



<http://researchspace.auckland.ac.nz>

ResearchSpace@Auckland

Copyright Statement

The digital copy of this thesis is protected by the Copyright Act 1994 (New Zealand).

This thesis may be consulted by you, provided you comply with the provisions of the Act and the following conditions of use:

- Any use you make of these documents or images must be for research or private study purposes only, and you may not make them available to any other person.
- Authors control the copyright of their thesis. You will recognise the author's right to be identified as the author of this thesis, and due acknowledgement will be made to the author where appropriate.
- You will obtain the author's permission before publishing any material from their thesis.

To request permissions please use the Feedback form on our webpage.

<http://researchspace.auckland.ac.nz/feedback>

General copyright and disclaimer

In addition to the above conditions, authors give their consent for the digital copy of their work to be used subject to the conditions specified on the [Library Thesis Consent Form](#) and [Deposit Licence](#).

Note : Masters Theses

The digital copy of a masters thesis is as submitted for examination and contains no corrections. The print copy, usually available in the University Library, may contain corrections made by hand, which have been requested by the supervisor.

**MANAGEMENT CONTROL SYSTEMS
AND
SUSTAINABILITY**

STEPHEN EDWARD JOLLANDS

**A THESIS SUBMITTED IN FULFILMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
IN ACCOUNTING
THE UNIVERSITY OF AUCKLAND
2011**

ABSTRACT

Sustainability is humanity not over-consuming the resources available to them and thereby irreversibly depleting the levels of natural capital while at the same time ensuring an equitable and fair distribution, both within the current generation as well as across all future generations, of the resources available. Contemporary indicators suggest that we are currently far from achieving this state. Organisations that operate within our economies are responsible for the extraction of resources from the ecosphere at ever increasing levels as they pursue larger profits through growth. These organisations utilise their management control systems (MCS) to organise their operations and thereby moving humanity further away from achieving this state. Extant research at the intersection of sustainability and current MCS primarily focuses on this incompatibility. As a result to date there is sparse literature that specifically examines this intersection. Thus the aim of this research is to examine the potential for research at this intersection.

In order to examine the potential for research at this intersection I conduct a longitudinal case study that investigates two processes through the use of actor-network theory as a theoretical lens. The first process seeks to examine MCS in the context of sustainability. Specifically I examine the process through which the case organisation develops a core value focusing on sustainability. I find that this process involves two parts. The first establishes a descriptive definition for the core value. The descriptive definition opens a space that enables the second part to occur. In the second part, actors within the case organisation experiment in order to try and understand what must be done to achieve this core value. Providing this understanding of how a core value develops contributes to the extant literature through highlighting how core values prompt search and discovery activities within an organisation.

The second process seeks to examine whether a focus on MCS can extend our extant understandings of issues around sustainability. Thus, I examine the process, with a specific focus on the role of management controls, through which the case organisation attains and maintains legitimacy. I find that the role of the sustainability report within this process is to reaffirm the commitments of the relevant publics but it does so through avoiding any issue that is controversial in nature. Therefore the role of management controls differs in relation to whether they relate to issues that are more or less controversial. If they relate to a less controversial issue then their role, as is the case with the sustainability report, is to reaffirm the commitments of the relevant publics. If, however, they relate to a more controversial

issue then their role is to identify emergent concerned groups and thereby expand or reduce organisation activity as appropriate. Further, I find that a number of different management controls are used to deploy a full range of potential legitimising strategies. These findings of the differing roles of management controls and the legitimising strategies that they are used to deploy contributes to the extant literature through providing a more nuanced understanding of the process organisations employ to attain or maintain legitimacy.

By showing how core values prompt search and discovery activities within an organisation I find support for sustainability providing a good context within which to examine and further our understandings of MCS. By showing a more nuanced understanding of the process organisations employ to attain or maintain legitimacy I find support for a focus on MCS extending our extant understandings of issues around sustainability. Thus, while there is an incompatibility between current MCS and the state of sustainability, this thesis provides support for future research at this intersection. Specifically I advocate that this future research should utilise a broad range of approaches and investigate a wide range of issues. In this way I believe much needed knowledge may be developed as to how to enact the required change to move humanity towards a state of sustainability.

DEDICATION

I dedicate this thesis to my wife, Shijin,
who has supported me throughout my student life,
which has been for the majority of our married life.

ACKNOWLEDGEMENTS

First and foremost I wish to thank my supervisor, Dr Chris Akroyd, whose unwavering support has guided me through the highs and lows of this process. He has allowed me the freedom to explore the diverse academic terrain while at the same time ensuring that I develop the skills that such a process is designed to instil. It would be fair to say that without his guidance and support this process may not have even happened. I would also like to thank my co-supervisor, Professor Norio Sawabe, for his unwavering support. Specifically I acknowledge his patience and guidance during our many long conversations. I have walked away from every one of these conversations more knowledgeable and with the seeds of ideas firmly planted within my mind. Also I wish to thank Professor Steven Cahan, my PhD advisor, for keeping a watchful eye throughout this process. I would also like to thank Steven for first suggesting to me, when I was an honours student, to consider undertaking this process.

I am very grateful to the University of Auckland for providing me with the opportunity to undertake a PhD and providing me with a scholarship to enable me to fully concentrate on my studies. In this respect the Department of Accounting and Finance, where I am based within the university has been very supportive in terms of giving me part time work to supplement my scholarship and at time financial assistance to attend various conferences and colloquiums. Also I want to thank the management accounting group within our department for attending, and giving feedback at, the many brown bag sessions where I presented.

Further I would like to thank all the participants from my case organisation, Kiwi, for allowing me to have research access, take up their valuable time, and for being so generous in assisting me to understand their practices. I wish to stress that the discussions and observations that I make in this thesis are in no way a direct criticism of Kiwi or the people working within it. Rather these could be applied to almost any modern organisation and therefore reflect the general state of our society. Thus, even though Kiwi was happy for me to use their real name within this thesis, I have used a pseudonym in order that the reader's interpretations of the findings within this thesis are not biased by personal beliefs about this organisation.

I would also like to thank the many members of the academic community that have given their own valuable time to offer me much needed advice. Specifically, I would like to thank Deryl Northcott for her sound advice at critical places throughout this process. Further

I would also like to thank the following for their time in giving me feedback and advice throughout this process: Shannon Anderson, Hirofumi Asada, John Burns, Rob Chenhall, Paul Collier, Suresh Cuganasen, Niels Dechow, Clive Emmanuel, David Emmanuel, Ken Euske, Aldonio Ferreira, Alan Hansen, Trevor Hopper, Kerry Jacobs, Yasuyuki Kazusa, Michael Keenan, Ralph Kober, Habib Mahama, Satoko Matsugi, Markus Milne, Jan Mouritsen, Bob Scapens, Sophie Tessier, Helen Tregidga, Jeffrey Unerman, Ivan Valdovinos Hernandez, Evangelia Varoutsas, Liz Warren, Danture Wickramasinghe, and Kohji Yoshikawa.

Throughout this process I have presented my research at as many places as practical and received valuable feedback in doing so. Therefore, I would like to thank seminar participants for their feedback at the presentations that I made on 9 June 2009 at Kobe University and on 14 June 2009 at Kyoto University. Both of these seminars were based on the early findings of this research. I would also like to thank seminar participants at Manchester Business School for the feedback during the presentation I made on 15 September 2010 of a working paper based on the research I present in chapter six. Further, I would like to thank seminar participants at Copenhagen Business School for the feedback during the presentation I made on 17 September 2010 of a working paper based on the research I present in chapter five.

Finally I would like to thank all the participants at the following conferences and colloquiums, where I have presented aspects of this research, for their feedback that has allowed me to move this project forward. In 2007 participants at the 1st New Zealand Management Accounting Conference, the Management Control Association Doctoral Colloquium, and the University of Auckland Business School PhD Conference. In 2008 participants at the Global Management Accounting Research Symposium Emerging Scholars Forum, the European Network for Research on Organizational and Accounting Change (ENROAC) 4th Doctoral Summer School in Management Accounting, the Japan Association of Management Accounting Annual Congress, 2nd New Zealand Management Accounting Conference, the 7th Australasian Conference on Social and Environmental Research, and the University of Auckland Business School PhD Conference. In 2009 participants at the School of Accounting and Commercial Law Victoria University of Wellington PhD Colloquium, the 7th European Network for Research in Organisational & Accounting Change (ENROAC) Conference, the Japan Association of Management Accounting Annual Congress, and the 3rd New Zealand Management Accounting Conference. In 2010 participants at the 22nd CSEAR International Congress on Social and Environmental Accounting Research, the 8th

International Management Control Research Conference, the 4th New Zealand Management Accounting Conference, and MONFORMA 2010. In 2011 participants at the School of Accounting and Commercial Law Victoria University of Wellington PhD Colloquium and the 8th European Network for Research in Organisational & Accounting Change (ENROAC) Conference.

Attending all of these events has involved the outlay of a considerable amount of money and therefore I would like to thank the organizations that have contributed funding to make this possible. These include funding from the Department of Accounting and Finance at the University of Auckland Business School, the University of Auckland Business School PHD Conference Funding, New Zealand Institute of Chartered Accountants, the Melco Foundation, the Warwick Hunt Travel Grant, the Educated New Zealand Post Graduate Study Abroad Award, the APIRA 2007 Emerging Scholars Fund, and the Association of Chartered Certified Accountants.

In closing these acknowledgements I would like to make special mention of Gaynor O'Neil. Gaynor, who is the mother of my close friend Tom O'Neil, is an established leader among Human Resource practitioners in New Zealand. When I was a young teenager she got me to fill out one of her employment questionnaires. From this Gaynor discerned that in my future I would best be suited to writing a book. I, therefore, would like to thank Gaynor for her foresight and hope that this constitutes meeting that expectation.

TABLE OF CONTENTS

ABSTRACT	ii
DEDICATION	iv
ACKNOWLEDGEMENTS	v
TABLE OF CONTENTS	viii
LIST OF FIGURES	xi
LIST OF ABBREVIATIONS	xii
CHAPTER ONE – INTRODUCTION	1
1.1 <i>Introduction</i>	1
1.2 <i>Overview of sustainability</i>	2
1.3 <i>Overview of management control systems</i>	3
1.4 <i>Connecting the research objects</i>	4
1.5 <i>Research approach overview</i>	6
1.6 <i>Overview of thesis</i>	7
CHAPTER TWO – ACTOR NETWORK THEORY	10
2.1 <i>Introduction</i>	10
2.2 <i>ANT use in the accounting literature</i>	14
2.3 <i>Defining underlying concepts</i>	19
2.3.1 Facts and black boxes	19
2.3.2 Actors	20
2.3.3 Networks	21
2.3.4 Socio-technical agencements	21
2.3.5 Section summary	22
2.4 <i>Translation</i>	22
2.5 <i>Short and long translation</i>	27
2.6 <i>Performative and ostensive understandings</i>	28
2.7 <i>An ANT understanding of management control</i>	32
2.8 <i>Tactics for making texts act</i>	35
2.8.1 Fortification	36
2.8.2 Stacking	37
2.8.3 Staging and framing	38
2.8.4 Captation	39
2.8.5 Section summary	40
2.9 <i>Framing and overflowing</i>	41
2.9.1 Framing	41
2.9.2 Overflowing	43
	viii

2.9.3	Framing and overflowing	44
2.9.4	Concerned Groups	45
2.9.5	Hot and cold overflows	46
2.9.6	Section summary	49
2.10	<i>Chapter summary</i>	50
CHAPTER THREE – LITERATURE REVIEW		54
3.1	<i>Introduction</i>	54
3.2	<i>Sustainability</i>	55
3.2.1	Sustainable development and sustainability	56
3.2.2	Economic activity, society, and the ecology	58
3.2.3	Implicating capitalist economies in issues of sustainability	61
3.2.4	Implicating the organisation in issues of sustainability	63
3.2.5	Implicating accounting in issues of sustainability	66
3.2.6	Section summary	67
3.3	<i>Motivating research aims one and two</i>	68
3.4	<i>Management control and management control systems</i>	72
3.5	<i>Accounting for sustainability and the SEA literature</i>	78
3.5.1	Accounting for sustainability	79
3.5.2	Differentiating accounting for sustainability and SEA	80
3.5.3	Similarities between accounting for sustainability and SEA: the need for change	81
3.5.4	Different streams of SEA literature	84
3.5.5	Justifying the selection of legitimacy theory	87
3.5.6	Distinguishing legitimacy theory from reputation risk management	88
3.6	<i>Legitimacy theory</i>	89
3.7	<i>Issues of concern</i>	101
3.7.1	Engagement and the issue of managerial capture	101
3.7.2	Environmental Management Accounting (EMA)	103
3.8	<i>Chapter summary</i>	105
CHAPTER FOUR – CASE STUDY AND RESEARCH METHOD OVERVIEW		108
4.1	<i>Introduction</i>	108
4.2	<i>Appropriateness of case study as the research method</i>	108
4.3	<i>Case organisation overview</i>	111
4.3.1	Overview of structure	111
4.3.2	Kiwi	112
4.3.3	Koala	114
4.3.4	Eagle	115
4.3.5	Section summary	117
4.4	<i>Data collection and analysis</i>	117
4.4.1	Data collection process	117
4.4.2	Overview of data	120
4.4.3	Data analysis process	125
4.4.4	Quality Criteria	127

4.4.5	Ethical considerations	128
4.5	<i>Overview of events at Kiwi</i>	129
4.6	<i>Chapter summary</i>	131
CHAPTER FIVE – RESEARCHING MCS IN THE CONTEXT OF SUSTAINABILITY		132
5.1	<i>Introduction</i>	132
5.2	<i>Translation of a core value at Kiwi</i>	135
5.2.1	Short translation for an ostensive understanding of the core value	136
5.2.2	Long translation for a performative definition of the core value	137
5.2.3	Section summary	145
5.3	<i>Implications</i>	145
5.4	<i>Addressing the first research aim</i>	150
5.5	<i>Conclusion</i>	153
CHAPTER SIX – USING MCS TO RESEARCH SUSTAINABILITY ISSUES		156
6.1	<i>Introduction</i>	156
6.2	<i>Overview of Kiwi’s Sustainability Reports</i>	160
6.3	<i>Understanding Kiwi’s Sustainability Reports through Latour’s (1987) tactics</i>	162
6.4	<i>The role of the sustainability report</i>	168
6.5	<i>The role of other management controls</i>	172
6.6	<i>The other management controls in relation to Lindbloms (1993) four strategies</i>	176
6.7	<i>Implications</i>	183
6.8	<i>Research aim two</i>	188
6.9	<i>Chapter conclusion</i>	194
CHAPTER SEVEN – DISCUSSION AND CONCLUSION		198
7.1	<i>Introduction</i>	198
7.2	<i>The process of developing a core value</i>	199
7.3	<i>The process of attaining legitimacy</i>	200
7.4	<i>Contributions</i>	201
7.5	<i>Addressing the research aims</i>	203
7.6	<i>Limitations</i>	206
7.7	<i>Future research</i>	207
7.8	<i>Conclusion</i>	209
APPENDIX ONE - INTERVIEW AND OBSERVATION SCHEDULE		210
APPENDIX TWO – SCHEDULE OF ARTEFACTS		212
REFERENCES		214

LIST OF FIGURES

Figure 1: Interrelation of Economy, Society, and the Ecosphere	59
Figure 2: Organisation structure	112
Figure 3: Artefact summary	122
Figure 4 Summary of quality criteria for an ANT analysis	128

LIST OF ABBREVIATIONS

Abbreviation:	Meaning:
ABC	Activity based costing
ANT	Actor-Network Theory
BPC	British Phosphate Commission
CFO	Chief Financial Officer
ChCh	Christchurch
CSD	Corporate Social Disclosure
CSR	Corporate Social Responsibility
DCF	Discounted Cash Flow
EBIT	Earnings Before Interest and Tax
EAV	Estimated Advertising Value
EMA	Environmental Management Accounting
EPM	Environmental Performance Metrics
ERP	Enterprise Resource Planning system
ETS	Emissions Trading Scheme
FCA	Full Cost Accounting
FMCG	Fast Moving Consumer Goods
GM	General Manager
KPI	Key Performance Indicator
LOC	Levers Of Control
LOHAS	Lifestyles Of Health And Sustainability
MCS	Management Control System
MD	Managing Director
NZ	New Zealand
NZBCSD	New Zealand Business Council for Sustainable Development

NZLT	New Zealand Leadership Team
OPP	Obligatory Passage Point
PET	Polyethylene Terephthalate
PLA	Polylactic Acid
RDI	Recommended Daily Intake
RRM	Reputation Risk Management
SAM	Sustainability Assessment Model
SCC	Sustainable Cost Calculation
SD	Sustainable Development
SEA	Social and Environmental Accounting
SEAR	Social and Environmental Accounting Research
STAs	Socio-Technical Agencements
UK	United Kingdom
UNEP	United Nations Environment Programme
USA	United States of America
WWF	Worldwide Fund for nature

CHAPTER ONE – INTRODUCTION

1.1 Introduction

In this thesis I aim to reassess the potential for research at the intersection of management control systems (MCS) and sustainability. Berry et al (2009) provide the motivation for this research through noting that there is a relative lack of literature that deals with this intersection. Potential reasons for the lack of literature include the notion of sustainability being an ambiguous and contested concept (Ball & Milne, 2005; Gray, 2010; Milne, 1996) making research in this area problematic. The sparse literature at this intersection (for example Ball & Milne, 2005; Milne, 1996) points towards an incompatibility between traditional understandings of MCS, with its focus on increasing economic profits through continual growth, and strong forms of the concept of sustainability, which recognise a world of limited resources. However, it is organisations that are the economic entities responsible for the extraction of resources from the natural environment and in doing so create the sustainability issues that society faces. Therefore it would seem that a focus on the management controls that actors within organisations use in relation to sustainability issues offer the potential to better understand how to enact change that moves society towards a state of sustainability.

Thus in this research I reassess the value of research at the intersection between MCS and sustainability through the following two broad aims:

1. Investigate whether the context of sustainability is useful in furthering our extant understandings of MCS.
2. Investigate whether focusing on MCS can extend our extant understandings of issues around sustainability.

These research aims are too broad to investigate in their entirety within the space and time limits of one thesis. Hence, I narrow these aims down in the literature review I perform in chapter three to five research questions. The first two questions relate to the first aim through researching MCS in the context of sustainability:

- 1.1 How are core values within the belief systems developed?
- 1.2 How is this process influenced by and how does it act upon other management controls?

The final three questions contribute to addressing the second aim through researching sustainability in the context of MCS:

- 2.1 What is the role of the sustainability report in the process of attaining legitimacy?
- 2.2 In relation to question 2.1 what is the role of other management controls in the process of attaining legitimacy?
- 2.3 If other management controls play a role in the process of attaining legitimacy then which of Lindblom's (1993) four strategies are being used?

As this is an introductory chapter I now turn, in the next two sections, to providing a brief overview of the two objects¹ of this research. That is, in section two I briefly describe the first of the research objects, sustainability. I then, in section three provide a brief description of the second of the research objects, MCS. In section four I provide an overview of the connection between the two research objects. This overview of the research objects and the connection between them provides context to the remaining chapters. However, I develop and discuss these concepts further in chapter three. In section five I provide an overview of the research approach that I utilise in answering the research questions and, in turn, addressing the research aims. Finally in section six of this chapter I provide a summary of the remaining chapters of this thesis.

1.2 Overview of sustainability

The first object of this research is sustainability. Sustainability is a contested and ambiguous concept (Ball & Milne, 2005). Further, it is arguably the greatest challenge that humanity has ever faced with the potential consequences being the catastrophic collapse of our economies, society, and the very ecology on which we depend for our survival. While it is not possible to prove beyond all doubt the existence of such a problem (Dryzek, 1997), or even the extent of the issues we face, reviewing historical precedence, such as the case of Easter Island (Diamond, 2005), suggests following a precautionary approach (Costanza,

¹ Here the use of the term object is in relation to the theoretical lens, actor-network theory, which I utilise in this thesis and describe in depth in chapter two. Thus, by object I do not mean something that has distinct physical form. Rather, here I use this word to denote the elements that constitutes the focus of the research. Further, the term object is also used to denote the potential for these elements to become actors, as I define in section three of chapter two, in their own rights.

