eight responded to these questions, noting that dialogic aspirations were voiced in earlier case-study applications. In contrast, it was noted that dialogic aspirations were not fully realised. Early case-study applications viewed the purpose of the SAM typically as one where questions could be raised, the project could be reconceptualised, and the possibility for change was open. Later SAM applications viewed the SAM as a tool for benchmarking, standardising, and ‘getting the right answer’. Questions raised when using the DHF provided the basis for collecting empirical material that considered a broader context, such as the epistemological approach taken, who was considered an ‘expert’, and in what forms the account was presented. It is in asking these questions and comparing the responses that claims about social accounting technologies can be made in a ‘less data driven’ manner and, hence, a more theoretically rigorous approach adopted (Bebbington, 1999, p.324). The decision to make the criteria of change visible arose from criticisms provided by the critical school of the need to make evident the underpinnings of social accounting technologies (Dillard, 2007; Tinker and Gray, 2003) and to address the undertheorization of social accounting technologies.

The DHF enabled exploration of whether the SAM facilitated more critically reflective organisational accounts beyond a binary change or no change end-point statement. In considering *how* SEA technologies are implicated in organisational change, binary statements of change occurring or not occurring give way to more nuanced understandings, such as change occurring on different levels in different ways. Chapter Eight noted that premature termination of the SAM might signal organisational resistance to sustainability initiatives, and an entry-point for pursuing further questioning.

When the two theoretical frames and empirical material are considered together, this study tracks the application of the SAM from a basic 'functional' level through to a higher level of theorising. Earlier SAM researchers have typically used the majority of their studies to describe an experiment or apply a theoretical model to a SAM application that has previously been carried out. This study has taken advantage of the space made available in a PhD to track the SAM applications and theorise multiple applications in a sequential manner. In doing so, some of the claims proposed about the SAM in more theoretically focused papers (for example, did the SAM facilitate greater more inclusive decision-making?) could be explored, and empirical results from earlier studies contrasted (for example, did the SAM facilitate the asking of questions?). The breadth of the empirical study undertaken and the theoretical depth provided insight that would not have been obtained if a more limited study was undertaken. For example, later SAMs typically exhibited fewer dialogic characteristics than earlier SAM applications. If a more limited empirical base were considered, the organisational metarules made visible in the later applications would not have occurred.

In making the above contributions, this study has not made other contributions and can therefore be considered limited. These limitations will now be discussed.

9.4 Limitations

In reflecting on the collection and write-up of this study, two limitations are noted. The first limitation considered if the process I followed was in keeping with Freirian intentions, that is, was it a dialogic study? I also reflected on the possibility of writing a purely dialogic study within the confines of institutional pressures. Institutional frameworks typically embedded in organisations awarding PhDs mean that only particular types of research, written in particular ways, are considered acceptable. In this respect, my study has non-dialogic attributes (that is, it has to be presented in one form and cannot detail all information collected due to human ethics requirements), but in other ways it is dialogic. In the process of conducting this study, I and others have had

an opportunity to reflect, reconceptualise, and ask questions relating to the world we see around us. In some instances this has resulted in tangible action (for example, the decision not to sell the community garden) and less tangible action (for example, the changing of organisational discourse in the Land Company).

A second limitation of this study is the temporal and context-bound nature of the empirics collected. If the current sites were studied for a longer period, or if alternative sites were selected, the findings would differ from those reported. While the ability to draw statistical inference was never an intention of this research I have attempted to maintain a degree of rigour, as it relates to the paradigm in which the study is situated, through careful and reflective documentation of the empirics (as detailed in Chapter Five). At times the collection of data has involved consideration of confidentiality requirements where a richer view of events could not be fully noted. For example, the corridor conversations with some staff members, the hiring of sustainability directors and CEO in the Council all provided rich but off-limits material. In situations where confidential material was gathered, I attempted to raise these issues in recorded interviews so that such material could be used in the study.