1989; Small & Jollands, 2006). However, our current economies are geared towards increasing economic profits through a focus on growth, which in turn requires increasing levels of resources to be extracted from the ecology and increasing levels of waste to be returned to the environment. Even at the current levels of resource extraction and waste introduction, indicators (Ball & Milne, 2005; Bebbington & Gray, 2001; Gray & Milne, 2002; Wackernagel & Rees, 1996; WWF - World Wide Fund for Nature, 2010) suggest that the ecology is being irreversibly depleted. I therefore define the state of sustainability as humanity not over-consuming the resources available to them and thereby irreversibly depleting the levels of natural capital (Wackernagel & Rees, 1996) while at the same time ensuring an equitable and fair distribution, both within the current generation as well as across all future generations, of the resources available (Milne & Gray, 2007).

Before proceeding to the next section I first make two clarifications. The first is with regard to the differing terms ‘sustainability’ and ‘sustainable development’. I provide a full clarification of the difference between these two terms in section two of chapter three. However, in brief, the difference is that the former is a dichotomous state, that is we are either sustainable or we are not, with the latter being the process that aims to try and implement this state.

The second clarification is in respect to how I use the term ‘environment’ in this thesis. That is, in line with Gray, Walters Bebbington & Thomson (1995b) I use the term ‘environment’ throughout this thesis as a shortened form of the natural environment. Hence I am “[...] talking about ecology and human experience within that [...]” and I am, therefore, not using it in “[...] the business strategy sense of business influence and influenceability” (Gray et al., 1995b, p233). With these clarifications complete I now turn, in the next section, to providing an overview of the second object of this research.

1.3 Overview of management control systems

The second object of this research is MCS. For the purposes of this thesis I define MCS as the mechanisms that actors use to enable the achievement of their goals and the goals of the wider network to which they belong and they include a mixture of both formal and informal processes and procedures (Bisbe & Otley, 2004; Kober, Ng & Paul, 2007). That is, each of the mechanisms is a management control and when taken collectively they are a system of management controls or, as I refer to here, a MCS.

Various MCS frameworks have been developed to analyse and classify the management controls that we observe in practice. These include that of Anthony (1965),

Merchant (1985), Simons (1995; 2000), Otley (1999) and Ferreira and Otley (2009). In this thesis I utilise Simons (1995; 2000) Levers of Control (LOC) framework which has seen increasing use within the management accounting literature (see for example Bisbe & Otley, 2004; Kober et al., 2007; Mundy, 2010; Widener, 2007). However, as I explain in further depth in section four of chapter three, the specific reason for using the LOC framework is that it is best suited to assisting with my investigation of the first group of research questions that focus on the development of a core value within the belief systems lever.

Otley (2005, p80) notes in relation to Anthony's (1965) framework that "[t]he principal tool for achieving management control is management accounting information." However, Otley (2005, p80) critiques Anthony's (1965) overemphasis of accounting based controls and notes "[...] it would be erroneous to assume that management accounting is the only or even the main means of management control." Throughout the thesis I will make reference to management accounting as well as management controls, and MCS. To clarify the relationship between management accounting and MCS, management accounting, along with financial accounting and reporting, is best thought of as one type of management control. Thus we come to understand that management accounting can be seen as a subset within the MCS². With the overview of the second research object in place I now turn, in the next section, to providing an overview of the connection between the two research objects.

1.4 Connecting the research objects

I provide an in-depth description of the connection between the two research objects in section two of chapter three. Therefore the aim of this section is to provide a brief overview of this connection. The connection between the two objects of this research can best be understood through referring back to the tension between our current economies, with their focus on profit through growth, and sustainability, with its acknowledgement of a world of limited resources. The former requires an ever increasing level of resource utilisation whereas the latter requires a steady or decreasing state of resource consumption where the rate of extraction does not exceed the rate of replenishment. As can be seen from this tension, to realise a state of sustainability requires a change in underlying beliefs on the way our current economies operate. Further, the organisations that operate within our economies are responsible for the extraction of resources from the ecosphere and as a result are at least

² At various points throughout the thesis I use quotes from the management accounting literature to specifically illustrate a point in relation to management control or MCS. Management accounting can usefully be thought of as a type of management control and thereby as a subset of MCS.

partially responsible for the current sustainability issue. From the definition of management controls and MCS, which I outline in section three above, we can see that it is these that organisations utilise to coordinate the economic activity that in turn is responsible for the current sustainability issue. Hence, in summary, the connection between the two research objects is that to achieve a state of sustainability first requires a radical change in MCS (Ball & Milne, 2005).

Thus, the need for change is implicit to research that focuses on this intersection (Bebbington, 2007). As I note above it is the aim of this thesis to reassess the potential for research at this intersection and as such this thesis focuses on the implicit need for change. The potential for change can be seen in the emergence of new sustainability focused management controls such as the ecological footprint, full cost accounting, and the sustainable cost calculation. In this respect Miller's (1998, p174) statement as follows, albeit about accounting, has the potential to hold true for these new sustainability focused management controls:

“To attend to the margins of accounting is to attend to the ways in which these calculative practices and their related rationales have, in certain countries, initially permeated accounting at its boundaries, and gradually come to occupy a dominant position. [...] What is on the margins at one point in time can become central or taken-for-granted, relatively fixed and durable, at a later date.”

Whether the sustainability focused management controls move from the margins to hold a dominant position is of course an empirical question that will play out over time. However, with the relative lack of literature at this intersection, our extant knowledge is such that it is not even clear how these can take a central place in an organisation's MCS or, given the lack of knowledge of how they act in practice upon an organisation, whether this is even desirable. Thus it would appear that research at this intersection is urgently required. This is echoed by Miller (1998, p177) when he continues that “[i]n demonstrating that accounting is itself an ensemble of devices and ideas formed at particular times and in particular locales, rather than an immutable and universal starting point, a focus on the margins of accounting can help in the invention of new ways of organizing and administering.” Therefore, this thesis aims to provide empirical support for conducting future research at this intersection. I now turn, in the next section, to providing an overview of the research approach I take in order to

investigate the research aims and questions in order to provide an empirical assessment of the merits of research at this intersection.

1.5 Research approach overview

In this section I overview the approach that I take in investigating the research aims and related questions. I utilise a longitudinal case study, which I provide an in-depth overview of in chapter four. The use of a longitudinal case study presents the most appropriate means for providing knowledge of the two processes, development of a core value and attaining or maintaining legitimacy, which this thesis investigates. This is in line with Ahrens & Chapman's (2007, p2) comment that the objects of research "[...] cannot be understood simply with reference to its supposed functional properties because it is implicated in the shaping of its own context." Specifically the type of longitudinal case study that I utilise can be labelled as a critical case study (Flyvbjerg, 2001; Scapens, 1990). That is, my aim is to critically reflect the data, analysis, and findings from the case organisations on theories of MCS and sustainability in order to reassess the validity and plausibility of these extant understandings.

The organisation I select for this study was chosen for its suitability in relation to the research aims and questions. That is, the appropriateness of the organisation is in relation to the focus of this research on MCS and sustainability. The case organisation is one where the actors within it are struggling to come to grips with the contested and ambiguous concept of sustainability and they are utilising their MCS to assist with their efforts. Thus in relation to the first research aim and group of questions the case organisation proves to be appropriate in that as part of their efforts they try and develop a core value in relation to sustainability. These efforts are in line with Mundy's (2010, p501) comment that "[...] belief systems are important to organisations undergoing change when managers choose to modify or introduce new values and priorities." In relation to the second research aim and group of questions the case organisation proves to be appropriate as well in that it is part of a multinational organisation with a long history of success built on its marketing efforts. Thus, in terms of dealing with threats to their legitimacy this organisation has processes and procedures, built on decades of experience, which may be considered as best practice. With the organisation's success built on the promotion of consumerism the full extent of these best practice processes and procedures are utilised in order to counter the threat to their legitimacy that is posed by the change required to achieve a state of sustainability,

In a setting, such as the case organisation, with the central issue of sustainability being ambiguous and contested it is expected that many divergent ideas, opinions, and positions from many different actors will be involved in trying to establish an organisation response. Thus to guide the collection and analysis of data I select a theoretical lens that recognises ‘facts’ as being “constructed to accommodate and persuade diverse interests within organisations” (Baxter & Chua, 2003, p102). I therefore utilise Actor-Network Theory (ANT) (Callon, 1986b; Callon & Latour, 1981; Latour, 1986; 1987; 2005; Law, 1986) as this provides a means of tracing the associations that make up the two processes, developing the core value and attaining or maintaining legitimacy, at the case organisation. I utilise ANT as a means of observing, organising, and analysing data; in order to critically reflect (Flyvbjerg, 2001) the situated practices (Garfinkel, 2002) of actors upon theories of MCS and sustainability. With the overview of the research approach in place I now turn, in the next section, to providing a summary of the remainder of the thesis.

1.6 Overview of thesis

I structure the rest of the thesis as follows. In chapter two I introduce the theoretical lens ANT (Callon, 1986b; Callon & Latour, 1981; Latour, 1986; 1987; 2005; Law, 1986). In doing so I provide an overview of the central concept of ANT; translation (Latour, 1987; 2005); how this can usefully be understood through what Callon (1986b) labels as ‘four moments’; and the difference between long and short versions (Mouritsen, Hansen & Hansen, 2009). Further I mobilise the concepts of ostensive and performative understandings (Latour, 1986) to develop a performative understanding of management controls and MCS, which I base on Latour’s (1991) European Hotel key example. Finally, I introduce what Latour (1987, p45-60) refers to as “[w]riting texts that withstand the assaults of a hostile environment” and the concepts of framing and overflowing (Callon, 1998).

With the theoretical lens in place, in chapter three I provide a literature review that I use to formulate the two research aims and questions. I start through expanding on the understanding of sustainability that I outline in section two above. As part of this explanation I describe the interrelation between economic activity, society, and the ecology. This in turn implicates our economies, economic organisations, and accounting in issues of sustainability and in so doing provides the motivation for this research. I then outline the two research aims, which I note are too broad to be able to address fully in this thesis. I therefore develop research questions that correspond to both of these research aims and thereby provide a means with which to assess the support for these aims.

In chapter four I provide an overview of the case organisations where I carried out my data collection and the research method I employed in doing so. I begin this chapter by outlining the appropriateness of utilising a case study research method to investigate the research questions. I then detail the case organisations including providing an explanation of the greater network to which it forms part. Following this I provide an overview of how I collected the data, what type of data I collected, the process I employed in analysing the data, the quality criteria I utilise to assess the findings, and how I dealt with ethical considerations that arise in this process. I finish this chapter through providing a broad overview of the events that occurred at the case organisation during the time period covered by this research.

I address the first group of research questions and thereby assess support for the first research aim in chapter five. In order to investigate these questions I trace the associations that are formed at the case organisation as they seek to develop a core value that focuses on sustainability. This allows me to develop an understanding of the process through which a core value develops and understand how this process is influenced by and how it acts upon other management controls. From the understanding that I develop I draw out findings that I utilise in turn to assess the level of support for whether the context of sustainability is useful in furthering our extant understandings of MCS.

Chapter six addresses the second group of research questions and thereby assess support for the second research aim. In order to better understand the process of attaining or maintaining legitimacy I first investigate the role of the sustainability report. I utilise the tactics that Latour (1987) outlines to strengthen texts against hostile attacks to analyse the two reports that the case organisation produced during the time period covered by this research. I build on this analysis to better understand the role of the sustainability report and other management controls enrolled into this process. I achieve this through the use of the four moments of translation (Callon, 1986b) and the concepts of framing and overflowing (Callon, 1998). Further, I seek to understand which of Lindblom's (1993) four legitimising strategies the organisation is using the management controls to deploy. As with the previous chapter I utilise the understanding that I develop to draw out findings that I use to assess the level of support for whether focusing on MCS can extend our extant understandings of issues around sustainability.

I conclude the thesis in chapter seven. To start the conclusion I provide an overview of the findings of the thesis drawn from the previous two chapters. I follow this with a summary of the contribution that these findings make to the extant literature. From these contributions I overview the support for the two research aims of this thesis and in doing so

reassess the potential for research at the intersection of MCS and sustainability. I finish this chapter with an indication of the limitations of this research and the potential areas for future research.

CHAPTER TWO – ACTOR NETWORK THEORY

2.1 Introduction

In this chapter I present the central and critical concepts from Actor-network theory (ANT) that I use to pursue the research in this thesis. ANT is only one of the approaches amongst many that I could select for this research, albeit with its own unique “[...] emphases, ambitions, and means of analysis which differ from those of the alternatives” (Mouritsen, Mahama & Chua, 2010, p293). Here, however, the rationale for adopting it as the theoretical lens is that its use allows us to move beyond the legal and accounting view of the organisation. Instead the aim is to understand the organisation as a network of human and non-human actors held together through a series of associations that are constantly made and remade as actors are enrolled into and leave the network.

Further, ANT enables the researcher to focus on the role of the research objects within these networks. While the research objects for this thesis, as I outline in chapter one, are management control systems (MCS) and sustainability, I demonstrate this with reference to Justesen and Mouritsen (2011) who focus on a research object of accounting inscriptions. They note that ANT considers research objects as non-human actors. In specifically referring to the inscriptions made in accounting they note that the use of ANT:

“[...] has brought back the role of calculations as central objects in the study of accounting phenomena after a period of time in which sociologically based accounting inquiry has been concerned primarily with either the role of the macro-context or of the personal sensemaking and meaning construction related to accounting phenomena. ANT has repositioned calculations to a central place in accounting research instead of being marginalised and subordinated to material, ideological, professional and political conditions or personal interpretations of accounting.” (Justesen & Mouritsen, 2011, p161)

Thus, with reference to this quote, the use of ANT allows for the placing of MCS and sustainability at the centre of the research that I conduct in this thesis. This, given the research aims and related questions that I outline in chapter three, makes ANT the most appropriate approach, which I select from the many available, for conducting the research within this thesis.

Returning to Justesen and Mouritsen (2011) I note that they show that the use of ANT has made a substantial contribution to the accounting literature. In doing so they demonstrate that the work of Latour, and specifically *Science in Action* (Latour, 1987), has been predominate in shaping the use of ANT within this literature. Further they note that due to the large body of writings that collectively make up the ANT literature that various forms of ANT are possible. As a result they advocate the use of the wider ANT literature, and specifically Latour's later writings, as a potential way to open further opportunities for increasing our understandings around the practice of accounting. This is the approach that I adopt within this thesis given that I draw from the accounting literature that utilises ANT and also extend its use into the area of accounting for sustainability, which, as I note in section two below, does not have the same established tradition of using ANT.

Thus, in line with the suggestions of Justesen and Mouritsen (2011), I draw from the wider ANT literature in the construction of a version of ANT that is suitable for the task of assisting with investigating my research aims and questions. While I still draw some concepts from *Science in Action* (Latour, 1987) I also utilise concepts from Latour's other publications (Latour, 1986; 1991; 1999a; b; 2005; Latour & Woolgar, 1986) and also from other researchers that contribute to the extant ANT literature, most notably the work of Callon and Law (Çaliskan & Callon, 2009; 2010; Callon, 1986a; b; 1998; 1999; 2004; 2007a; b; 2009; 2010; Callon & Latour, 1981; Law, 1992; 1999).

Prior to outlining the understanding of ANT that I use, I first return to Justesen and Mouritsen's (2011, p161) suggestion that ANT enables the researcher to place the research objects at the centre of the research. In this thesis placing MCS and sustainability at the centre of the research is critical to the success of being able to address my research aims. After all "[...] almost all of our interactions with other people are mediated through objects of one kind or another" (Law, 1992, p381-382). However, as I outline in subsequent chapters, understanding what sustainability is proves to be problematic both in theory and in practice.

Through placing objects at the centre of the research agenda and then understanding the surrounding associations that bind these to other actors, it is possible to mistakenly interpret ANT as a relativist position. However, not holding a priori assumptions and allowing actors equal opportunity to act does not make ANT relativist. Rather ANT is "[...] relationist: showing the relationship between the points of view held by mobilized and by mobilizing actors gives judgments as fine a degree of precision as one could wish for" (Latour, 1991, p128). As Law (1992, p390) notes:

“So it is that actor-network theory analyses and demystifies. It demystifies the power of the powerful. It says that, in the last instance, there is no difference in kind, no great divide, between the powerful and the wretched. But then it says that there is no such thing as the last instance. And since there is no last instance, in practice there are real differences between the powerful and the wretched, differences in the methods and materials that they deploy to generate themselves. Our task is to study these materials and methods, to understand how they realize themselves, and to note that it could and often should be otherwise.”

Thus ANT can be seen as a means of avoiding the ‘realist/relativist debate’ (Latour, 1999a, p22). Further it is a way of avoiding the “[...] traditional sociological dichotomies, such as micro/macro, subject/object, structure/agency and technical/social” (Justesen & Mouritsen, 2011, p177). This means that ANT often attracts the label of a constructivist approach with its use within the accounting literature aiming to understand the role of these practices in the construction of society (Justesen & Mouritsen, 2011). Therefore the underlying assumption is that “[...] society is not what holds us together, it is what is held together” (Latour, 1986, p276). This implies that, as Law (1992, p390) notes, this construction is an endless process and therefore “[...] in order to stabilize society everyone [...] need to bring into play associations *that last longer than the interactions that formed them*” (Callon & Latour, 1981, p283, emphasis in original). Further “[w]hen as a result of unusual circumstances, it is made to stay the same, this is what requires an explanation” (Latour, 1986, p268)

If we understand the economy to be a sub-system of society, a point that I further outline in the next chapter, then ANT, as I discuss above, “[...] implies that the economy is an achievement rather than a starting point or a pre-existing reality that can be revealed and acted upon” (Çaliskan & Callon, 2009, p370). As Mackenzie (2009, p441) notes this equates to a performative understanding, which I further outline in section six below, where economic practices, including those of academics theorising with regard to economics (Callon, 2007b), take an active role in the very construction of the economy. This implies that “[o]rganizations do not have to be placed into a ‘wider social frame’ since they themselves give a very practical meaning to what it means to be nested into a ‘wider’ set of affairs.” (Latour, 2005, p7)

The underlying assumption of the continual construction of society, and the sub-system that is the economy, has profound implications for approaching research. Most importantly is the need to follow the actors in order to understand their practices (Latour, 1987). But in doing so it is important to keep in mind that “[...] instead of taking a reasonable position and imposing some order beforehand, ANT claims to be able to find order much better after having let the actors deploy the full range of controversies in which they are immersed” (Latour, 2005, p23, emphasis in original). Law (1992, p380, emphasis in original) makes this point succinctly by noting that “[i]f we want to understand the mechanics of power and organization it is important not to start out assuming whatever we wish to explain.”

These underlying assumptions, therefore, require that the researcher not aim to generalise a result to the population (Ahrens & Chapman, 2006). Rather “ANT helps us to become surprised. This surprise is interesting and relevant not because it describes all cases, but because it offers new candidates to explain how management accounting becomes powerful” (Mouritsen et al., 2010, p312). Thus within organisations and economies there are many different and disparate actors, including many different forms of management controls, all with “[...] their own expectations, conceptions, projects and interests” (Callon, 2009, p540) and thus we should, as researchers, have expectations of finding many different divergent and surprising ways of organising and structuring in practice.

However the implication of this is that in utilising ANT within this thesis I do so not as a theory (Callon, 1999). “It was never a theory of what the social is made of [...] ANT was simply another way of being faithful to the insights of ethnomethodology: actors know what they do and we have to learn from them not only what they do, but how and why they do it” (Latour, 1999a, p19). Hence I utilise ANT as a lens through which to observe, organise and understand the situated practices (Garfinkel, 2002) of the actors within my case organisation. This is not to say that this thesis is devoid of theory. Rather I critically reflect (Flyvbjerg, 2001) the understandings of the practices I observe at the case organisation on theories of management control and sustainability in order to further our knowledge in these areas. Hence, through providing a lens through which to examine these other theories, ANT can best be thought of as a theoretical lens.

In closing this introduction section I note that Chua (1995) observes that as ANT has previously been used in the accounting literature (see for example Alcouffe, Berland & Levant, 2008; Briers & Chua, 2001; Cuganesan & Lee, 2006; Mouritsen, Hansen & Hansen, 2001a) it has been explained in depth and thus providing a full description is not necessary

since this has been done before. However given the implications of different versions of ANT being available (Justesen & Mouritsen, 2011) for the purposes of this thesis it is necessary to provide an overview of the central and critical concepts from ANT that I utilise in order that I can be clear about the assumptions being made. As a result, while the complexity of ANT makes providing a summary difficult (Mouritsen et al., 2010), this chapter includes a brief overview of the central concepts of ANT and details of specific concepts that I utilise in the analysis I perform in subsequent chapters.

The structure of the rest of the chapter is as follows. In the next section I outline some of the areas within the accounting literature that draw on ANT. This brief overview begins with a review of some of the earlier accounting literature which draws on ANT. I then review the broader contexts within the accounting literature that utilise ANT before focusing on the more narrow areas that draw on it within the MCS literature. These brief overviews provide context as to why ANT has also been useful for this research. After this brief overview, section three then introduces some of the underlying concepts that I require before moving on to a broader discussion of ANT. Section four starts this broader discussion through examining the central concept that underpins much of the discussion in ANT, namely translation. Sections five, six, and seven then focus on concepts from the ANT literature that are critical to the analysis I perform in chapter five to investigate MCS in a sustainability context. In section five I review Mouritsen, Hansen and Hansen's (2009) concepts of long and short translation. Then in section six I examine the difference between performative and ostensive understandings. I build on this discussion in section seven where I utilise the ANT literature to develop a performative understanding of management controls and MCS. In the next two sections, eight and nine, I examine concepts from the ANT literature that are critical, along with Callon's (1986b) four moments of translation that I discuss in section four, to the analysis I perform in chapter six to investigate sustainability within the MCS context. Section eight overviews what Latour (1987, p50-60) describes as "writing texts that withstand the assault of a hostile environment". I follow this in section nine by specifically looking at Callon's (1998; 1999; 2007a) concepts of framing and overflowing. I present a summary and conclusion to this chapter in section ten.

2.2 ANT use in the accounting literature

In this section I aim to situate ANT within the accounting literature and to highlight some of the contributions its use has made to our extant knowledge. However as the use of ANT is wide within the accounting literature this naturally limits the extent of the overview

due to the space available within this thesis (see Justesen & Mouritsen, 2011 for a more comprehensive review). Therefore, in this brief review I only note some of the key issues.

One of the first examples of the use of ANT within the accounting literature is Miller (1990) who examines the interrelation between accounting and the state. Miller (1990) examines the historical period 1661-1683 during the reign of the French king Louis XIV to show how accounting and the state link and therefore have simultaneous construction. Building on this work, Miller (1991) examines the emergence of the discounted cash flow (DCF) innovation in the UK during the 1960s. He provides an alternative explanation to that given by Johnson and Kaplan (1987) who point to management accounting innovation being a result of practitioners experimenting within firms rather than academics striving for relevance. Through the use of concepts from ANT, Miller (1991) provides an alternative understanding of how the DCF innovation arose. That is, according to Miller (1991), the DCF arose out of the UK government's wish to promote economic growth through influencing the decisions of managers within organisations. The DCF was seen as a way to act at a distance, without the need for direct interference, in order to provide influence over the decisions being made.

Robson (1992) uses ANT to show how accounting can be understood as an inscription, with properties of mobility, stability and combinability allowing them to participate in the enablement of long-distance control. Robson (1994) builds on this through investigating inflation accounting in the 1970s, with the specific case of the Sandilands Report in the United Kingdom, to show how governments can act at a distance.

Following on from these early examples, it is important to note that ANT contributes to the research of accounting in its broadest sense. For instance Mouritsen and Flagstad (2005) utilise ANT to investigate the development of the Intellectual Capital Statement in Denmark. They show how these statements rather than stabilising the knowledge society contribute to destabilising it. In relation to this Mouritsen (2006) utilises the concepts of performative and ostensive understandings, which I discuss in section six below, to introduce a different conceptualisation of the types of research that are possible with regard to intellectual capital.

ANT also contributes in the more traditionally thought of areas of accounting, including that of auditing. For instance Skaerbaek (2009) utilises ANT to examine auditing in the public sector. Specifically he examines the process and related issues, therein, through which the National Audit Office of Denmark made the performance of the Danish military auditable through the implementation of a new accounting system. In another example from

auditing, Gendron and Barrett (2004) utilise ANT to examine the process through which North American accounting institutes tried to exploit claims of professional expertise of their members to take advantage of opportunities to expand their assurance offerings through the means of e-commerce. A final example in the area of auditing is Mennicken (2008) who utilises ANT to investigate how international audit standards were translated into post-Soviet Russia and thereby illuminates the struggle for international harmonisation.

Of more interest for this thesis is the use of ANT in the management accounting literature. One common theme in this area is the implementation and diffusion of new accounting technologies with activity based costing (ABC) being of particular interest. Jones and Dugdale (2002) utilise ANT, along with Giddens' (1990) discussion on the dynamics of modernity, to explore the rise of ABC and how it came to be used as a response and contributor to the risks of the modern world. ANT also provides the theoretical lens for Briers and Chua (2001) to investigate how and why an ABC systems was implemented in an organisation to justify the abandonment of a product line and then in turn abandoned once this objective had been realised. In order to add to our understanding of why some accounting technologies are utilised and others are abandoned Alcouffe, Berland, and Levant (2008) use ANT as the theoretical lens for their investigation into why the diffusion of ABC was successful in France while the Georges Perrin Method was not.

ANT also contributes to the literature on budgeting. Preston, Cooper and Coombs (1992) utilise ANT to examine the construction and emergence of a budgeting system that enables economic logic to be integrated into hospital management. This allows for new definitions of responsibility and new possibilities for decision making to emerge. Specifically of interest is that Preston et al (1992, p574-575) utilise the tactics that Latour (1987) introduces for constructing texts to withstand hostile attacks. I will elaborate on these tactics further in section eight below.

ANT also contributes to developing an understanding of the social effects of management accounting systems within the context of hospital management. One example is Chua (1995) who utilises ANT to analyse the change in an accounting system that was only made possible through the tying together of divergent interests through the use of inscriptions and associated strategies. Key inscriptions in Chua's (1995) study were prepared by so called expert consultants. Christensen and Skaerbaek (2010) also examine how the output of consultants contributes to the production of accounting systems through cultivating conflict that in turn moves towards stabilising the accounting system under development.

As I outline in chapter one, the tools and techniques of management accounting are types of management controls and therefore usefully thought of as a subset of an organisations broader MCS. As this thesis focuses on MCS I also note that ANT contributes to the MCS literature. One area of research within MCS where ANT extensively contributes is enterprise resource planning (ERP) systems. Dechow and Mouritsen (2005) utilise ANT to investigate management control in the context of the implementation of an ERP. They find that ERP systems become actors that interact with other actors within the organisation to highlight specific control issues. They show that the ERP system not only provide a means of control through the accounting technology but also act in the development of other forms of control within the organisation. Another example is Quattrone and Hopper (2005) who utilise ANT to research the implications of implementing an ERP system on management control. They find that it has different outcomes for their two case organisations even though they both implement the same type of ERP. In the first organisation existing structures of control were maintained whereas in the second organisation the implementation caused major problems that in turn had implications for the existing structures of control.

MCS in the context of innovation management is another area where ANT contributes. Mouritsen et al (2009) outline how, in this context, management accounting calculations add perspective to, rather than as traditionally thought describing properties of, innovation activities. Thus Mouritsen et al (2009) demonstrate how management controls act to stimulate expansion of or a decrease to an organisation's innovation activities. In a similar vein of research, Skaerbaek and Tryggestad (2010) utilise ANT to investigate the active role of MCS and find that it assists in shaping the strategic options of an organisation. This differs from the traditional role of MCS to implement strategy (Simons, 1995).

In a further example in the context of innovation management, Christiansen and Varnes (2007) utilise ANT in order to understand why decisions are not routinely made during product development portfolio management meetings. They find that these are better thought of as "checkpoints" with the decisions being displaced from these meeting by the need to take them by project managers in order to stabilise the networks that are forming. A final example is Christensen and Skaerbaek (2007) who examine accountability innovations in the context of the public sector and show that these produce unintended outcomes. They find that even though reports are sent to external stakeholders (their intended audience) these reports were actually aimed more at the central agency that the public sector organisation was accountable to.

The use of management controls to mediate the relationships between organisations is another area of research that ANT contributes to. An example is Mouritsen et al (2001a) who investigate inter-organizational controls through the use of ANT. They find that these management controls not only help to mediate these relations but also have implications for affairs within the organisation. Similarly Cuganesan and Lee (2006) examine inter-organisational management controls and find that intra-organizational pressures may influence and change the form of such controls. A final example in this area is Chua and Mahama (2007). They investigate inter-firm alliances and draw on ANT to show how accounting within this context is constituted and conclude that accounting is not only a technical form of control but also a social form. Further they show how, at least temporarily, accounting can organise and thereby create order (Mouritsen et al., 2010).

Beyond management control and MCS, this thesis also deals with sustainability and, as I overview in chapter three, draws upon the broad social and environmental accounting (SEA) literature. Callon (2009) and MacKenzie (2009) are amongst the first articles to appear in the accounting literature that utilise ANT and specifically investigate issues within the broader SEA realm. Specifically both of these articles appear in a special issue of *Accounting, Organizations and Society* dealing with carbon trading, Callon (2009), however, does not specifically touch on accounting related issues but rather examines this as a specific case of what he elsewhere (see for example Çaliskan & Callon, 2009; 2010; Callon, 2007a) refers to as ‘marketization’. MacKenzie (2009), in contrast, not only examines issues, in relation to carbon trading, of how to standardise emissions from different types of gases but also examines issues in the standardisation of the accounting treatment for emission rights.

Before proceeding with an overview of the underlying concepts of ANT I note that this literature highlights three main issues. I demonstrate the first with reference to Baxter and Chua (2006, p60):

“The key insight of a Latorian [ANT] frame of practice is that management accounting technologies are not diffused into various organizations as ‘ready-made’, stable and immutable objects of representation. In comparison, management accounting technologies are constructed and become ‘factlike’ as a result of being embedded in hybrid networks of human and non-human actants (such as software, computer hardware, production processes, plant and equipment)

connecting and corralling various and shifting interests through ties of differing intensity and scope.”

As this quote clearly illustrates, using ANT as a theoretical lens problematises accounting and shows that it is not a taken for granted technology. This first issue of the problematisation of accounting leads us to the second issue. That is, these studies highlight that accounting and MCS are inscriptions (Justesen & Mouritsen, 2011; Mouritsen et al., 2010; Robson, 1992) that in the tradition of ANT are treated as actors. Some researchers that utilise ANT, for instance Chua (1995, p117), dispute this point. However for the purposes of this thesis accounting and MCS, as well as other non-humans as applicable, are treated as actors. The third and final issue that this literature highlights is that, while there is a tradition of using ANT in the MCS literature, surprisingly, there is not a tradition of using it within the SEA literature. It is only recently that articles, which utilise ANT and focus on SEA issues, such as Mackenzie (2009) and Callon (2009), are starting to appear in accounting journals.

2.3 Defining underlying concepts

After providing an introduction to ANT in section one and situating its contributions to the accounting literature in section two, this section has as its aim to define five concepts that I use in the proceeding sections. The vast literature that makes up the extant ANT literature has given rise to an array of different concepts. Therefore it would not be possible or practical within this section to cover all these concepts. As a result I limit this section to the discussion of five specific interrelated concepts; facts, black boxes, actors, networks, and socio-technical agencements (STAs). These five concepts underlie much of the discussion in the rest of this chapter.

2.3.1 Facts and black boxes

In Latour's (1987, p42) words “[...] a fact is what is collectively stabilized from the midst of controversies”. In other words facts are the end result of a, sometimes long, process known as translation, which I discuss in the next section, whereby it is established as obvious and beyond dispute (Latour, 1999b). However the establishment of a fact does not require it to reflect certainty but rather that it has been accepted as such.

Closely related to the concept of a fact is the notion of the black box. This term is borrowed from cybernetics where if a machine is so complex or running so efficiently, and as a result all that is required to be understood is the inputs and the outputs, then the machine

itself is referred to as a black box (Latour, 1987; 1999b). Thus black boxing is “[a]n expression [...] that refers to the way scientific and technical work is made invisible by its own success” (Latour, 1999b, p304). Therefore in ANT terms a black box is when something reaches the state of being taken for granted. Or in other words “[...] a black box contains that which no longer needs to be reconsidered, those things whose contents have become a matter of indifference” (Callon & Latour, 1981, p285). Hence the study of translation, which I cover in the next section, seeks to understand the process of how an issue becomes black boxed into a fact.

2.3.2 *Actors*

In defining what an actor is I turn to Callon and Latour (1981, p286) who note that it is “[a]ny element which bends space around itself, makes other elements dependent upon itself and translates their will into a language of its own.” This definition, while outlining what an actor is, does however leave it open to what an actor can be. But this is precisely the point as “[...] ANT is based on no stable theory of the actor, rather it assumes the *radical indeterminacy* of the actor” (Callon, 1999, p181, emphasis in original). Hence an actor can be almost anything and includes non-humans as well as humans. Due to the term actor having connotations in English of being human in nature, the term “actant” has often been used in the ANT literature in respect to non-human actors (Latour, 1999b). However it is important to note that in performing analysis using ANT, there is no privileging of any particular type of actor, human or non-human. Therefore in order to ensure no privileging occurs within the analysis I perform, for the purposes of this thesis I will use the term actor to cover both the human and non-human varieties.

When defining the term actor Callon (1991, p140) notes that:

“They may but need not be collectives. They may take the form of companies, associations between humans, and associations between non-humans. In this ontology actors have both variable content and variable geometry.”

This further reinforces the point above that what is important is not an a priori understanding of what constitutes an actor so much as defining an actor through its ability to act. Thus, as I mention in the introductory section above, the dichotomy of micro and macro, in this understanding of what an actor is, becomes redundant. Rather the only significant

difference between micro and macro are the number of associations that come into play. This is summarised best with reference to Callon and Latour (1981, p299, emphasis in original) who note that:

“A macro-actor [...] is a micro-actor seated on black boxes, a force capable of associating so many other forces that it acts like a ‘single-man’. The result is that a macro-actor is by definition no more difficult to examine than a micro-actor. Growth is only possible if one can associate long lasting forces with oneself and thereby simplify existence. Hence a macro-actor is at least as simple as a micro-actor *since otherwise it could not have become bigger.*”

2.3.3 Networks

A network, in contrast to an actor, is a collection of constituent elements held together and translated by associations of various kinds (Callon, 1986a). However, while the constituent elements are heterogenous in nature, they are all part of, evolve in, and also essential to the network that they form part of (Law, 1992). To be more accurate “[t]he word network indicates that resources are concentrated in a few places – the knots and the nodes – which are connected with one another – the links and the mesh: these connections transform the scattered resources into a net that may seem to extend everywhere” (Latour, 1987, p180).

This conception of networks has profound implications in the studying of economics and economies. As Callon (2007a, p150) notes “[i]t is a question of saying, not that any market can be analysed as a network [...] but rather that markets are explicitly organised in the form of networks which allow the coordination of a large number of heterogeneous actors who define one another through the circulation of intermediaries.” Thus we see that “[...] the concept of ‘networks’ emphasizes how borderless organisational life is” (Briers & Chua, 2001, p240).

2.3.4 Socio-technical agencements

In defining socio-technical agencements (STAs) Caliskan and Callon (2010, p9) note that they are “[...] hybrid collectives [...] comprised of human beings (bodies) as well as material, technical and textual devices.” We can see that STAs fall within the definition of actor that I develop above as their configurations are dynamic and they do indeed therefore act (Callon, 2004). Therefore the question arises as to why use the term STAs? The answer to

this question lies in the “[...] impossibility of definitively separating humans from technologies” (Callon, 2004, p122). Therefore a STA is a type of actor that is distinct, for instance, from a human or a management control, in that it is constituted by both humans and technical devices.

The use of the concept of an STA allows us to make changes in the scope of our analysis meaningful (Çaliskan & Callon, 2010). Thus we see that an organisation as a whole, a division within an organisation, a cross-functional project group, or even, as within the case organisation studied in this research, an informally developed group within an organisation that has the purpose of addressing a specific issue, are types of STAs. As Caliskan and Callon (2010, p10) note “[...] all that changes is their composition and the way in which their constituent elements are arranged; aggregated or deployed.” Therefore when performing analysis on different STAs we need to ensure we do not change the mode of analysis as the composition, arrangement, aggregation, and deployment changes.

2.3.5 *Section summary*

In this section I briefly define five key ANT concepts; facts, black boxes, actors, networks, and STAs. These five concepts are closely related and are fundamental to understanding not only the proceeding discussion of ANT but also the analysis I perform throughout the rest of this thesis. With the definitions of these five concepts in place, I can now in the next section overview the process of translation which is one of the defining features of ANT.

2.4 **Translation**

In this section I overview the process of translation. I perform this through first defining the term and then outlining its four moments, which I utilise to perform the analysis I carry out in chapter six. In defining translation I first note that it is a process actors initiate with a certain end in mind and that they may or may not succeed in achieving their goals (Callon, 1986a; b). Thus:

“By translation we understand all the negotiations, intrigues, calculations, acts of persuasion and violence, thanks to which an actor or force takes, or causes to be conferred on itself, authority to speak or act on behalf of another actor or force [...] Whenever an actor speaks

of 'us', s/he is translating other actors into a single will, of which s/he becomes spirit and spokesperson.” (Callon & Latour, 1981, p279)

Therefore to translate is to displace the goals and interests of others and to speak on their behalf promoting your own goals and interests as those of the collective, thereby, through presenting yourself as representing the collective, displacing the very others for whom you would speak (Callon, 1986a; b). Displacement does not require a certain type of actor; those being displaced could equally be human or non-human, an individual or an STA. Further still, displacement does not require the actual removal and replacement of the goals and interests of those being displaced but rather the perception that this has occurred. However this does not equate to any actor being able to translate anything. Rather the ability to translate, and thereby perform displacement, is highly dependent on the translations that have gone before to the point where the translations that are possible to be performed now may be predetermined by those that occurred in the past (Callon, 1991)

Therefore the outcome of a successful translation is equivalence (Callon, 1991; Law, 1992) or the perception that things are the same when they actually may not be (Law, 1999). Or in other words the transformation whereby “[...] one thing (for example, an actor) may stand for another (for instance a network)” (Law, 1992, p386). However defining the term does not tell us how these associations are made and remade in the act of performing translation (Law, 1999). Rather the process of translation involves the forming of associations, which in turn form networks, of actors from the conceptualisation of an issue through to where a particular solution to the issue is at the point of being black boxed. However as Callon (1986a, p26) notes “[t]ranslation cannot always be taken for granted and the strategies used depend upon the particular circumstances in which they develop.” Therefore in order to meaningfully analyse this process I utilise Callon’s (1986b) four moments of translation. Prior to proceeding to discussing these, it is important to be aware that three principles are at play with regard to performing analysis with these four moments. These are agnosticism or “[...] impartiality between actors engaged in controversy”, generalised symmetry or “[...] the commitment to explain conflicting viewpoints in the same terms”, and free association or “[...] the abandonment of all a priori distinctions between the natural and the social” (Callon, 1986b, p196).

Callon (1986b) notes how translation involves four moments that trace the associations that form networks of actors from an issue being conceptualised through to where a particular solution to the issue is at the point of being black boxed. The first moment

of translation is the problematization where an actor identifies an issue, proposes a solution, and manoeuvres to make themselves indispensable in the network of alliances formed to resolve the issue. Callon (1986b, p176) notes that the way in which actors make themselves indispensable is to define the issue in such a way that its resolution can only be reached through the obligatory passage points (OPP) of their programme of investigation. Thus “[t]o translate, then, is to oblige an entity to consent to detour” (Callon, 1986a, p26). In defining the issue the actor must also determine a relevant set of actors and define their identities in a specific way in order to make themselves the OPP and it is this double movement that Callon (1986b, p204) labels problematization. However problematization does not imply the reduction or simplification of the issue because, as we will see in chapter five, it quite often involves bringing into play many different and divergent elements and actors that by necessity become involved in the translation.