9.5 Future Research

In drawing on frameworks to provide a narrative of organisational change (Laughlin's 1991 framework) and to evaluate organisational change (DHF), a number of possibilities for extension have arisen. Greater exploration of disturbances and schemas are one such possibility. Organisational *inertia* was noted as an important feature of Laughlin's (1991) model in Chapter Three, and placed emphasis on forces of stability. However, a renewed focus on how disturbances work against forces of stability is particularly relevant when a new and sustainable way of living is desired (Bebbington, 2007a). This renewed focus can be considered under other models of change drawn on increasingly in SEA literature, such as institutional theory⁶⁶.

⁶⁶ When Burns and Scapens (2000) introduced their seminal paper on institutional theory within an accounting context, two categories were raised; forces of change, and forces of stability. However,

The findings from this study note that disturbances (forces that work against stability) in the form of new appointments were influential across both case-study sites. Such a finding provides some indication about the assemblages necessary for change, but underspecifies the linkage between individual and organisational schemas that made such disturbances possible. If schemas exist as a ‘collection of choices looking for problems, issues and feelings looking for decision situations in which they might be aired...’ (Cohen, March and Olsen, 1972, p.1) then the interrelationships and shaping of these schemas is important in considering ‘effective’ disturbances. The organisational focus of the current study has not permitted space to study the role an individual has in shaping disturbances. However, an extension of this research would be an exploration of the link between self or person schemas and the organisational schemas within the context of Laughlin’s (1991) framework. Such an exploration could focus on *how* some *individuals* are able to enter an organisational boundary, amass necessary resources, create necessary symbolism, use SEA technologies, and shape new debates in pursuit of sustainability. In doing so, the role of SEA technologies in creating disturbances that amplify and enable previously unheard (and sustainable) organisational schemas would be better understood.

A second possibility for extension involves the broader application of dialogic theory within the social accounting literature. To a limited extent this potential has been realised, but could be further considered under two categories: first, dialogic evaluation could be used in the capacity as a meta-theory within a broader SEA context; second, dialogic theory in the form of an evaluative heuristic could be more broadly applied to other SEA technologies in a similar manner to this thesis.

The first category of dialogics contributing to a wider meta-theory within SEA literature is founded on the overlap between social accounting and Freirian dialogics, discussed in Chapter Four. Bebbington et al. (2007b, p.371) stated that dialogic theorising could be applied to develop normative frameworks, such as Gray et al. (1996). In doing so, a

subsequent literature has paid much greater attention to forces of stability (for example, see van der Steen, 2005).

number of elements would be problematised and re-opened for further exploration. Such an extension would provide the basis to critique other theories drawn on in SEA research. For example, stakeholder and legitimacy theories have attracted criticism (for example, Spence, 2007) that could be more comprehensively articulated in a dialogic framework. Does the current application of stakeholder theory in SEA literature adequately address issues contained in the DHF; what process of development does any one particular social account progress through until development; what assumptions does it contain; and what were the implications of this? In asking these questions the social accounting project would be better positioned to respond to criticisms, such as those raised in Chapter Two; namely, greater attention would be afforded to the context in which these SEA technologies were developed (Spence et al., 2010).

The second category for wider application of dialogic theory has been realised to a limited extent with the evaluation of SEA reports (that is, Thomson and Bebbington, 2005) and other SEA technologies (Bebbington et al. 2007a; 2007b). The application of the DHF could be extended to other social accounting technologies, for example, FCA, SCC, sustainability reports, sustainability reports, input-output analysis, natural capital inventory accounting and triple bottom-line reports (Bebbington and Gray, 2001; Gray, 1992; 1994; 2002, Lamberton, 2005) to interrogate these further. Such an application would provide a base on which to compare findings of these social accounting technologies in a manner similar to other meta-theories of social accounting (for example, accountability theory detailed in Gray, et al., 1996), and to highlight some as furthering the social accounting project more than others.

9.6 Other Implications

In the course of conducting this study, implications have arisen that are not directly addressed, but are of relevance to the research question. In particular, the need for more critically reflective accounts presents challenges and opportunities for those involved in education and legislation.