Chua and Mahama (2007, p53) suggest that OPP are typically only successfully constructed by “strong” or “more influential” actors “[...] who occupy convergent nodes through which all information must pass.” That is, the problematizing actor must demonstrate to the other actors involved that the solution to the issue they have defined involves forming an alliance and that this alliance can only attain the solution through the assistance of the problematizing actor. Thus as Callon (1986a, p32) notes “[e]ntities are strong because each entity gathers others.” Part and parcel to this is the manoeuvring to become the spokesperson for the network. Thus the problematizing actor demonstrates that they are indispensable as the solution can only be reached through them and they are not only the OPP to the solution but also the representative of the network formed as the result of the problematization.

The second moment of translation is intersement which is “[...] the group of actions by which an entity [...] attempts to impose and stabilize the identity of the other actors it defines through its problematization” (Callon, 1986b, p207-8). Thus intersements are all the strategies, devices and processes the problematizing actor uses in order to lock all the other actors they have identified into the defined roles that they have proposed. As Chua (1995) notes the strategies, devices and processes used for intersement aim to tie together the divergent interests of the targeted actors. Further Callon (1986b, p208) states that in order to successfully perform intersement these strategies, devices, and processes have to weaken or break the links between the actor and all other actors, groups, or entities who wish to link themselves to the actor and thereby define their identities otherwise. Thus if the intersement is successful it will validate the problematization and the defining of identities and roles it implies (Callon, 1986b, p209).

Callon (1986b, p207-8) notes that at this stage the network that has started to form is far from being stable and is open to challenges (known as ‘trials of strength’) from other entities (known as ‘counter-actors’) with their own agendas (known as ‘anti-programs’). While these trials of strength can occur at any time during the translation process, it is at the earlier phases when the network is still forming, where the defined roles and relationships have not yet been tested, that it is most vulnerable to counter-actors and anti-programs. As Callon (1986b, p224) notes “[...] from translation to treason there is only a short step [...]” with these trials of strength determining how the translation proceeds. After all “[e]ach entity enlisted by the problematization can submit to being integrated into the initial plan, or inversely, refuse the transaction by defining its identity, its goals, projects, orientations, motivations, or interests in another manner” (Callon, 1986b, p207)

The third moment of translation is enrolment, which is the set of strategies the problematizing actor uses “[...] to define and interrelate the various roles they had allocated to others” (Callon, 1986b, p176). This is not to imply or exclude pre-existing roles but rather designates the attempts to attribute and have accepted the various roles that have been defined and interrelated (Callon, 1986b, p211). However, as I note above, intersement will not necessarily result in the establishment of firm alliances. As Callon (1986b, p211) states “[...] to describe enrolment is thus to describe the group of multilateral negotiations, trials of strength and tricks that accompany the intersements and enable them to succeed.” Therefore during enrolment the problematizing actor is striving to transform what has been proposed, a set of questions, into something that is more solid and certain, a set of statements (Callon, 1986b, p211). In this way we can see that if intersement is successful it will achieve enrolment.

Thus we see that the translation process is not linear but rather a recursive and iterative process. ANT thus recognises the complexities of reality and the interconnectedness of all things. Further ANT recognises that human and non-human actors are all important and connected within this process. Therefore we see that “[...] any division we make between society on the one hand and scientific or technical content on the other is necessarily arbitrary.” (Latour, 1991, p106)

The fourth moment of translation is mobilization. Mobilization is the “[...] set of methods used by the [problematizing actor] to ensure that supposed spokesmen for various relevant collectivities were properly able to represent those collectivities and not betrayed by the latter” (Callon, 1986b, p196). Thus mobilization can be seen to be a type of monitoring.

To be a spokesperson is to silence those for whom you speak through putting into place a series of intermediaries and equivalences that allow entities to be mobile that were not so beforehand (Callon, 1986b, p216-217). This implies that those that are silenced are both spatially and temporally displaced and then reassembled at a given place and time and as a result with a definite physical reality (Callon, 1986b, p217). However, “[s]ince entities are not easily translated, the destiny of most spokesmen is thus to be brutally contradicted” (Callon, 1986a, p25). Therefore mobilization is about detecting whether those that have been silenced will actually follow those that claim to represent them (Callon, 1986b, p214). The problematizing actor tries to ensure that all the elements that make up the assembled network are what they are supposed to be, ensure that those that claim to speak for others truly do represent them and ensure that none are defecting from the network (Alcouffe et al., 2008; Callon, 1986b; Mouritsen, Larsen & Bukh, 2001b). Without the mobilised networks of human actors, non-human actors, and the spokespersons that represent them the problematizing actor will find them self without the means to translate their solution from a problematized issue into being black boxed. In contrast should the problematizing actor translate the problematized issue into a black boxed state then “[s]uccessful translation quickly makes us forget its history.” (Callon, 1986a, p28)

Through the complexity of the above discussion of the four moments we can see that success of the translation is far from being guaranteed. At any stage during the process events can overtake the problematizing actor which will result in the failure of their attempts at translation. Therefore as Callon (1986b, p218-9) notes:

“The social and natural ‘reality’ is a result of the generalized negotiation about the representativity of the spokesmen. If consensus is achieved, the margins of manoeuvre of each entity will then be tightly delimited. The initial problematization defined a series of negotiable hypotheses on identity, relationships and goals of the different actors. Now at the end of the four moments described, a constraining network of relationships has been built. But this consensus and the alliances which it implies can be contested at any moment.”

In closing this overview, and before examining the differences between short and long translations in the next section, as I note above translation is not a linear process (Callon,

1986b). As a result, in order to portray events in a meaningful way, accounts utilising translation as the lens through which to organise should employ kairotic time rather than chronological time (Czarniawska, 2004). Thus in chapter five and chapter six I employ kairotic time and as a result the narrative “[...] jumps and slows down, omits long periods and dwells on others” (Czarniawska, 2004, p775)

2.5 Short and long translation

Mouritsen et al (2009) introduce the notion of short and long translations in the context of management accounting calculations and innovation activities “[...] where length reflects the number of elements taken into account.” (p739). In their study short translations involve single calculations and long translations involve multiple calculations. Short translations, through the single calculation, typically help to open up or close down specific opportunities. That is, “[t]he short translation links the innovation to the firm by problematising when the innovation activity is in excess and has departed from its contribution to making the firm viable” (p747). In the long translation the calculations challenge each other to create tensions thereby stimulating dialogue and opening up new and potentially more ideal alternatives within different variations of time and space. In other words through the competing calculations “[t]hese translations become longer because they develop complex problematisation of the role of innovation in the firm strategic consequences beyond the firm by taken many more entities into account” (p749).

Thus Mouritsen et al (2009) show that short translations are those that “[...] extend or reduce innovation activities in view of actual or a possible performance variance [...]” and long translations are those that “[...] develops competing contexts for innovation and impacts firms’ innovation strategies and sourcing arrangements” (p738). In this thesis I borrow these concepts and transpose them through interpreting them to mean the level of complexity involved. Hence a short translation is one, in any given context, which involves few associations and a long translation is one, in any given context, which involves many associations. Thus in chapter five the development of core values involves an initial short translation that provides an ostensive definition of the core value. A long translation follows that develops the performative definition of the core value. But first, before proceeding to utilising ANT to help define management control, in the next section I will outline the differences between performative and ostensive understandings.

2.6 Performative and ostensive understandings³

Mouritsen et al (2010, p293) note that a central proposition of ANT is its advocacy of understanding social life through a performative lens. Latour (1986) introduces these concepts through outlining the difference between a performative understanding and ostensive understanding of society. Specifically the difference is that “[...] the nature of society is negotiable, a practical and revisable matter (performative), and not something that can be determined once and for all by the sociologist who attempts to stand outside it (ostensive)” (Latour, 1986, p264). Further as Czarniawska (2001, p256) notes performative “[...] means that the understanding of things (including words) depends upon their use.” Applying this differentiation to the example of groups, Latour (2005, p35) notes that under an ostensive understanding a researcher can merely identify one, while being mindful to minimise their own influence on it, and the groups existence is not only noted but will continue unheeded. In contrast the performative understanding focuses on the continuous means and efforts required to maintain the groups in existence and how the efforts of the researcher, through identifying and providing analyse of the group, participate in this process. Thus we see that:

“What we have lost – a fixed list of groups – we have regained because groupings have constantly to be made, or re-made, and during this creation or recreation the group-makers leave behind many traces that can be used as data by the informer. One way to mark this difference is to say that social aggregates are not the object of an *ostensive* definition – like mugs and cats and chairs that can be pointed at by the index finger – but only of a *performative* definition. They are made by the various ways and manners in which they are said to exist.” (Latour, 2005, p34, emphasis in original)

³ Performative and ostensive have variously been referred to as aspects (Feldman & Pentland, 2003), approaches (Boedker, 2010; Mouritsen, 2006) and views (Hansen, 2011). Each of these terms in its own way is accurate and therefore each has the potential to be used within this thesis. However, in deciding how to label this distinction for the purposes of this thesis I refer to where Latour (1986) first uses them as ways of separating different means of defining society. Specifically he notes “[i]n this way we will understand why each definition of society, each debate about what it is made of, each new science that aims at discovering its function, each new genealogy of man’s past, has such an enormous influence over us all” (p272). Hence Latour introduces these alternative definitions of society to provide us with understandings. Put alternatively, these are differing ways of understanding society. For this very reason I refer to performative and ostensive as understandings throughout this thesis.

Latour (1986, p272-273) provides four basic principles to distinguish between a performative understanding and an ostensive understanding. As Mouritsen et al (2010, p293) note the first principle regards attributes of knowledge of the world and the role of a priori assumptions. In the ostensive understanding these attributes may be difficult but not impossible to discover and they may be able to provide definitions and explanations of the typical properties of the social world. In contrast the performative understanding requires the abandonment of any prior assumptions and not having assumptions of typical properties as the constitution of each situation may be unique and surprising.

What the attributes of actors are is the focus of the second principle. Mouritsen et al (2010, p294) note that in the performative understanding “[a]ll actors not only operate in the world; they also take part in framing it, translating it, making it accountable, and making it an accomplishment.” Hence all actors, human and non-human, are active participants in constructing the world within which they live. In comparison in the ostensive understanding actors are only partial participants “[...] since they are only parts of a larger society” (Latour, 1986, p272)

The third principle revolves around the ability of actors to be knowledgeable about their situation. In the ostensive understanding “[...] actors in society are *useful informants* [...]” but “[...] should not be relied upon too much because they never see the whole picture” (Latour, 1986, p272, emphasis in original). Whereas, in the performative understanding, actors are seen to have general knowledge of their situation that allows them to successfully interact. However this does not equate to them having a holistic understanding of the entire world around them. Rather “[...] actors within the network may not be able to account for some effects produced by the network [...]” as while “[a]ctors construct their world [...]” they “[...] do not seal it” (Mouritsen et al., 2010, p295).

The fourth and final principle is with regard to the ability of methodologies to produce truth about the world. Under the ostensive understanding, with the correct methodology it is possible to untangle the complexities of reality and thereby discover typical properties and generate a holistic overview. Hence “[...] the object of an ostensive definition remains there, whatever happens to the index of the onlookers” (Latour, 2005, p37). In contrast Mouritsen et al (2010, p295, emphasis in original) note that with regard to the performative understanding “[...] *no method guarantees* access to the entire world [...]’ as any given “[...] method will not produce a truth that is beyond doubt and dialogue.” After all “[...] the object of a performative definition vanishes when it is no longer performed” (Latour, 2005, p37). The implications of this are that researchers and practitioners not only raise the same types of

questions but both equally must also “[...] find different *practical* ways of enforcing their definition of what society is about” (Latour, 1986, p273, emphasis in original).

Thus Boedker (2010, p597) notes:

“The performative approach is defined by a variable ontology, dispersion of power to many agents (some human, some not), and preoccupation with actor-networks as the path to knowledge discovery. This contrasts to the ostensive approach, which is defined by a stable ontology, centralisation of power to only a few agents or universal ideals, and attempts at knowledge discovery through deductive reasoning and predefined building blocks.”

While the performative understanding of society is an underlying concept of ANT, its explicit use within this literature has only rarely been seen. More recently, however, it has begun to come to prominence in the literature that examines the notion of “economization” and more specifically “marketization” (see for example Çaliskan & Callon, 2009; 2010; Callon, 2007b; 2010).

In terms of the accounting literature that utilises ANT, it also has been an underlying principle but with explicit reference to it rarely seen. One of the few examples, as I mention in section two above, is that of Mouritsen (2006) who examines the benefits in the area of intellectual capital of the difference between focusing research on a performative understanding rather than an ostensive understanding. However we do see performative understandings implicitly within the accounting literature that utilises ANT with such examples as “[w]e follow these ideas but add one nuance suggesting that management accounting calculations are not only mobilised by others – they also mobilise others” (Mouritsen et al., 2009, p738). This leads to the clear distinction in the accounting literature as to whether accounting numbers are in line with an ostensive understanding, as intermediaries, or a performative understanding, as mediators. Mouritsen et al (2010, p302) note that “[a]s intermediaries, accounting numbers transport meaning, strategies, routines and power dynamics without transformation” whereas “[a]s mediators, accounting numbers not only transport, but transform, translate, distort, and modify networks and their constituent elements.”

Thus ANT focuses on gaining a performative understanding rather than accepting an ostensive one (Latour, 1986). I therefore, in the next section, utilise the ANT literature, and

specifically Latour (1991), to develop a performative understanding of management control and MCS that I will draw on throughout the remainder of this thesis. However, in developing the performative understanding of management control and MCS, I do so without excluding or denying the contribution of ostensive understandings. Rather I recognise in practice that both understandings may prove to be important. I illustrate this with reference to Feldman and Pentland's (2003, p102-103), as Hansen (2011, p117) also refers to, discussion of the performative and ostensive understandings of routines:

“The ostensive aspect of the routine is the idea; the performative aspect, the enactment. Both aspects are necessary to constitute what we understand to be the routine. The concepts of ostensive and performative have many analogies. In terms of music, the ostensive part is like the musical score, while the performative part is the actual performance of the music.”

However, typically there is a polarisation of research into either a performative understanding or an ostensive understanding, which limits the possibilities from drawing connections between the two (Hansen, 2011, p114). With reference to the example of music from Feldman and Pentland (2003, p102-103) above, we see that making these connections may assist in a fuller understanding of phenomenon under examination (Hansen, 2011, p109). At the very least for this thesis the possibilities of these connections are important as “[...] the ostensive domain literature is a source of inspiration enabling the performative researcher to relate his or her performative study to general issues and thereby generating interest for the study” (Hansen, 2011, p125). Hence in chapter three I draw on the literature in the broad areas of importance to the research in this thesis, regardless of whether it is from a performative or ostensive understanding.

Further, prior to closing this section, I also note that practitioners also theorise during their daily activities (Ahrens & Chapman, 2006). Just as we see in the theorising that exists in the academic literature so we can equally expect to see that some of the theorisations made by practitioners will be in line with the notion of a performative understanding while others will be in line with the notion of an ostensive understanding. Further still, in line with Feldman and Pentland's (2003, p102-103) example of music, we can expect that there will be connections between the two understandings in practice. Specifically we shall see in chapter five that there is a distinction between a performative understanding of a core value, one

where it not only represents beliefs but also influences them, and an ostensive understanding, one which provides a description of the core values but tells us nothing of what must be done for it to be achieved. Thus I will show how practitioners initially develop an ostensive understanding but then experiment in order to develop a performative one to enable understanding of what must be done to implement the core value.

2.7 An ANT understanding of management control

In this section I build on the previous section's discussion with the aim of providing a performative understanding of management controls and MCS. Moving beyond an ostensive understanding of management controls and MCS acknowledges the limitations that the former involves. As Chua and Mahama (2007, p54) state "[...] knowledge of "technical" controls does not allow us to satisfactorily predetermine how an action net will operate because there is a need to also understand how actors within the net flexibly interpret/make sense of and assign value to the various actions and connection within the net."

As I mention in the previous section, the performative understanding of society has been an implicit underlying assumption of the extant accounting literature that utilises ANT. Thus we can see that within this literature, the subset that examines management controls and MCS implicitly does this through mobilising a performative understanding of these objects. A good example of this is Mouritsen et al (2009) who use a performative understanding of management controls and MCS in the context of innovation management. They illustrate the performative understanding in the following:

"The management accounting calculation does not judge the relative merits of different propositions about innovation; the management accounting calculation is part of the proposition that it mediates. If managers do not follow the calculation, they have to produce another calculation to make their point. In order to combat one calculation another one is needed. Calculations play a role in the development of new propositions of the relevance, power, effects and character innovation in relation to firm strategies." (Mouritsen et al., 2009, p751)

Thus, as this demonstrates, and as Mouritsen et al (2010, p301) further note, the construction of management controls and MCS is part of the translation process. Therefore in

order to be able to research these objects we must focus on their location within the larger group of associations that form the network of which they are part. Mouritsen et al (2009, p751) suggest that the implications of taking this understanding is that these objects should not be viewed as “[...] effective management control systems [...]” but rather as actors in a network of actors that act and participate in the translation of their network. Thus within the context of innovation management a “[...] management accounting calculation does not describe or represent innovation and sourcing activities in any detail, but it adds perspective to them and relates them to the firm” (Mouritsen et al., 2009, p752). Therefore in a performative understanding, like all actors, management controls and MCS do not gain their strength through being inherently good or effective but rather through their abilities to enrol and mobilise others (Mouritsen et al., 2009, p751).

To better understand and define a performative view of MCS I draw upon Latour’s (1991) example of the European hotel key. This example links with the definition of MCS as the mechanisms actors use to enable the achievement of their goals and those of the wider network to which they belong and include a mixture of both formal and informal processes and procedures (Bisbe & Otley, 2004; Kober et al., 2007).

Latour’s example of the European hotel key investigates European hotel manager’s efforts to ensure that their customers leave their room keys at reception prior to leaving the hotel. The rationale behind wanting customers to leave their keys prior to spending time away from the hotel is that in doing so they can limit the possibilities of keys being lost. Thus the hotel managers use a number of different measures that they deploy successively in order to enrol customers into their program. Firstly the hotel manager asks the receptionist to remind customers as they check in to leave their keys at reception when going out. This will result in enrolling a small percentage of customers into the hotel manager’s program but will not be sufficient in and of itself to enrol all customers. Thus the hotel manager takes the further step of placing a sign near the exit to remind customers to return their keys. Again this may enrol more customers into the hotel manager’s program but it is not until the hotel manager adds a large, cumbersome weight to the key that a majority of customers become enrolled. The large, cumbersome weight acts on the hotel guests by making their “[...] pockets bulge and weighs down their handbags: they go to the front desk on their own accord to get rid of it” (Latour, 1991, p104).

From this example we can see that the verbal reminder, sign, and weight are the mechanisms the hotel manager uses to achieve his goal of limiting the possibility of losing keys. Hence we can see that individually the verbal reminder, sign, and weight are all what

we label management controls. Further we can recognise that the hotel manager requires each one as none alone can help to assist in achieving their aim. For instance without the verbal reminder and signs the likelihood is that a large number of the customers will take their keys with them rather than returning them to reception and experience displeasure at having to carry such a large and cumbersome object. Hence we see that together they form a system of management controls with the aim of achieving the goal of the hotel manager.

I also note that the design of these controls will impact on the effectiveness of achieving the goal. As Latour (1991, p105) notes:

“If a weird client could break the ring connecting the light key to the heavy weight, the innovator would then have to add a soldered ring to prevent such breakage. This is an anti-anti-program. If a paranoid hotel manager wanted to ensure zero key loss, he could place a guard at each door to search the customers – but then he would probably lose his customers instead.”

So it is for an organisation. How they design the individual controls within their MCS will determine the outcome of their operations. This links to Ahrens and Chapman’s (2007, p24) statement that “[...] the key question for management control theory is not how to constrain individuals and overcome resistance. Rather, it needs to bring into focus the possibilities of management control systems as a resource for action.” As we shall see in chapter five, this also applies to the core values within the belief systems. A first, short translation in the process of developing them only provides an ostensive definition that alone is unlikely to assist in achieving the goals of the senior management. Thus a second, long translation is required to provide a performative definition that outlines what must be done in order to achieve this core value and in turn the goals of the senior management. This definition is said to be performative as it allows for the management controls “[...] instead of merely representing reality [...] to influence reality” (Christensen & Skaerbaek, 2010, p535). Thus, for example, we see the heavy weight attached to the keys as performative due to it influencing hotel guest’s decisions of whether to return the key to the reception prior to spending time away from the hotel.