It was noted that the leadership qualities demonstrated in constructing the most successful (dialogic) SAMs were provided by people with no formal accounting education. An absence of leadership from accountants in developing and constructing new accounting technologies raises questions as to why. Such a finding is concerning, when SEA is considered by some to 'to enable the next generation of accountants to understand better the biases and limitations of conventional accounting' and to construct accounts that will assist in a transition to a more sustainable way of living (Bebbington, 1997, p373). One reason for the absence of accountants in the construction and application of the SAMs is that their education may conflict with the assumptions of the SAM (for example, social constructionist and providing an account beyond the owners of capital). A research team member involved in accounting education stated that:

You still have a lot of students coming out of university who have been subjected to an extremely monologic education, who have been drummed with a shareholder primacy view of the world... I am not at all confident that they would be able to use SAM dialogically [B.6.24.05.05].

If dialogic accounting tools were to be applied with the involvement of accountants, then their educational experience at university (and preferably beforehand) needs to expose a more pluralist and problem-posing view of the world (Bebbington et al., 2007b). Problem-posing education, as advocated by Freire, would encourage accounting students to find 'real-world' problems and to think about the limiting and enabling roles their discipline might perform. If tomorrow's accountants were to deal with the unpredictability of dialogic technologies, then exposure to paradigms based on alternatives to neo-classical economics would be necessary (Coulson and Thomson, 2006). Exposure to various strands of heterodox economics would provide students with a broader understanding of what economic theories illuminate and hide in respect of their world-view. This exposure would equip future accountants with a broader view of the impacts of accounting and the ability to deal with the unpredictability inherent in dialogic technologies.

A second implication raised in this study, and relevant to the SAM applications, is that of legislation. Legislation changed the dynamic in the case-study sites by challenging other metarules, for example profit maximisation and efficiency was replaced by higher-level policy goals [M.N.16.08.05]. In the Council, the LGA (2002) provided the impetus for the employment of the sustainability co-ordinator and formed the supporting case for the application of the SAM [P.N.25.01.05]. In the Land Company, a myriad of legislation (for example, LGA, 2002; Public Works Act, 1981) was grouped together under a sustainability agenda to provide the impetus for amassing the necessary resources to begin the sustainable urban development.

In spite of the influence of legislation from central government serving as an important assemblage of change, it must be treated with a degree of caution. Legislating for a particular activity does not have a one-to-one relationship with resulting actions and is dependent on the significance assigned to the legislation (Buhr, 1998). Studies exploring the legislative influence on SEA technologies and organisational change are not well documented, although some point towards a positive relationship (Gray and Milne, 2002; Gray et al., 1996). Findings of this study note that sustainability legislation can provide an important motivation in applying SEA technologies. However, the ability of senior management to avoid morphogenetic change and to dilute these initiatives was apparent in this study and others (Gray et al., 1995, p.231). This finding has implications for legislators and the legislated in determining the type and process of sustainability legislation.

9.7 Conclusion

This thesis sought to explore one SEA technology as a means to promote more critically reflective organisational accounts. From this research, social accounting technologies are clearly implicated in producing more critically reflective organisational accounts. It was apparent that SEA technologies, such as the SAM, do provide the possibility of shaping

the mental models and activities of those in organisations. However, such a finding must be coupled with caution.

Both the potential and limitations of SEA technologies, such as the SAM, have been exposed by this study. Throughout this research I have held the belief that change may be possible and that SEA technologies might be implicated in this change. In addition, I have endeavoured to hold simultaneously to the belief that such technologies might also be implicated in limiting change and exacerbating current social and ecological problems. Gadotti describes the movement towards a sustainable way of living as a 'dream to live well' (2005, p.2) that is also strange and new (2003). It is hoped that findings from this study can contribute to the overarching objective of finding ways to address social and ecological harms, with the excitement of realising something new, but with enough caution to appreciate this is a significant challenge.

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Appendix 5.1: The Council Interviews/Phase One Empirics

Appendix 5.2: Research Team and Supplementary Interviews/ Phase One Empirics

Appendix 5.3: The Land Company Phase Two Empirics

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Appendix 5.4: Ethics Information Sheet

Information Sheet for a Study of Sustainability Assessment Models

Researcher: Michael Fraser, School of Accounting and Commercial Law

This study aims to investigate Sustainability Assessment Models where they have been used in specific projects. The information will be used to explore the impact this has on the way people think and talk and act on sustainability issues. The University requires that ethics approval be obtained for research projects involving human participants.

If you volunteer to participate you will be asked a series of questions about Sustainability Assessment Models and the project in which you were involved or influenced by. Each interview should take approximately one hour of your time. The recordings from each of the interviews will be transcribed.

Responses collected will form the basis of my PhD thesis and academic publications. Your name will be removed from any part of the transcript used, although your organisation may be identified. You will have the opportunity to check the transcript or withdraw from the research at any stage before the information is analysed. If you decide to withdraw from the interview all the information you provided will be destroyed. All transcripts will be securely stored at Victoria University of Wellington and/or Landcare Research and destroyed after the completion of this PhD thesis.

If you have any questions or would like to receive further information about the research project, please contact me at Victoria University of Wellington via email michael.fraser@vuw.ac.nz or phone +64-4-472 1000. Alternatively you may contact my academic supervisor Associate Professor Judy Brown at Victoria University of Wellington via email judy.a.brown@vuw.ac.nz or phone +64-4-472 1000.

Michael Fraser

Signed

Appendix 5.5: Human Ethics Consent Form

Consent Form for a Study of Sustainability Assessment Models

Researcher: Michael Fraser, School of Accounting and Commercial Law

Please tick each box if appropriate:

- I agree to provide information under the conditions mentioned in the information sheet. ☐
- I have been provided with adequate information relating to the nature and objectives of this research project, I have understood that information and have been given the opportunity to seek further clarification or explanations. ☐
- I understand that I may withdraw from participating in this project via email at any time before the information is analysed without providing reasons. Any data I have already been provided will be destroyed. ☐
- I understand that any information or opinions I provide will be not be directly attributable, however details of the project and organisation may be disclosed. ☐
- I understand that the information I have provided will be used only for this thesis and associated academic publications and that any further use will require my written consent. ☐
- I understand that when this research is completed the information obtained will be destroyed. ☐
- I would like an executive summary of the final report (via email / via post – please delete one) ☐
- I would like a copy of the interview transcript (via email / via post – please delete one) ☐

Name:

Position:

Organisation:

Address:

Email:

Signed:

Date:

Appendix 5.6: Interview Research Instrument

<p>What committee was making a decision? What is the purpose of that committee? Who sits on the committee (internal/external members and interests of each)? In what way does this committee usually make decisions? Who would know about the outcome of the decision (and how would they know)? What was the decision that had to be made? Were there any possible decisions that were not discussed/not possible?</p>
<p>Who suggested that the SAM be used to help with the decision? How was the SAM introduced to the decision makers on the committee (presentation/papers)? Were any other decision-making frames suggested? What are these other possibilities? How much experience do you have with other decision-making frames? Was the committee open to using various ways of evaluating their decision?</p>
<p>On reflection ... having used the SAM ...</p> <p>What positive points did people make about the SAM? What negative points did people make about the SAM? What was the meeting like, e.g. lively, straightforward? Did the SAM raise different questions than are usually asked? In what way did the SAM help you in this process? In what way did the SAM not help you in this process? Would you use the SAM again in this type of decision-making process? Do you believe the committee would use the SAM again?</p>
<p>Do you believe the SAM helped you make a better decision?</p> <p>(The three bolded questions below are likely to be made redundant by asking the above questions, however they have been included for checking purposes).</p> <p>Did anyone find it similar to what had been done before? Did the ideas in the SAM link to other things going on in the organisation?</p> <p>To what extent was the SAM approach different from what had been done before?</p>