As will be seen in chapter five, this performative understanding of management controls and MCS will assist us in reshaping our understanding of the process of developing core values within the belief systems of a firm. It is important to note that researchers

investigating MCS enrol MCS frameworks, which typically are ostensive understandings, to assist with their analysis. They utilise these frameworks to label and classify what they find in the field in such a way that they provide meaning for the researcher and their peers. Thus, these researchers are no different to the scientist that Latour and Woolgar (1986, p36-37) refer to in the following:

“In sum, then, our discussion is informed by the conviction that a body of practices widely regarded by outsiders as well organised, logical, and coherent, in fact consists of a disordered array of observations with which scientists struggle to produce order. [...] Despite participants’ well-ordered reconstruction and rationalisation, actual scientific practice entails the confrontation and negotiation of utter confusion. The solution adopted by scientists is the imposition of various frameworks by which the extent of background noise can be reduced and against which an apparently coherent signal can be presented.”

Thus I will utilise the performative understanding of management controls and MCS that I develop above in the rest of the thesis. As I mention above, in chapter five I specifically utilise this performative understanding in the examination of the process of developing core values. In investigating this process, like Latour and Woolgar’s (1986) scientists, I also enrol the use of a MCS framework in order to provide a meaningful link to which other researchers can connect. Therefore in the next chapter I outline the framework I select to provide this connection, Simons’ levers of control (LOC). Prior to proceeding to the next chapter, in the next two sections I overview the concepts from ANT that I utilise to assist with the analysis I perform around legitimacy theory in chapter six.

2.8 Tactics for making texts act

In this section I overview what Latour (1987, p45-60) refers to as “[w]riting texts that withstand the assaults of a hostile environment”. Specifically he outlines four tactics that are a preparer of a text uses to make it more effective in assisting with the outcome the preparer desires. The first of these tactics, which I overview in the next part of this section, is fortification. The remaining three are what Latour (1987, p50) refers to as “[p]ositioning tactics”. These are namely stacking, staging and framing, and capitulation. I will utilise these

four tactics in chapter six during the analysis to ascertain what role the sustainability report takes within the case organisation that I research in this thesis.

Firstly, prior to proceeding in the next part of this section to look at fortification, I outline the importance of these tactics. The starting point for understanding the importance of these tactics is to acknowledge that under the performative understanding of society “[...] the fate of a statement is in the hands of others” (Latour, 1991, p106). Thus if the preparer of a text wants it to go beyond being merely ignored or disavowed then they must prepare it in a way that moves the reader beyond interessement into actual enrolment of supporting their problematization of the issue as expressed by the text. However the preparer must realise that once the text leaves their hands it may act on those that read it in surprising and unanticipated ways. As the statement above of Latour’s notes, it is the response by those (the others) that read the texts that will determine the fate of the text. In particular if the text is with regard to a more controversial area, such as “[...] new technological possibilities [...]” or social and environmental issues, then the likelihood is to see “[...] uncertainty and disputes” (Preston et al., 1992, p574). Hence, regardless of the impressiveness of those that support the preparer of the text this still may not be enough to convince the reader and thus the preparation of the text itself requires attention (Latour, 1987, p45). We should expect that “[t]he *programs* of the speaker get more complicated as they respond to the *anti-programs* of the listeners” as “[i]t is *only* once most of these anti-programs are countered that the path taken by the statement becomes *predictable*” (Latour, 1991, p105, emphasis in original). Therefore the preparation of the text to overcome the potential trials of strength that it may encounter is the focus of Latour’s (1987) analysis of the four tactics as I overview in the following.

2.8.1 Fortification

Fortification, as the name suggests are the devices employed within the text to strengthen it against all the perceived objections. Latour (1987, p46) alludes to why this specific term was chosen as it provides in our minds the image of the reason that “[...] just as a fortress is shielded and buttressed; not for fun, but to avoid being sacked.”. Thus we see that “[...] texts do not rely on appeals to an external reality but instead fortify themselves by appeals to other, accepted technologies and to “given truths”” (Preston et al., 1992, p574). Latour (1987, p46) uses the analogy of tennis, specifically the competition at Wimbledon, to illustrate this point. He notes that in order to understand fortification we must read the text in question so as to imagine it responding to all the potential objectors that the preparer of the text must strive to overcome. If we do not then “[r]eading the sentences of the paper without

imagining the reader's objections is like watching only one player's strokes in the tennis final" as "[t]hey just appear as so many empty gestures" (Latour, 1987, p46).

Therefore fortification is all the elements that the preparer assembles within the text in order to overcome as many perceived and potential trials of strengths that it may encounter once it leaves the hands of the preparer. The first of these elements relates to how the text "[...] become more technical and, to make a metaphor, **stratified**" (Latour, 1987, p45, emphasis in original) as it progresses so that "[...] we have reached a state where the discussion is so intense that each word fences off a possible fatal blow" (Latour, 1987, p46). In aiming to achieve a perception of being highly technical the preparer is trying to guide the reader to the conclusion that the technical abilities equates to a reality of undisputable truth.

Along with the layering of demonstrating the highly technical, another element that the preparer may utilise to fortify the text is the displacement and representation within the text of a whole array of supporting actors. This is generally done in two ways. The first of these is to provide a reference to or quotation from other texts. In doing so the preparer is trying to strengthen their own text through linking it with a vast armada of established texts. Thus the preparer strives to overcome potential trials of strength through directing the reader to these already established and thereby powerful (Latour, 1986) texts. The second is "[...] a much more powerful ploy, and it is to *present* the very thing you want the readers to believe in the text" (Latour, 1987, p46, emphasis in original) for instance in the form of a figure with a legend.

Thus we see that the stratification and layering of technical details that include strengthening each claim through sending the reader to supporting references both from outside and within the document is what Latour (1987) refers to as fortification. Fortification of a text has as its aim to make "[...] the reader, once interested in reading it, is as free as a rat in a maze" (Latour, 1987, p48). I now continue this discussion of how to make texts act to overcome potential trials of strength through covering the three positioning tactics starting with stacking.

2.8.2 *Stacking*

Latour's (1987) first positioning tactic is stacking and "[i]t involves bringing in figures and numbers to convince the reader and to enable the text to go from the detail to generalizations" (Preston et al., 1992, p574). Thus it involves the preparer of the text working from the very intricate details successively through to the very general. As Latour (1987, p51, emphasis in original) notes "[t]he extreme variation between the lower and the upper layers

of a paper is what philosophers often call **induction**” with the relevant question being “[a]re you allowed to go from a few snippets of evidence to the largest and widest claims?” This is the very question that the preparer of the text is trying to get the reader to answer in the affirmative with respect to the text they are preparing.

While different types of stacking will undoubtedly be used given differences in fields, competition, topics, and scruples, Latour (1987, p51) suggests that at a minimum three rules apply for stacking to be successful. The first is the avoidance of the repetition of text, which results from trying to stack two layers exactly on top of each other, as there will be no incremental gain. The second rule notes that unless you are an undisputed expert in the field it is impossible to prepare a text that skips from the very bottom layer of intricate details straight to the very upper layer of the abstracted general. The third and final rule is to “[...] prove as much as you can with as little as you can considering the circumstances” (Latour, 1987, p51)

Before I move on to the second positioning tactic of staging and framing, I note that stacking is a delicate balance aimed at making sure that each layer is a large enough increment but without leaving too great a gap for the reader to traverse. It is these gaps that the reader may well be able to use to unravel the stacking and thereby refute the arguments the text presents. Thus while stacking is a source of strength it also has the greatest potential for allowing the readers to defect from the program the text proposes (Latour, 1987, p50). As I note above, the fate of a statement is in the hands of others and as a result if stacking is not performed well this fate will be far from that intended by the preparer.

2.8.3 *Staging and framing*

The second of Latour’s (1987) positioning tactics is staging and framing. Framing refers to the devices that the preparer of the text uses to narrow the readership and thereby try to exclude potentially malicious readers. As Latour (1987, p52) suggests “[...] most of the readership has already been defined by the medium, the title, the references, the figures and the technical details.” Therefore in addition to these devices and regardless of how well the resources are stacked the preparer of the text still needs to outline how the text should be read and by whom.

The other part to this positioning tactic is staging, whereby the preparer of the text not only narrows who the readership is but also defines “[...] what should be discussed, what is really interesting (what is especially important) and what is, admittedly, disputable” (Latour, 1987, p55). Thus it is that the preparer of the text tries to guide the reader into having certain

objections that they have already carefully prepared responses for. As Latour (1987, p53) notes “[...] the text is carefully aimed, it exhausts all potential objections in advance and may very well leave the reader speechless since it can do nothing else but take the statement up as a matter of fact.” This therefore can be seen as the preparer of the text staging a series of trials that the reader would expect to see. The preparer of the text repeatedly shows the reader how they overcome each trial in turn. In this way the preparer of the text is aiming to demonstrate to the reader in a controlled way that the text is able to overcome all the objections that they will expect to see. In other words the “[...] hidden agenda, built into the text, paves the way for the discussion” (Latour, 1987, p55). Thus the preparer is using the staging of trials as a device to enrol the reader into supporting the text. With this in mind I now turn, in the next part of this section, to discussing the final positioning tactic of captation.

2.8.4 *Captation*

The third and final positioning tactic that Latour (1987) outlines is captation. At its most simplest, captation is the “[...] subtle control of the objectors’ moves” (Latour, 1987, p57). The use of captation is as a result of the preparer of the text being aware that the fate of their text is in the hands of their reader. Even with all the other tactics in place, as I discuss above, this still may not be enough to prevent the reader from dissenting and thereby not allowing the preparer of the text to reach their aim of having their claims black boxed. Thus captation is the preparation of the text in such a way that the reader will come to realise that should they decide to dissent then their voice will be the only negative one in a chorus of support.

Latour (1987, p57) suggests that the preparer of a text faces a paradox. On one hand the reader may well be scared off if it seems they are being forced into supporting a claim. However on the other hand, if the reader is left free to discuss the claim then this very discussion may lead to the altering of the claim itself. Thus the paradox is how to achieve a balance whereby the reader has the appearance of being free but at the same time is controlled into supporting the claim. As Preston et al (1992, p575) note “[t]he classic way of achieving this control is by first offering general, difficult to object to, statements and moving to lesser known and more contestable ones.” In this way the preparer of the text is aiming to structure the text in such a way as to allow the reader the opportunity of only one way to move and thereby is “[...] inducing readers to move far away from what they were ready to accept at first” (Latour, 1987, p57).

During this process the preparer of the text enrolls “[...] instruments harder to discuss, figures more difficult to doubt, references that are harder to dispute, arrays of stacked black boxes” (Latour, 1987, p58). This is in order to make it harder and harder for the reader to try and dissent. The amount of these that the preparer of the text requires to enroll is dependent on the circumstances with the determining factor being how much is needed to control the moves of the reader. The ultimate aim for the preparer of the text is to stack “[...] so many tiers of black boxes that at one point the reader, obstinate enough to dissent, will be confronted with facts so old and so unanimously accepted that in order to go on doubting he or she will be *left alone*” (Latour, 1987, p59, emphasis in original). Thus through linking the text to established facts the preparer is stating to the reader that to dissent to their text is to dissent to what has been established and thereby run the risk of becoming isolated and sidelined. It is in this way that the preparer of the text tries to capture the readers support for their claims.

2.8.5 Section summary

In this section I overview the four tactics that Latour (1987) outlines that the preparers of texts use to strengthen them against the trials they may encounter once freed from their hands. The first of these tactics is fortification, which is the displacement and reassembling within the text of as many allies as the preparer can muster in order to, like the battlements of a fort, protect it against any potential attacks. The second of these tactics is stacking whereby the claims being made are progressively stacked onto each other in order to allow the preparer to move from intricate details to being able to make generalised claims. The third tactic is that of staging and framing in which the preparer of the text outlines who the readership should be and what discussions will be held. The fourth and final tactic of captation is the devices the preparer of the text uses in order to give their readers the appearance of freedom while actually allowing them only one way to go with the result of enrolling the reader into supporting their claims.

As I mention above, I will utilise these tactics in chapter six to help analyse the sustainability reports the case organisation produces. Specifically this analysis will aim to understand the role of the sustainability report in respect to the translation process of acquiring legitimacy. I will also utilise the concepts from ANT of framing and overflowing in the analysis I perform in chapter six and as a result I will now overview these concepts in the next section of this chapter.

2.9 Framing and overflowing

In this section I introduce the concepts of framing and overflowing. These concepts develop within and relate to the ANT literature that examines the notion of “economization” and more specifically “marketization” (see for example Çaliskan & Callon, 2009; 2010; Callon, 2007b; 2010).

I use these concepts, along with the tactics for strengthening a text to withstand attacks that I discuss in the last section and the four moment of translation I outline above, in chapter six to help perform the analysis of the role of the sustainability report and other management controls in the process of achieving legitimacy. Their small but growing use within the accounting literature demonstrates the appropriateness of using these concepts. The utilisation of framing and overflowing is in such contexts such as accountability reports in the public sector (Christensen & Skærbæk, 2007), auditing in the public sector (Skærbæk, 2009), and corporate strategy (Skærbæk & Tryggestad, 2010).

In the next part of this section I first overview the concept of framing. In the second part of this section I overview the related concept of overflowing. I then provide a discussion of how the two concepts interrelate. In the fourth part of this section I overview how overflowing gives rise to concerned groups and in the fifth section demonstrate how this may be in relation to ‘hot’ or ‘cold’ overflows. I finish this section through providing a conclusion. Finally I provide a conclusion to this chapter, with a discussion of how these ANT concepts are interrelated.

2.9.1 Framing

The term framing refers to the establishment of “[...] a boundary within which interactions – the significance and content of which are self-evident to the protagonists – take place more or less independently of their surrounding context” (Callon, 1998, p249). Thus framing includes the defining and assembling of elements required in order for economic transactions to occur. The elements that are required to be defined and assembled include distinct and dissociated individual agents and perfectly identifiable objects, goods and merchandise (Callon, 1999, p188). I note that without this process of framing, markets would not be able to exist.

Callon (1998, p250) provides the analogy of a play taking place on a theatre stage to assist with developing the understanding of the concept of framing. He notes that the walls of the theatre, the raised platform of the stage and the distance to the seats of the audience all assist in providing the frame in which the play is conducted. The audience and the actors on

stage take for granted these boundaries but they provide “[...] a set of stable assumptions, conventions, mechanisms, and settings [...]” (Skærbæk & Tryggestad, 2010, p110) which are necessary for the play to be conducted. Thus we see “[...] that over and above the human beings themselves and their disciplined bodies, objects and things, the theatre stage, its walls and sounds, all play a role in setting up these interdependencies” (Callon, 1998, p250).

This analogy also highlights two further issues. The first focuses on the fact that the participants are not as if born anew into the context but rather have a wealth of previous experiences that will come into play in the present situation. For an actor to perform within the play means that they have pre-existing abilities that form through attending acting school, being in previous plays and other related experiences. Thus in an economic context “[...] it presupposes actors who are bringing to bear cognitive resources as well as forms of behaviour and strategies which have been shaped and structured by previous experience: the actors are capable of agreeing (an agreement which does not have to be explicit) on the frame within which their interactions will take place and on the courses of action open to them” (Callon, 1998, p249).

The second issue, which relates to the first, is although framing provides a boundary it does not cut all links with the outside world. Hence the audience attending the play at the theatre will be lost in a world that the surrounds, the actors, and their imaginations create for the durations of the dimming of the lights. However this very situation would not be possible without a whole host of physical and organisation devices that need to be in place in order to even contemplate the show taking place. Thus in the context of economic transactions “[...] framing puts the outside world in brackets, as it were, but does not actually abolish all links with it” (Callon, 1998, p249).

From this overview we can see that “[...] framing constitutes powerful mechanisms of exclusion, for to frame means to select, to sever links and finally to make some trajectories (at least temporarily) irreversible” (Callon, 2007a, p140). Callon (1998, p249) notes that “[t]he various elements that form the physical frame are themselves contained within an institutional framework (author’s rights, safety regulations, tax incentives etc.) which helps to ensure their preservations and reproduction.” As part of this institutional framework we can expect accounting in general and specifically management accounting, management controls, and MCS to take an active role within this framing process (Skærbæk & Tryggestad, 2010). As the types of economic activity expand we can also expect that the ways within which humans interact also develop and change. Thus we can expect to see new activities develop within organisations; including those in relation to management accounting, management

controls, and MCS; to provide for the new types of framings that these expanding types of economic activities require (Christensen & Skærbæk, 2007, p105). But even with the new types of framing, as I mention above, much is still excluded. What is excluded is known as overflowing, which I now turn to providing an overview of in the next part of this section.

2.9.2 *Overflowing*

As I mention above, framing provides a necessary boundary within which economic transactions are conducted. However through the process of framing what is to be included, by its very nature, one must define what is excluded. What is excluded is often referred to in economics as externalities and as Callon (1998, p248) notes “[b]eneath the concept of externality lies the more fundamental concept of framing, which implies the possibility of identifying overflows and containing them.” Callon (1999, p188) discusses this very point in the following:

“What economists say when they study externalities is precisely that this work of cleansing, of disconnection, in short framing is never over and that in reality it is impossible to take it to a conclusion. There are always relations which defy reframing. It is for these relations which remain outside the frame that economists reserve the term externalities. The latter denotes everything which the agents do not take into account and which enables them to conclude their calculations. [...] I would suggest the term ‘overflowing’ to denote this impossibility of total framing. Any frame is necessarily subject to overflowing.”

However overflowing is a broader concept than just the conventional term of externalities suggests. The former includes considerations beyond just quantitative evaluations and monetary compensation (Callon, 1998, p246), such as ethical issues, that the latter excludes (Callon, 2007a, p160).

With the many varied forms of economic transactions and the multitude of possible types of organising such transactions the type of framings and thereby the possible types of overflowing are also endless. Callon (1999) utilises the example of boundary objects (Star & Griesemer, 1989), which mediate the transfer of knowledge between actors, to illustrate this point. Boundary objects “[...] make possible the framing and stabilization of actions, while

simultaneously providing an opening onto other worlds, thus constituting leakage points where overflowing can occur” (Callon, 1999, p188). Thus we can see that “[o]verflows occur when goods act unpredictably, transgressing the frames set for them and the passivity imposed on them” (Callon, 2007a, p144). However this raises the question of whether framing is the norm that causes there to be overflowing or whether overflowing are the norm from which framing is constructed. This is the very question that I investigate in the next part of this section.

2.9.3 *Framing and overflowing*

As we have seen in the previous two parts to this section, framing and overflowing are, to use the colloquial saying, two sides of the same coin. However as Callon (1998) notes it is possible to see the interaction between these two concepts in polar opposite ways. The first, as Callon (1998, p250) suggests “[...] tends to believe that framing is the norm – in the double sense of something that is desirable and also statistically predominant – and that overflows are exceptions which must be contained and channelled with the help of appropriate investments.” Further Callon (1998, p251) points out that this tends to be the approach adopted by much of economic theory where externalities are regarded as an accidental consequence of the framing process. As a result of this prevailing economic thought, many economists focus their research endeavours towards identifying potential externalities and developing innovative ways of bringing them within the framing. However, as I mention above, overflowing is a much broader concept than externalities (Callon, 2007a). Therefore the research efforts of these economists can at best be seen to be dealing with the subset of overflowing that is quantifiable in economic terms.

In contrast “[t]he second attitude, typical of constructivist sociology in particular, takes the view that overflowing is the rule; that framing – when present at all – is a rare and expensive outcome, in short, is very costly to set up” (Callon, 1998, p252). Thus we can see in this perspective that overflows are not unintended consequences (Christensen & Skærbæk, 2007, p128) or an accidental result (Callon, 1998, p252) but rather what proceeds framing. Thus framing is what is temporarily produced after substantial and tumultuous effort to place elements; objects and actors; within a demarcated and artificially created space in which transactions can occur (Callon, 1998, p253). However we should be aware that through the process of framing to allow actors to transact, new and unforeseen overflows may be created as the very elements assembled in this process are potentially new sources for overflows (Callon, 1998, p254). Thus we can see that in attempts to construct order, disorder may also

be simultaneously produced (Christensen & Skærbæk, 2007, p128). Thus as Callon (1998, p257) states “[n]o externality can exist without relationships; no link can exist unless it follows a trajectory plotted by a material object acting as the medium for the externality.”

It is the second perspective, of the existence of overflows from which framing is constructed, that I utilise in this thesis. More specifically I utilise this approach in chapter six to assist with the analysis of the role of the sustainability report and other management controls in the process of achieving legitimacy. I demonstrate there; as is consistent with previous research such as Rahaman, Lawrence, and Roper (2004); that the sustainability report is merely part of the existing framing and does not take an active role in efforts of reframing or finding other means with which to limit overflows. Thus we shall see that “[...] markets that work satisfactorily are markets that comply with the terms of reference imposed on them (in terms of efficiency, equity, etc.) and simultaneously leave it up to the political debate to explicitly address the issues resulting from the misfires and overflowings generated by their enactment” (Callon, 2010, p166). However the analysis that will lead to such conclusions requires knowledge of the constructed nature of concerned groups, which I introduce in the next part of this section.

2.9.4 *Concerned Groups*

In the previous part of this section I outline how overflows are the norm with framing difficult and costly to construct. However once framing has been constructed then “[...] specific work must be done in order to provide incontrovertible proof of the simple existence of an overflow or leak, implying at the very least the implementation of monitoring procedures and sensors” (Callon, 1998, p257). I further examine the implications of this in chapter six in terms of the role of MCS in the process of achieving legitimacy. However for the purposes of this chapter what is important is to understand that through the specific and sometimes insurmountable work of identifying an overflow, its cause and impacts will also be identified. As Callon (1998, p258) further notes “[t]he situation is further complicated by the fact that agents concerned may very well not possess an individual existence or identity until such time as the overflows have been confirmed.” In other words in order to provide the incontrovertible proof of an overflow requires that those responsible and those affected are clearly established but it should be noted that this may be costly to do as some of these elements may need to be defined as part of this process.

As Callon (2007a, p143) states those “[...] affected can be the ozone layer, the climate, landscapes, animals or human beings” and, just as with the concept of externalities,

the impacts may be interpreted as either positive or negative. What is important, however, is that the mere existence of economic transactions will give rise to matters of concern, whether positive or negative, and these in turn may produce issues (Callon, 2007a, p139) and resulting concerned groups. The concerned groups may very well be just those that feel affected by an overflow rather than in reality be actually directly affected. Thus in order for the concerned groups to be recognised as such they must “[...] objectify the existence of impacts and describe the ailments or problems that they experience, before undertaking investigations and documentary research” (Callon, 2007a, p144) in order to try and black box their own existence. However as the causal links may be hard to determine or not very self-evident this also may be a long and costly process.

In closing I note that the issues from which concerned groups develop have the potential to affect the functioning of organisations for instance through the concerned groups giving rise to challenges of a specific organisation’s legitimacy. Thus the specific organisation has either to tolerate and monitor the situations or to perform reframing in order to overcome this trial of strength that challenges its legitimacy and therefore continued existence (Callon, 2007a, p145). But we should recognise that “[t]hose matters of concern are particularly difficult to treat by existing institutions and expertise since they are surrounded by profound uncertainties when they appear” (Callon, 2007a, p143). Hence we see that Callon’s (2007a, p146) notion of ‘emergent concerned groups’ is a good explanation of how framing and overflowing leads to groups that threaten the legitimacy of an organisation and thus is highly appropriate for the analysis that I perform in chapter six. However for this analysis to be meaningful first requires the understanding of the difference between ‘hot’ and ‘cold’ overflows and hence I discuss this in the next part of this section.

2.9.5 *Hot and cold overflows*

In the previous part of this section I note how we can consider the impacts of overflows as either positive or negative (Callon, 2007a). In this section I provide an overview of another way of distinguishing between overflows: what Callon (1998) refers to as ‘hot’ and ‘cold’ overflows. Prior to proceeding, however, I note that this dichotomy is a rough but useful representation of the potential spectrum of types of overflows that we may observe in practice. However, for the purposes of performing analysis, as is the case in chapter six, it is useful to divide what is actually a complex spectrum into a simple dichotomy. The naming of the two halves of this dichotomy as ‘hot’ and ‘cold’ is also very appropriate for at least two reasons. The first is that just like water running from a tap we can describe it as either ‘hot’ or

‘cold’ while being aware of the multitude of different temperatures held within each of these two classifications. Secondly, as I further elaborate on below, it allows for the imagery of movement between the classifications just as temperatures either heat up or cool down.

In starting the discussion of this distinction I return to noting that in order to reframe so that what previously was considered as an overflow becomes controlled within the frame requires not only the identification of the actors involved but also some sort of mechanism for measuring actual and potential impacts (Callon, 1998, p259). Thus if overflows are not quantifiable in economic terms then for those transacting in this frame it is unlikely that they will be of much significance. However for the concerned groups involved what needs to be quantified is not necessarily going to be in economic terms. An example may be that of man-made climate change. For an organisation what needs to be quantified may be the cost of putting in place initiatives to reduce their carbon footprint. However for concerned groups such as scientists or climate change activists what needs to be quantified may be the parts per million of carbon equivalents that the atmosphere can absorb before climate change occurs. Hence the foundation for understanding the distinction between ‘hot’ and ‘cold’ overflows is to acknowledge the extent of divergence between the mechanism various actors use to quantify and identify overflows. The extent of the divergence, for example in terms of what is being measured and how this is done, will complicate the negotiations that ensue. Thus “[t]he possibility and variety of this negotiation both depend on the availability of instruments capable of producing incontrovertible measurements: clearly no negotiation can sidestep the need to respond to issues concerning the extent and scope of the overflows in question” (Callon, 1998, p259).

If divergence is large enough then we have what Callon (1998, p260) labels as a ‘hot’ situation as “[...] everything becomes controversial: the identification of intermediaries and overflows, the distribution of source and target agents, the way effects are measured.” As the translation of the controversy progresses the actors participating will fluctuate, their identities will change, and reaching a black boxed state of the correct mechanism of measurement will be problematic. That is, the divergent mechanisms of measurement create a disparate knowledge base that in turn produces varied understandings of current and future world states. Under these ‘hot’ conditions framing therefore also becomes problematic as it is reliant on a steady state where the assumption is that it is possible to accurately measure actions and the overflows they produce. Thus the achievement of framing revolves around the ability of the actors involved to construct “[...] an agreement regarding the reality and scope of the overflows” (Callon, 1998, p261).

In contrast where divergence is small we have what Callon (1998, p261) labels as a ‘cold’ situation and reframing can relatively easily be achieved. In such situations “[a]ctors are identified, interests are stabilized, preferences can be expressed, responsibilities are acknowledged and accepted” (Callon, 1998, p261). Under a ‘cold’ situation the divergent mechanisms of measurement create the same or a very similar knowledge base that in turn produces almost identical understandings of current and future world states. As a result agreement on how to progress and resolve the issues facing the concerned groups are easily arrived at.

One of the key differences between ‘hot’ and ‘cold’ situations as Callon (1998, p262) notes is that in the latter it is sufficient to rely on so called ‘experts’ to resolve the situation. Whereas in the case of the former the so called ‘experts’ alone are not sufficient and non-specialists will quickly become “[...] key players in the production of knowledge and the processing of the measurements required to map out the externalities” (Callon, 1998, p262). Further Callon (1998, p262-263) notes that due to the increasing presence of the techno-sciences within our societies we are seeing a lot more ‘hot’ situations being brought about. An implication of this is that for many, technology is not unquestionably good, unproblematic and will automatically progress humanity for the better (see for example Costanza, 1989; Small & Jollands, 2006) and thus can in itself be the creator of new ‘hot’ situations. However, we should note that regardless of whether the situation is ‘hot’ or ‘cold’ that “[...] pacification is only possible if it is upheld by instruments that impose upon the agents’ subjective (and consequently irreconcilable) viewpoints the transcendence of instruments which – once they have found universal acceptance – guarantee the objectivity of the facts, to which everyone then agrees to submit” (Callon, 1998, p265). Thus reframing can only occur as a result of firstly black boxing a measurement mechanism as the ‘correct’ instrument for producing ‘facts’ about an objective reality.

In closing this part of this section I note one final point that Callon (1998, p266) makes about the distinction between ‘hot’ and ‘cold’ situations as follows:

“The distinction invites us to differentiate between two different types of negotiations: (a) negotiations aimed at identifying overflows, or ‘hot’ negotiations and (b) negotiations aimed at framing them, or ‘cold’ negotiations. The creation of commercial relationships presupposes that both kinds of negotiations take place, one after the other.”

Thus this dichotomy, while a simplification of a complex reality, allows for a useful tool of analysis, which I will draw on in chapter six when analysing the enrolment by the case organisation of varied types of management controls as they face these different types of negotiations. First, however, I next provide a section summary before concluding this chapter.

2.9.6 *Section summary*

In this section I introduce the concepts of framing and overflowing. I first concentrate on developing an understanding of framing. Framing involves the constructing of a boundary within which occurs the defining and assembling of elements necessary for economic transactions to occur. I then overview how through the process of defining and assembling what is within the frame automatically creates that which is not, known as overflowing. As I note overflowing is a similar notion to that of externality. However it is a broader concept in that it includes non-quantifiable and non-monetary considerations, such as ethical concerns, that the concept of externalities exclude (Callon, 2007a). I then show how overflows are the norm with framing being the result of long and costly efforts and thereby at best fragile and temporary in nature. This leads into the discussion of how the creation of framing and corresponding overflows gives rise to matters of concern. These matters of concern, which can be either positive or negative, may result in concerned groups. It is these concerned groups that may come to challenge the legitimacy of a given organisation. The final part of this section notes the distinction between ‘hot’ and ‘cold’ overflows, with the former being hard to resolve and potentially more of a challenge to organisational legitimacy than the latter, which by their very nature are easily reabsorbed into the frame.

In closing this section, prior to providing a conclusion for this chapter, it is important to note that I will use the concepts of framing and overflowing to assist with analysis in chapter six. In this analysis I will also mobilise the four moments of translation, as I describe in section four above, and Latour’s (1987) tactics for making texts withstand attacks. These combinations are appropriate given the interrelation of these concepts. Specifically we can see that the four moments of translation encompasses the attempts to strengthen texts against attacks. Further it also encompasses attempts at constructing framing and the reframing of overflows (Christensen & Skærbæk, 2007; Skærbæk, 2009).

2.10 Chapter summary

My aim in this chapter is to introduce the central and critical concepts from the ANT literature that I utilise throughout the rest of this thesis. In line with Justesen and Mouritsen (2011) I mobilise concepts from the broader ANT literature in order to construct a version of ANT that is most suitable for researching the aims and questions that I outline in the next chapter. As I outline in section one above the suitability of ANT for this research is that it places the object of the research, in this case management controls and sustainability, central to the investigation (Justesen & Mouritsen, 2011). Thus I am utilising ANT not as a theory (Callon, 1999; Latour, 1999a) but as a theoretical lens; a means of observing, organising, and analysing data; in order to critically reflect (Flyvbjerg, 2001) the situated practices (Garfinkel, 2002) of actors upon theories of MCS and sustainability.

I situate ANT within the accounting literature in section two to highlight the contribution it makes to our extant knowledge. Given the prolific use of ANT within the accounting literature this review is by its very nature selective and brief. However from this review I am able to highlight three main issues. The first is that the use of ANT within the accounting literature has shown accounting not to be a ready-made, taken for granted technology. Rather its diffusion is reliant on it being constructed anew in every specific context and will influence and be influenced by the actors situated within that specific context (Baxter & Chua, 2006, p60). The second issue, which is related to the first, is that within this ANT based research, accounting and management controls have been recognised as inscriptions that are capable of fulfilling the role of actors. The third and final issue this literature highlights is the lack of ANT based research within the SEA literature compared to a long and established tradition within the MCS focused literature. However the ANT literature has the potential to contribute to this specific area of accounting research. As Callon (2007a, p147) notes:

“We likewise refer to the social responsibility of firms. These are complicated and abstract words to denote something simple and concrete: the constitution of collectives combining humans and an increasing number of non-humans, where everyone has their place and can participate in the production of a common world that respects the rights of all.”

Therefore ANT has potential to contribute to the extant SEA and accounting for sustainability literature through providing a new perspective. This suggests, in combination with the discussion above, that ANT is highly appropriate for use within this thesis. Hence in the rest of this chapter I outline which specific concepts from the very broad and extensive ANT literature I mobilise in performing the analysis, in subsequent chapters, of data from the case organisation. Firstly in section three I introduce some of the underlying concepts that need to be explained in order for the rest of the discussion within this chapter to progress. The five concepts I overview in section three are facts, black boxes, actors, networks, and STAs.

In section four I provide an overview of the central concept that underpins much of the discussion in ANT, translation. Translation is the process of forming associations, which in turn form networks, between actors to move the conceptualisation of an issue through to where a particular solution to the issue is at the point of being black boxed. As I introduce in section four, Callon's (1986b) four moments of translation; problematization, interessement, enrolment, and mobilization; provide a useful framework of analysis. Thus I utilise these four moments of translation, along with Latour's (1987) tactics for strengthening texts against hostile attacks and the concepts of framing and overflowing (Callon, 1998), in chapter six to assist with analysis.

Section five provides an overview of the concepts of long and short translation (Mouritsen et al., 2009). It is important to note that these concepts are an extension to translation, as I outline in section four. For the purposes of this thesis a short translation is one, in any given context, which involves few associations. Conversely a long translation is one, in any given context, which involves many associations. I will mobilise these concepts, along with ostensive and performative understandings (Latour, 1986) and a performative understanding of management controls and MCS, which I base on the European Hotel key example (Latour, 1991), in chapter five to assist with analysis.

I describe the underlying concepts of ANT, performative and ostensive understandings (Latour, 1986), in section six. The distinction between these two types of understandings comes from different perspectives of what constitutes the social world. Under an ostensive understanding it is possible to define, catalogue and generalise typical attributes; actors are only partial participants; actors are useful but limited informants; and the complexities encountered by the researcher can be overcome with the correct methodology. In contrast, under a performative understanding there are no typical attributes as each situation may be constituted in unique and surprising ways; actors are actively involved in its construction; have an understanding of their situation that allows for them to interact; and in

practice no one methodology will be able to uncover the complete ‘truth’. As I mention above, the distinction between a performative and an ostensive definition will assist with the analysis in chapter five.

Building on the discussion in section six, section seven develops a performative understanding of management control and MCS, which I base on Latour’s (1991) example of the European Hotel key. Under a performative understanding management controls are the mechanisms assembled; receptionist, sign, and weight in the hotel key example; by a problematizing actor in order to try and enrol other actors into their programs in order to achieve their aims and goals. The MCS is therefore the collective of these mechanisms as without some of these elements it is likely that the aim and goals will not be achieved. Thus this links to the definition of the mechanisms actors use to enable the achievement of their goals and those of the wider network to which they belong and includes a mixture of both formal and informal processes and procedures (Bisbe & Otley, 2004; Kober et al., 2007). In this section I also note how MCS frameworks are a type of boundary object (Star & Griesemer, 1989) for researchers. That is, they develop as ostensive understandings, which researchers apply to data that they have collected in order to allow for meaning to quickly and easily transfer. I will utilise this understanding of management controls and MCS throughout the thesis and they have particular applicability in chapter five.

In section eight I overview what Latour (1987, p45-60) refers to as “[w]riting texts that withstand the assaults of a hostile environment”. As Latour (1987) outlines this involves deploying four tactics. These are fortification and the three positioning tactics of stacking, staging and framing, and captation. I mobilise these tactics to assist with the analysis of the sustainability report of the case organisation in chapter six.

To further the analysis in chapter six in relation to the sustainability report and other management controls of the case organisation I also mobilise the concepts of framing and overflowing (Callon, 1998). I provide an overview of these concepts in section nine. Framing is the act of constructing a boundary within which to assemble all the elements necessary for economic transactions to occur. Through the act of defining what is included within the frame automatically defines what is excluded, the overflow. However I note that overflowing is considered the norm from which at great cost and effort framing is constructed. It is then once constructed that framing may produce new and unforeseen overflows. From these overflows matters of concern arise. These matters of concern in turn create concerned groups. When a particular concerned group is linked to a ‘hot’ overflow then this can result in a challenge to the legitimacy of an organisation. It is this that makes framing and overflowing

ideal concepts to assist with the analysis around the role of the sustainability report and other management controls in the process of obtaining legitimacy that I investigate in chapter six.

In closing this chapter I note that there are potentially many more useful concepts from the extensive ANT literature that I could mobilise within this thesis. However the discussion within this chapter outlines the concepts from the ANT literature that are most appropriate for the analysis I perform in chapters five and six. Thus in line with the suggestion of Justesen and Mouritsen (2011) I construct the version of ANT most appropriate for this research and these concepts underpin the rest of this thesis. I therefore now turn in the next chapter at reviewing the MCS, accounting for sustainability and SEA literature from which my research aims and questions are drawn.

CHAPTER THREE – LITERATURE REVIEW

3.1 Introduction

In this chapter I examine the relevant literature that motivates the research aims and related research questions introduced in chapter one. As I note in chapter one, the overall aim of this thesis is to reassess the potential for research at the intersection of management control systems (MCS) and sustainability given the lack of literature that deals with this intersection (Berry et al., 2009). The literature that I present in this chapter is drawn from the broad areas of sustainability, social and environmental accounting (SEA), management accounting and MCS. Thus, in this chapter, from these broad areas, I select relevant literature which I use to motivate the research aims and questions that are appropriate for guiding the reassessment of the potential for research at the intersection of MCS and sustainability.

There is, however, a vast literature that lies within these broad areas. It is not possible to provide a comprehensive and exhaustive review of these literatures in the space available. Therefore I limit this chapter to the literature within these broad areas that directly assists with the motivation of the two research aims and the development of the five research questions.

The starting point of this literature review, in the next section, is to outline an understanding of sustainability that I utilise throughout this thesis. Sustainability is a contested and ambiguous concept (Ball & Milne, 2005; Bebbington, 2001; Gray, 2010; Milne, 1996; Milne, Kearins & Walton, 2006). Further Milne (1996) outlines that there are a spectrum of possible ways to understand this concept which results in many different perspectives for decision making. I therefore outline a perspective that serves the purpose of providing context within which to view references to sustainability that I make throughout the thesis. As I note this definition involves understanding sustainability as a dichotomous state, we are either sustainable or we are not, and sustainable development as the process of attaining this state (Bebbington & Gray, 2001; Gray, 2010). However, in doing so I am not trying to limit the understanding of sustainability of the actors within the case organisation. Rather the actors from the case organisation that I interview and observe as part of the data collection process demonstrate diverse understandings that are representative of the spectrum of possibilities.

Once this understanding of a dichotomous state of sustainability is in place, I then, in section three, using Ball and Milne (2005), turn to examining Berry et al (2009) who note the lack of research at the intersection between sustainability and management control systems

(MCS). This enables the formulation of two interrelated research aims that form the basis of investigation for this thesis. With these in place I turn in section four to developing research questions with which to investigate the first research aim. This centres on the extant MCS literature from which I develop two research questions that have the potential for uncovering support for the first research aim.

Starting in section five I outline the relevant literature in relation to the second research aim. I start this by noting that there is a relative lack of accounting research that has sustainability as its starting point (Bebbington, 2007). Given the relative dearth of accounting literature that focuses on sustainability I turn to the more established SEA literature. From this vast area of research I justify the selection of legitimacy theory (Deegan, 2002; Dowling & Pfeffer, 1975; Lindblom, 1993) as an appropriate area to develop research questions with which to investigate the second research aim. I then, in section six, overview legitimacy theory and develop three further research questions that through investigating I will be able to evaluate support for the second research aim.

Prior to concluding this chapter I cover two issues that are widely debated in the SEA literature and therefore require acknowledgement. In section seven I first outline the issue of managerial capture that is a risk of research, such as this, that actively engages with an organisation. In that section I provide justification as to why using actor-network theory (ANT) as the theoretical lens mitigates much of this risk. The second issue that I outline is why I have largely chosen not to draw from the broad body of literature known as environmental management accounting. Finally I conclude this chapter in section eight with a summary of the chapter.