Appendix 5.7: Laughlin Research Instrument

Coding Category	Sub-category		Identifying Tag
Disturbance	Changes to the organisational operating environment	Internal structure Legislation Change in ratepayer expectation Other	Dis/Struct
			Dis/Legis
			Dis/Rate
			Dis/Other
Interpretative Schema	Beliefs, Values and Norms	Public vs. private accounts of the organisation’s schema	Int/Bel/Pub
	Mission/Purpose		Int/Bel/Priv
	Metarules		Int/Mis/Pub
			Int/Mis/Pri
			Int/Met/Pub
			Int/Met/Pri
Design Archetype	Organisation Structure, Decision Processes, Communication System		Des/Struct
			Des/Process
			Des/Comms
			Des/Other
Sub-systems	Tangible Organisational Elements		Sub

Appendix 5.8: Freirian Research Instrument

Attribute	Dialogic	Monologic
Purpose	Medium of critical reflection and raising of consciousness.	Convince, subdue, legitimate and manage.
Content	Heuristic learning-images, metrics, general language. Unpredictable content.	Economically manageable aspects of business, formal and standardised language often monetary in value. Predictable content and presentation.
Time-scale	Flexibility in time-scale to reflect natural action cycles as appropriate.	Standardised annual or quarterly reports. Long-term timeframes often seen as inaccurate and therefore marginalised.
Legitimate Voices	'Experts' and 'non-experts' inclusive and polyvocal.	Privileging of experts, single discipline.
Knowledge Claims	Multi-perspectival, temporal, knowledge is co-produced but contestable	Ahistoric, general portrayal of timeless truths and unquestionable facts.
Scale	Scale is flexible. May consist of highly aggregated or detailed information.	Organisational entity and other formal structures, often highly aggregated to avoid 'commercial sensitivities' being divulged.
Ownership	No one person or entity can own an account.	Intellectual property owned and reinforced via legislation if necessary.
Communication Sites	Any intersection between or within the organisation is a valid communication site.	Single boundary between the organisation and community. Defined by formal internal structures.

(Attributes adapted from Bebbington et al., 2004)

Appendix 5.10: The Land Company-Laughlin Control Register

Coding Category	Card Number	Count
Disturbance- new appointment Disturbance	37 39	2 0
Inter-agency interpretative schema Interpretative Schema Interpretative Schema- Sustainability	4 2 5 12 13 23 26 32 42	0 1 8 0
Design Archetype Design Archetype Design Archetype- Rebuttal Design Archetype- essential quantification Design Arch- Interpretative schema link	34 35 36 38 41 WKS 50 51 52 7 8 9 10 14 16 18 20 24 25 31 27 28 30 29 45 46 47 11 48	19 7 0 2 0
Sub-system-Design-Arch Linkage Sub-system	19 29	2 0
Opportunity Inertia	1 21 33	2
Assemblage- Leadership Assemblage- Sustainability Assemblage- accountants Assemblage-general	1 5 11 12 15 17 22 43 44 49 3 6 40	10 1 0 2
Total		56

Appendix 5.11: The Land Company/Council Dialogic Control Register

Purpose	2	3	4	5	12	14	15	34	38	52	53	55	58	61	68	69	70	72	76	19
Monologic	28	30	31	37	45	47	74	77												8
reconceptualising	33	35	51	62	65	71														6
Content	1	6	11	19	57	63	66	75												8
																				0
																				0
Time Scale	16	30	63																	3
																				0
																				0
Legitimate Voices	7	8	13	21	32	44	48	49	60											9
																				0
																				0
Knowledge Claims	9	22	54	59	67															5
																				0
																				0
Scale	20	39	50																	3
																				0
																				0
Ownership	17	18	26	27	36	42														6
																				0
																				0
Communication Sites	10	25	56																	3
																				0
																				0
Reflection																				0
Problematism	23	40	43																	3
Action	24	41	73																	3
																				0
Other	46	64																		2
Total																				78