3.2 Sustainability

In this section I outline an understanding of sustainability that I utilise throughout this thesis. From this outline I progress, in this section, to examining the relationship between economic activity, society and ecology. This examination highlights the role of economies in sustainability issues. Having established this role, I turn to understanding the respective roles of economic organisations and accounting in perpetuating these issues. The understanding of sustainability, and the issues therein, that I derive from this section provide the context and motivation for the research aims and research questions that I subsequently develop in this chapter. First, however, I start this discussion, in the next part of this section, through differentiating and defining sustainability and sustainable development.

3.2.1 *Sustainable development and sustainability*

Sustainability is described in a number of ways in the accounting literature including from a decision making perspective (Milne, 1996), a deep ecology perspective (Gray, 1992) and in relation to a Marxist position (Tinker & Gray, 2003). Thus in research and in common daily usage the concept of sustainability is contested and ambiguous (Ball & Milne, 2005; Bebbington, 2001; Gray, 2010; Milne, 1996; Milne et al., 2006) and therefore understood in many different ways (Byrch, Kearins, Milne & Morgan, 2007). However, an often quoted definition of sustainability, or more precisely sustainable development (SD), is from what is commonly known as the Brundtland report as “[...] meeting the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987, p8). While debate as to what sustainability is or is not has a much longer history, this definition is often cited as the turning point of when the concept moved onto the mainstream business stage (Bebbington, 2001).

The common use of the Brundtland report’s definition of SD as a definition for sustainability highlights how, despite having different meanings, these terms are often used interchangeably (Byrch et al., 2007). As Byrch et al (2007, p47) note; Barry (2002), Dryzek (1997), Milne (1996) and Wackernagel and Rees (1996) provide informed discussions of the differences between these terms. Based on these writings and for the purposes of this thesis I define sustainability as a dichotomous state, we are either sustainable or not, and SD as the process through which the state is achieved (Bebbington & Gray, 2001; Gray, 2010; Milne et al., 2006).

Defining SD as the process through which the state of sustainability is achieved allows for no predefined indication of what this process involves. Therefore the challenge for researchers and practitioners alike is to discover what must be done, changed, or altered in order for sustainability, the state, to be realised. The imprecise nature of SD is further complicated by the coupling of ‘sustainable’ with ‘development’ (Cairns, 2001, p152), terms that traditionally rest in opposing intellectual realms (Bebbington, 1997, p374). Thus for both researchers and practitioners SD requires “[...] a reconsideration of the meaning of development which recognizes the concept as being wider than economic growth” (Bebbington, 2001, p136). Thus in order for actions and changes to be in line with SD they have to promote a wider, but yet more precise, conceptions of development which involves the equitable distribution of resources over time between all generations and recognition of the need not to exceed the carrying capacity of Earth (Arrow et al., 1995; Ball & Milne, 2005; Costanza, 1989; Costanza et al., 1997; Daly, 1992; Milne & Gray, 2007; Wackernagel &

Rees, 1996). Therefore what this involves is problematic to know with Cairns (2001, p147) noting that “[o]nly perfect hindsight will confirm that sustainability has been achieved”. However as Gray (2010, p53) suggests “[...] there remains a widespread agreement that whatever this sustainable development is, it is a good thing.”

SD being seen as a process is very much different from the portrayal of ‘sustainability as a journey’. As Milne et al (2006) note the use of the latter metaphor is associated with organisations reinforcing business as usual mentalities through providing no clear or obvious destination for this journey (Ball & Milne, 2005). However, the business as usual mentality is the very thing, as I outline below, that would need to change should we wish to achieve a state of sustainability. It is after all a state of sustainability that is the desired destination for those researchers and practitioners who are concerned with the current apparent lack of sustainability. Therefore defining what conditions are required for the attainment of this state is instrumental in being able to judge whether any given action is consistent with SD.

In looking to define what a state of sustainability might look like I recognise that there are a spectrum of possibilities (Milne, 1996) and potentially unlimited ways of structuring to achieve it (Gray, 2010). Further Gray (2010, p54) states that “[w]e come to know the world as constructed by science and our arguments around sustainability become responses to that construction [...]” I therefore note that we can divide the various possible definitions of sustainability into a rough dichotomy of ‘strong’ and ‘weak’. ‘Strong’ definitions entail having the belief that “[...] sustainability is about maintaining natural capital or critical natural capital and learning to live off natural income” (Ball & Milne, 2005, p.315). Whereas ‘weak’ definitions “[...] downplay questions of equity and social justice, absolute levels of material resources and energy use and the scale of developments relative to the resource base, while playing up the gains to be made by more efficient use of materials and energy relative to the outputs being produced” (Ball & Milne, 2005, p.317).

Therefore, in this thesis I utilise a ‘strong’, albeit anthropocentric (Bebbington & Gray, 2001), definition of sustainability that I largely base on the work of Wackernagel and Rees (1996). They argue that sustainability involves looking at the Earth in its entirety and expressing all within it as either natural capital or natural interest. In its simplest form, natural capital is all resources within the Earth that are finite whereas the interest is all the resources that are generated from the natural capital that are renewable. Thus just as with any business if too much of the capital is consumed then the organisation (the Earth in this case) risks going out of business. This implies a world of limited resources from which new resources are generated. As Gray (1992, p416) suggests “[s]ustainability, at its most general, relates to

the planet and biosphere's ability to renew itself, to maintain its "carrying capacity". Taking this world of limits as given means that we can define the state of sustainability as humanity not over-consuming the resources available to them and thereby irreversibly depleting the levels of natural capital (Wackernagel & Rees, 1996) while at the same time ensuring an equitable and fair distribution, both within the current generation and across all future generations, of the resources available (Milne & Gray, 2007). Therefore resource consumption is at the core of what sustainability is and requires the resources available not to be consumed at a rate greater than what they can be replenished at. As it is our economies that organise the extraction of resources from the ecology for their use within society, it is this relationship that is critical in terms of the dichotomous state of sustainability. It is this relationship that I now turn to examining.

3.2.2 Economic activity, society, and the ecology

Within society it is our economic activity that organises and activates the consumption of resources taken from the natural environment. A depiction of the relationship between the economy, society and the ecosphere is shown in Figure 1 below. I base Figure 1 on Wackernagel and Rees' (1996, p44) Figure 2.4: The Ecological Worldview, which has the following caption:

“The circular flows are actually sustained by the unidirectional throughput of ecological goods and services from and to the ecosphere (the “natural income” stream). All the energy and much of the matter that passes through the economy is permanently dissipated into “the environment” never to be used again.”

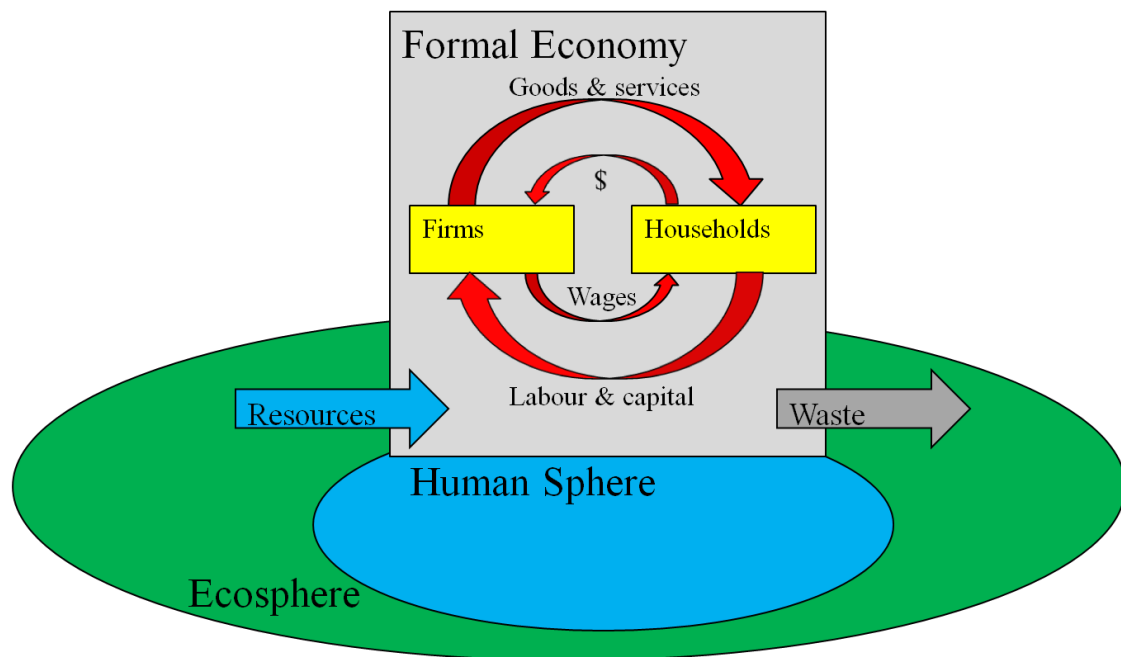


Figure 1: Interrelation of Economy, Society, and the Ecosphere

From Figure 1 we can understand that sustainability is a system based concept (Gray, 1992; Milne, 1996; 2007) where “[t]he economy is viewed as an open subsystem of the larger, but finite, closed and nongrowing ecosystem” (Daly, 1992, p186). Figure 1 shows the human sphere, society, as a subsystem of the ecosphere. In turn the formal economy is shown as a subsystem of the human sphere. Thus without a human sphere there would be no formal economy and in turn without an ecosphere there would be no human sphere and formal economy. Further, to sustain the human sphere requires the continual drawing on ecosystem goods, for example natural resources, and ecosystem services, for example waste assimilation, provided as a function of the ecosphere (Costanza et al., 1997, p253). To realise the state of sustainability requires that no more resources are drawn from the ecosphere than it can naturally replenish and the use of those resources is equitable within the human sphere (Ball & Milne, 2005; Milne & Gray, 2007). As Arrow et al (1995, p521) note “[e]conomic activities are sustainable only if the life-support ecosystems on which they depend are resilient.” Thus the state of sustainability requires the acknowledgement of a world of limits (Costanza, 1989) where the scale of economic activity cannot exceed levels consistent with the carrying capacity of the ecosphere (Daly, 1992). While it is not possible to definitively prove whether or by how much we are exceeding the carrying capacity of the Earth’s ecosphere (Dryzek, 1997), current indicators show that we are not in a state of sustainability and that we are moving towards a more unsustainable state (Ball & Milne, 2005; Bebbington

& Gray, 2001; Gray & Milne, 2002; Wackernagel & Rees, 1996; WWF - World Wide Fund for Nature, 2010). Even without definitive proof the prudent course of action is to assume that ecological limits exist and that we need to act in accordance with this assumption (Costanza, 1989; Small & Jollands, 2006).

It is possible to criticise the above definition of sustainability for downplaying the social and economic aspects in favour of ecological sustainability. Most definitions of sustainability include all three of these elements (Milne, 1996). The downplaying of some aspects over others while defining sustainability would be largely counterproductive. However as Ball and Milne (2005, p317) note “[...] notions of sustainability that permit the balancing or trading off of environmental values for social and economic values are far more consistent with existing business and economic activities.” The complexity and ambiguity of sustainability increases through competing viewpoints emphasising the importance of different aspects of these three elements and thus, providing no definitive idea of how to implement such a state (Dixon & Fallon, 1989; Milne, 1996). Whilst the above definition may appear to concentrate on the ecological aspect of sustainability and in particular resource consumption, this is not at the exclusion of the social and economic aspects. Rather the position that I adopt in this thesis is that the ecological, economic, and social aspects of sustainability are all closely interrelated and reflected in this resource throughput focused definition. That is sustainability deals with ‘needs’ not ‘wants’, focuses on inter- and intra-generational equity, does not distinguish between developed and developing areas, requires the maintenance of the natural ecology, and justice and equity with which the natural resources available are distributed (Bebbington & Gray, 2001, p559-560). Thus I present the above simplification as a way of providing meaning to a system that in practice is too complex, ambiguous and interconnected to understand on a holistic level (Birkin, 1996; Gray, 1992). However as Latour (1998, p229) notes “[t]his ignorance with regard to totality is precisely its saving grace since it can never rank small human beings and vast ozone layers, or small elephants and middle-sized ostriches, into a single hierarchy.”

The interrelation of the economic, social, and ecological aspects of sustainability is clearly illustrated, for example, by the historic case of Easter Island. Specifically Diamond (2005) describes how a previously sophisticated society with a thriving economy collapsed through overconsumption of resources that devastated the local ecosphere. That is, the continued over-consumption of available resources by the local inhabitants resulted in the loss of the necessary resources to sustain their existence. The population level being well beyond the carrying capacity of the island was followed by dire consequences of starvation,

population crash, cannibalism, and the collapse of society into war. The growth of a sophisticated society on Easter Island is a good, albeit rough, analogy to the modern world, with its globalisation, international trade, and technology that have enabled it to exploit natural resources beyond a sustainable level. As Wackernagel and Rees (1996, p34) note “[t]his leaves the next generation with depleted capital and less productive potential even as the population and material expectations increase.” Thus, Diamond’s (2005) overview of the consequences that befell the inhabitants of Easter Island as a result of their over-consumption of resources paints a chilling picture of the consequences that potentially could befall the modern world if the current economic mindset persists. I, therefore, now turn in the next part of this section to examining the current economic system’s role in sustainability issues.

3.2.3 Implicating capitalist economies in issues of sustainability

Drawing upon the above discussion we can understand “[...] that modern financial capitalism is not strong form sustainable” (Gray, 2010, p56). Part of the reason for this is that the current economic system focuses on development in terms of growth which, therefore, requires increasing levels of resource throughput (Bebbington, 2001, p139). Compounding this is the market system not adequately including the full cost of ecosystem goods and ecosystem services thereby resulting in limiting their consideration in policy decisions (Costanza et al., 1997, p253). In this regard Daly (1992) argues that traditionally economic theory; through focusing on allocation and distribution, which are the elements the economic system requires to be efficient and just; mostly ignores another important element, scale. This “[...] refers to the physical volume of the throughput, the flow of matter-energy from the environment as low-entropy raw materials, and back to the environment as high-entropy wastes” (Daly, 1992, p186). However, for the economic system to be sustainable requires that the absolute physical amount of resource throughput is relative to the regenerative and absorptive qualities of the ecosphere. As Small and Jollands (2006, p347) note “[o]ur mastery of technology underpins our current success as a species—it has enabled us to spread across the face of the planet and grow exponentially in number [...]” and in doing so appropriate “[...] an increasing proportion of the Earth’s ecosystem services including water, useful land, fish, forests and bio-productivity”. In this respect, Daly (1992, p193) cautions that the scale of economic activity may result in the extinction of species not seen to be essential to humanity. That is, as the scale of economic activity becomes too large, and thereby not consistent with the state of sustainability, its continuation is only possible through the extraction of the habitat of these specific species.

Even with these concerns that focus on the economic system, Bebbington (2001, p130) argues that questions around how best to structure economic activity have all but disappeared within the business, SD, and accounting for SD literature. As a result the current economic arrangements are taken for granted within this literature even though they are in fact central to sustainability concerns. This is of particular concern given that at issue, as Cairns' (2001, p150) notes, is that the contemporary economic arrangements allow the current generation to cause ecological devastation that ultimately will be the burden of future generations, who will not have, as a result, the means to overcome it. This, as Milne et al (2006, p802-803) note, "[...] raises the question of whether a rational species would choose to get to the point where it is addicted to growth, consumption and other patterns of thinking and action that ultimately may threaten its very own existence." But, as Arrow et al (1995, p520) point out, if those responsible for the negative consequences of economic activity, such as ecological devastation, pass this onto others; such as the poor, other countries, or future generations; rather than having to address the burden themselves, then in reality there is little incentive for a change in actions.

Such change in actions, therefore, may only result through an underlying change in beliefs around the entitlement to act in this way. Cairns (2001) refers to the current dominant underlying beliefs as exceptionalism; a belief that the planet's resources should be disproportionately distributed as some human are more exceptional than others and indeed other species; and exemptionalism; whereby the limits to resources that bind other species will not bind humans due to their creativity, ingenuity, and technological abilities. Part of the reason for such underlying beliefs persisting may be as a result of using terms, for example the dichotomy of man-made and natural capital, that inadvertently privilege certain things over others, for example the destruction of trees over children murdering death squads (Cooper, 1992, p21). Further, part of the reason for such underlying beliefs persisting may relate to the current age witnessing an increase in technological abilities that contribute to our feelings of exceptionalism and exemptionalism. In this respect Small and Jollands (2006) question, given human biological development has been relatively stagnant for a vast amount of time, whether we are ready to have technology at our disposal that our ancestors would consider godlike. Regardless of the reasons, it is the persistence of these underlying beliefs that motivates the development of the research questions in section four below that focus on the process through which beliefs systems within MCS develop and change. After all, as Small and Jollands (2006, p344) note, "[m]odern myths, such as the economic myths of sustainable growth and perfect markets, may similarly reveal more about deep seated human

psychological characteristics than reflect accurate descriptions of social and physical reality.” At the heart of the current economic system that promotes the ‘myth’ of sustainable growth is the organisation. It is the organisations role in relation to issues of sustainability that I now turn to examining in the next part of this section.

3.2.4 Implicating the organisation in issues of sustainability

Given the global or systems based conception of sustainability, as I define above, some commentators (for example Bebbington, 2007; Gray, 2010; Gray & Milne, 2002; Milne, 1996) question whether the concept can have any empirical meaning at the level of the organisation. However, the organisations that operate within our economies are responsible for the extraction of resources from the ecosphere and as a result are at least partially responsible for the current sustainability issue.

Existing evidence within the broader accounting literature provides support for implicating organisations in sustainability issues (for example Tinker, Lehman & Neimark, 1991 outline the case of Delco in Sierra Leone). However, there is no better example for illustrating this point than the plight of the people of Banaba⁴. Banaba is a remote island in the pacific, formerly rich in phosphate, a fact when discovered resulted in the Banaba people becoming one of the poorest in the pacific whilst those extracting the phosphate, the British Phosphate Commission (BPC), made vast profits. Hindmarsh’s (2002) report of the treatment of these people, from when phosphate was discovered in the early twentieth century through to their virtual abandonment as the lowest class of citizens in modern day Fiji, makes grim reading. What is clear from Hindmarsh’s (2002) report is that all other considerations were subordinated to the main objective of profit maximisation. This resulted in the BPC taking such actions as offering no support to the islanders beyond the money they were contractually obliged to pay, which were a mere fraction of the profits BPC made. As the islanders had no education in the way of western economics they ended up, rather than making further profits from these payments through reinvestment, in a dependency situation where reliance for survival became associated with the payments. This was compounded through a large payment, as a means of appeasement, being subverted to the Gilbert and Ellis Island groups, which the Banaba people never considered that they were part of. A further significant payment went into a trust fund that the Banaba people had little control of. Money from this trust fund was used by the BPC to purchase Rabi Island in Fiji for the resettlement of the

⁴ Banaba has at times been referred to as Ocean Island.

Banaba people after World War Two from Japanese labour camps scattered all over the Pacific. This resettlement was justified under the false pretext that the Japanese had ruined Banaba but it actually allowed the BPC to operate as they wished. This resulted in all but just over ten percent of the small island being mined leaving only the exposed coral base of the island. The Banaba people still remain on Rabi, struggling to maintain even a basic living with an unsure future given the continued unrest in Fiji. To this day the Banaban people have only ever received a small amount of compensation, particularly compared to other settlements such as that with Nauru, from the British government as the BPC was purposefully wound up shortly after the last shipment of phosphate sailed from Banaba. This compensation barely covers the running of basic public services on Rabi and offers little to ensure the Banaban people can thrive or prosper in their traditional ways on their new homeland. Despite making Banaba virtually uninhabitable, those that profited so well through the displacement, disestablishment, and exploitation of the Banaba people escaped accountability through the protection of the British legal system.

The case of Banaba offers little support for those, such as Friedman (1962), that would have us rely on the traditional idea of the organisation serving only to maximise the wealth of their owners with the free market mechanism overcoming issues around sustainability. Birkin (1996, p236-237), for example, argues that “[...] in order to fit “wealth” into accounting numbers, so much meaning has to be discarded that profitable businesses as a matter of routine exterminate species, poison the air, rivers, seas and are possibly bringing the planet close to irreversible thresholds.” Further, it also illustrates and implicates economic organisations in our current lack of sustainability. As Tinker and Gray (2003, p749) note “[w]hilst business and financial markets are touted as the saviours of sustainability – with, we should stress, a surfeit of assertion and a zero amount of evidence – the whole of the non-business movements are clear that these are the very culprits.”

Evidence (Ball & Milne, 2005, p322) suggests that despite some organisations taking initial actions over the past few decades the devastation of the ecosphere continues at an ever increasing rate with little real indication or understanding of the change required to become sustainable. This is compounded by, as O’Dwyer (2003, p547) notes, “[i]n essence, “obligations” or “duties” come to mean what business wants them to mean.” Thus currently it is difficult, if not impossible, to understand what a sustainable organisation would be (Gray & Milne, 2002, p69). What is not in doubt, however, is a need for radical change with “[...] external pressure or the threat of external pressure [...] to be a prerequisite for [...]” (O’Dwyer, 2003, p549) this change to occur. It is for this very reason that out of all of the

various strands of research within the SEA literature, as I outline in section five below, that I select legitimacy theory as an area within which to develop research questions, as I outline in section six below.

However, the question still remains that given the tension between the systems based understanding of sustainability and the incompatibility of the neoclassic economic based organisation, how are we to understand what must be done to implement SD to reach a state of sustainability? Gray (1992, p418) argues that:

“So one way forward might be to try and translate these concepts to the level of the individual organisation and seek ways in which to introduce them to our accounting. As organisations control much of the world's industrial capacity, are deeply implicated in environmental degradation and must, therefore, be part of any solution, it seems reasonable to explore organisational sustainability as a complement to, not a substitute for, sustainability at other levels.”

Since Gray put this potential solution forward, implementing it in practice has proven to still be somewhat problematic. However, as I note in section two of chapter two, while ANT has seen extensive use in the literature that focuses on MCS, it has only very recently and to a very limited degree seen use in the SEA literature. As the outline of ANT that I provide in chapter two illustrates, it utilises a performative perspective with the focus being on the forming and reforming of associations within a network, or system, of associations (Callon, 1986b; Callon & Latour, 1981; Latour, 1987; 2005). Thus we can view organisations as socio-technical agencements (STAs) (Çaliskan & Callon, 2010; Callon, 2004) that we can, therefore, understand as actors that act within this system. Thus in analysing a case study of an organisation in this thesis through the theoretical lens⁵ of ANT, I am arguing that I am, in line with Gray's (1992, p418) argument above, looking at a part of the network and thereby complementing, rather than substituting, the study of the system as a whole. Gray's (1992, p418) comment also makes reference to accounting. It is the role of accounting in relation to issues of sustainability that I now turn to examining in the next part of this section.

⁵ Refer to chapter two, section one where I outline why ANT is best thought of as a theoretical lens.

3.2.5 *Implicating accounting in issues of sustainability*

As accounting performs an important role within organisations, particularly in terms of information gathering and decision support, then it also is implicated in the issues around sustainability (Tinker & Gray, 2003). However, much of the SEA literature (Gray & Milne, 2002) suggests that organisations use accounting to obfuscate the issues around sustainability rather than to address them. As Milne et al (2006, p825) note, accounting assists with this “[t]hrough adopting an infinite process approach implying progress over time, companies can continue to defer addressing key moral issues: limited resource availability; finite substitution possibilities; a lack of connectedness and our collective peril; and no special place for the environment at all.” However, O’Dwyer (2003) presents a more optimistic outlook through noting that; while managers typically interpret corporate social responsibility in a narrow, shareholder wealth maximisation way; there are still some managers who do subscribe and try to promote a more broad understanding. The efforts of these managers are hampered by current MCS which Milne (1996, p136) suggests fail to provide sustainability focused information and thereby make it impossible for them to make informed decisions. Thus, for the realisation of changes that SD requires, these managers need to receive information and guidance from sustainability focused management controls in order that they base decisions on the right signals (Arrow et al., 1995, p521).

This then has serious implications for accounting researchers. As Gray (1992, p410) states this “[...] derives from the recognition that as accounting helps to construct the world (in the big picture) and influences decisions and expresses accountability (in the more immediate picture) then accounting designed with environmentalism in mind can change these things.” However, Birkin (1996) points out the inconsistency of mainstream conventional accounting with notions of sustainability and suggests a shift is required to accounting for ecological holism. Further, he suggest the achievement of this may be through the replacement of notions such as capital with that of “burden” (Birkin, 1996, p247) as “[t]his substitution acknowledges fundamental ecosystem dependence.” He also suggests a need for a “base” to be linked to the “burden” which “[...] could be a valley, a river system, forest, watershed, range of hills, plain, coastal strip and so on” (Birkin, 1996, p249). Hence the establishment of a “burden to base” relationship assists with the linking of economic activity to the maintenance of ecological carrying capacity. In a similar vein; Birkin, Edwards and Woodward (2005, p206) suggest that “[a]ccounting and accountants could play a pivotal role in this regard by adopting a balanced accounting view at a core level of accounting.”

That is, balanced in that it is also outward looking rather than traditional accounting that is too limited in scope.

In contrast to the potential for accounting and accountants to assist with the change SD requires, Maunders and Burritt (1991, p10) note “[...] it has also to be recognised that the use of even *ex-ante* accounting information can play a negative role in practice, either directly or indirectly contributing to ecological problems.” Further Milne, Tregidga and Walton (2009) suggest that typically beliefs around sustainability get captured by some form of “middle ground”. This they demonstrate with reference to the New Zealand Business Council for Sustainable Development (NZBCSD), who uses the rhetoric around this middle ground to construct sustainability reports to demonstrate how they are doing sustainability. However, when more critically examined the claims made within these reports prove to be founded on a very narrow and economically focused understanding of sustainability with a resulting subservient position for the natural environment. These findings are in line with Latour’s (1998) notion of the ecology still being used as a means rather than as an end in itself. Further this tension between theory and practice correlates to “[...] any attempt to account for sustainability will need to reflect the tensions which exist between conventional accounting (with its record of wealth accumulation and its focus on the pursuit of profit) and the demands for a just and equitable society” (Bebbington, 1997, p375).

3.2.6 Section summary

In summary, in this section I define sustainability as a dichotomous state, we are either sustainable or not, and SD as the process of attaining this state. I show how this state requires that economic and human activity does not exceed the carrying capacity of the ecosphere and that all generation, both current and future, have an equitable and just distribution of the resources available. Further I demonstrate how currently the state of sustainability is not realised and how the modern economic organisation is implicated in this. Finally I link accounting with this implication through showing how it in theory can assist with SD but its use in practice is to obfuscate the issues.

Before proceeding to the next section I return to Latour (1998) who utilises Kant’s (1956) definition of human morality to note that at the heart of ecological concerns is that, just as with humans, we should treat non-humans as ends as well as what they are typically viewed as, means. Latour (1998, p224) alludes to the dangers of a business as usual mentality in which nonhumans, or even humans as was the case for the Banaban people, are seen merely as means and not as an ends, as from this perspective “[i]t is not worth treating

ecology as a separate concern; it is more a question of using it to explore new and profitable business opportunities.” Latour (1998, p224) continues with the statement that this “[...] is now only a question of controlling, monitoring and managing”. Given that this equates to the role of management controls within organisations, we can see that through their use they are implicated in embedding the business as usual perspective. It is these concerns that provide the underlying motivation for the research aims that I explore in this thesis. I now, in the next section, turn to developing and motivating the research aims.

3.3 Motivating research aims one and two

In this section I motivate the two research aims that I investigate in this thesis. The starting point for developing this motivation is to note that, in their review of the current state of MCS, Berry et al (2009, p2) point out that “[w]hilst research has been evident in all of these areas, relatively little attention has been paid to [...] control and sustainability.” Of note is that they only cite the work of Ball and Milne (2005) within this area of research. Berry et al (2009) finding the lack of research at the intersection of MCS and sustainability is somewhat surprising given, as they also note, the following call for research in this area that dates back to 1995:

“Wider fields also need to be addressed. The advent of environmental management and the attention now paid to ‘green’ issues has yet to impact on the control literature. However, the developing understanding of both human ecology (including issues of demography, population, ethnicity and religion) and physical ecology suggests that wider considerations need to be brought into the conceptualization of the problems of regulation and control of, and within, organizations. Clearly, these considerations raise new ethical issues for both control theorists and practitioners.” (Otley, Broadbent & Berry, 1995, pS42)

This quote, while outlining the clear need for research in this area, also hints at a potential obstacle that contributes to the lack of research in this area. That is, and as I also note in the previous section, traditional MCS, with their focus on profit maximisation through the means of economic growth, are at odds with strong form sustainability. It is interesting that the only article in this area that Berry et al (2009) cite, which is Ball and Milne (2005),

outlines the need for radical change in MCS in order to achieve sustainable outcomes. Specifically Ball and Milne (2005, p333), in line with the suggestions of Birkin (1996), state that “[...] the most outstanding defect in organisational control systems [...]” is “[...] ecological illiteracy.” Ball and Milne (2005) note that this will also require the radical rethinking of traditional ideas underlying MCS; such as wealth, profit making, and economic entities. This would suggest that without radical changes to organisational belief systems there will be no SD and the state of sustainability will remain unrealised. Thus after I develop my first research aim below I subsequently narrow it down, in section four, into more specific research questions that focus on the belief system aspects of MCS.

Therefore, given the incompatibility of traditional MCS and sustainability it is natural to question what benefits, if any, may result from research in this area. Returning to the work of Ball and Milne (2005) we can see that while they note this incompatibility they also clearly state the need for future research in this area. To start with they note that “[...] new ideas and management control tools, are essential to the shift towards sustainability [...]” but also include the caveat that currently “[...] the new accounting and reporting approaches are being managed in such a way as to improve financial rather than environmental or social results” (Ball & Milne, 2005, p324). This would suggest that more research is needed but that it also needs to focus on the existing underlying assumption of much of the SEA literature, the need for change in ‘business as usual’ practices (Bebbington, 2007). As Bebbington (2009, p192) notes “[t]his task is finding ways to nurture hope that change is possible, to make realistic assumptions about how change happens and keeping faith/keeping ones self together in the face of evidence that the world is most probably approaching a tipping point (with regard to global climate change) that will mean that our futures will be played out in a more chaotic world.”

An examination of Ball and Milne (2005) provides many examples of productive areas for future research that are in line with this need for change. One specific area is the introduction of sustainability focused management controls, such as carbon footprints and ecological footprints, into an organisation’s MCS. Given that new forms of management controls prompt actors to examine what they do more closely, do their use, and if so how, lead to actions that we can consider to be in line with SD (p324)? A further example is how to change MCS to bring focus on ways in which the growing pressure on the environment can be reversed (p325)? Another question that we can derive from Ball and Milne (2005) is how can MCS assist with the changing of the current capitalist mindset (p331)? A final example is how can we change the incentive systems within MCS to move away from short-termism in

order to reflect long term concerns around the environment and society (p333)? However, we must temper this potential for future research with Ball and Milne's (2005, p317) concern around the possibility or sensibleness of making the types of changes, within our capitalist societies, to organisations MCS that are required in order to contribute to SD.

It is not surprising given these tensions that little research has been performed at the intersection of MCS and sustainability. However I note that Ball and Milne (2005) base their understandings of MCS on Otley's (2005) framework, which in turn is based on the fuller discussion in Otley (1999). Typically these types of MCS frameworks use ostensive understandings rather than performative understandings, which I outline in section six and seven of chapter two, as their perspective. Thus with the use of the alternative performative understanding of management controls and MCS, along with ANT being a unique theoretical lens within the SEA literature, I aim, in this thesis, to re-examine the potential for research at the intersection of sustainability and MCS. Given that there are two components, sustainability and MCS, to this research, this aim can be more formally stated in the following two research aims:

1. Investigate whether the context of sustainability is useful in furthering our extant understandings of MCS.
2. Investigate whether focusing on MCS can extend our extant understandings of issues around sustainability.

These two research aims provide the focus for this thesis. However I state these two research aims so broadly that I could spend a lifetime in their pursuit. In contrast the time and space constraints of this thesis does not allow for their entire investigation. I therefore, in the subsequent sections of this chapter, develop research questions that correspond to both of these research aims. These research questions deal with very narrow and specific aspects within each of these two broad areas. Hence if I can provide answers to these narrow research questions so as to improve our extant understandings in those specific areas, I will also be providing support for these two areas of research being worthwhile in terms of pursuing future research within them.

Before concluding this section I note that Berry et al's (2009) observation of the lack of research at the intersection between sustainability and MCS must be put into the context of the existing research of individual or groups of management controls, albeit not complete MCS, that focus on sustainability issues. To start with the main focus of the SEA literature

and accounting for sustainability literature has been on reporting (Milne, 2007; Owen, 2008). It must not be forgotten that this vast literature is in essence focusing on one type of management control. This literature, therefore, provides an ideal base to expand into researching the much broader context of the entire MCS. It is for this very reason that I focus the research questions, in relation to the second research aim, on the role of reporting within the context of legitimacy theory before examining the role of the broader MCS.

Another notable and, in line with Gray (2010, p52), arguably one of the most influential examples of research that focuses on just one management control is the ecological footprint (Wackernagel & Rees, 1996). The ecological footprint calculates the biological productive area required to sustain a given actor; whether that is the Earth, a specific country, an organisation, or even a specific project. While the ecological footprint has produced a large amount of attention (see for instance March 2000 Volume 32 Issue 3 of *Ecological Economics* which focuses discussion on the footprint) it is not without its critique (see for example Fiala, 2008). However, it is interesting to note that potentially much of this criticism can be overcome if we treat it as just one management control and therefore relatively ineffective unless set within a system of supporting sustainability focused management controls.

Another example of notable research on sustainability focused management controls is full cost accounting (FCA) (Antheaume, 2007; Bebbington, Gray, Hibbitt & Kirk, 2001). FCA as a concept integrates all potential costs and benefits, including those that relate to social and environmental, that organisations would normally consider as externalities, into the economic calculations they perform. The aim, therefore, is to ensure that a full set of broad considerations are taken into account during the decision making process.

The sustainability assessment model (SAM) is a tool developed in order to assist with the implementation of FCA. As such the development and use of the SAM is beginning to receive attention within the SEA literature (see for example Baxter, Bebbington & Cutteridge, 2004; Frame & Cavanagh, 2009; Xing, Horner, El-Haram & Bebbington, 2009). It is precisely these types of sustainability focused management controls and how they act upon and are acted upon in the broader MCS, as I define in section seven of chapter two, which this research aims to focus on.

Closely related to FCA is the sustainable cost calculation (SCC). Gray (1992) first suggest a SCC as a way to measures how much it would cost an organisation to ensure that its operations left Earth at least no worse off at the end of the accounting period. The potential of the SCC is as Bebbington (1997, p376) notes as “[...] a powerful accounting device for

disrupting business unsustainability by using the language of business and accounting to illustrate just how far away we are from a sustainable state”.

Bebbington and Gray (2001) overview an unsuccessful attempt of an experiment to construct a SCC within an organisation. While the experiment was judged to be unsuccessful, due to its creation of foreseeable and unforeseeable tensions, “[t]he experiment, however, was *successful* in suggesting how the initial visualization of sustainable cost was severely and crucially mis-specified” (Bebbington & Gray, 2001, p558, emphasis in original).

Subsequent to Berry et al (2009) noting the lack of research at the intersection between sustainability and MCS, The Prince’s Accounting for Sustainability Project, which was launched in 2004, has begun to publish results of this project (Hopwood, Unerman & Fries, 2010). This project focuses on two interrelated sustainability focused management controls; namely the accounting for sustainability decision making tool and the connected reporting framework; which aim at assisting with embedding the ideals of sustainability within organisations. The published results, researched and analysed by a number of different individuals with their own perspectives and understandings of sustainability, examine these tools in the context of eight different case organisations. The research I present in this thesis has much in common with the findings that these eight case studies highlight, which in turn builds confidence in the findings that I present here. However there are major differences between this research and that presented by The Prince’s Accounting for Sustainability Project. The most important of these is that The Prince’s Accounting for Sustainability Project focuses only specifically on the management controls they develop and seek to explore the implications of these in field based settings. Here, however, I seek to understand the methods of the actors in the field in relation to the full MCS and the management controls contained therein. I therefore, now turn, in the next section, to developing research questions that focus on the full MCS and which endeavour to provide evidence in support of the first research aim.

3.4 Management control and management control systems

In this section I focus on the first research aim which questions whether the context of sustainability is useful in furthering our extant understandings of MCS. As I outline in section three above, this provides too broad a research area to fully investigate within the limited time and space of this thesis. It is the purpose of this section to develop specific, narrowly defined research questions from within this broad area. By providing answers to these questions I will in turn be able to assess the support for this research aim.

In starting to develop these research questions I first refer back to chapter two, section seven where I utilise the ANT literature to provide a performative understanding of management control and MCS. This performative understanding links with the definition of MCS as the mechanisms actors use to enable the achievement of their goals and those of the wider network to which they belong and includes a mixture of both formal and informal processes and procedures (Bisbe & Otley, 2004; Kober et al., 2007; Langfield-Smith, 1997). This definition of MCS encompasses traditional management accounting but also goes beyond this to include a broader set of management controls which organisations use to both reduce goal divergence and uncertainty (Akroyd & Maguire, 2011; Davila, 2000). However in the performative understanding of MCS this process is conceptualised somewhat differently than in an ostensive definition. As Quattrone and Hopper (2005, p761) note:

“Understanding multiple attempts to create order, spaces, and times is the uneasy task facing managers and management control scholars alike. It requires substituting linear and unique depictions of control with ones that recognise how actors with divergent expectations and beliefs define organisational spaces and times to exert their own views of order.”

Thus we can see in this understanding that MCS, and the individual management controls therein, do not prove to be useful through being structurally or technically correct but rather through their abilities to mobilise and prompt other actors to act (Mouritsen et al., 2009, p747). Thus we see that MCS, and the individual management controls therein, in effect provide meaning and promote action beyond the technical limits of the information they provide. (Mouritsen et al., 2009, p752)

However, given the performative understanding of management controls and MCS, the question remains as to why ostensive understandings, both in practice and in academia, still persist. That is, are these ostensive understandings of management controls and MCS present as empty signifiers or do they have some other role to play? Boedker (2010, p596) for instance notes that there are benefits inherent to the ostensive approach and specifically that “[i]t simplifies life and may even help managers make better business decisions”. However she also contends that a shortcoming, in contrast to the performative understanding, “[...] is that it assumes that stability, orderliness and predictability characterise social life” (p596). I demonstrate in chapter five, when answering the two research questions that I develop below,

that this tension between performative and ostensive understandings of management controls and MCS has a distinct purpose in practice that goes beyond just being opposing points of view.

In terms of the ostensive understanding of MCS within academia, it is important to note that the most commonly used example is the MCS framework. There are, of course, a number of different frameworks for labelling and classifying management controls including Anthony (1965), Merchant (1985), Simons (1995; 2000), Otley (1999; 2005), and Ferreira and Otley (2005; 2009)⁶. Collier (2005) notes that many of these frameworks, and specifically Ferreira and Otley (2005) do not incorporate belief and boundary systems, which Simons (1995) levers of control (LOC) specifically include. However, Ferreira and Otley (2009) do include them to a certain degree but still primarily focus on formal mission and vision statements, albeit that they do acknowledge these may be operationalised in less formal ways.

As I outline in section seven of chapter two, researchers use these frameworks to assist in labelling and classifying management controls they find in their research endeavours in order to provide meaning to themselves and their peers. However, all these frameworks have inherent strengths and weaknesses. Therefore all these frameworks are useful in different ways, depending on their relative strengths and weaknesses. Thus for the purposes of this thesis I utilise the framework of Simons (1995) LOC due to its specific acknowledgement of belief and boundary systems. As a result it provides the best assistance with common meaning in investigating the specific research questions that I develop below.

In providing a brief overview I first note that the LOC consist of four interdependent systems that play off the inherent tensions within organisations to implement strategy. The first of these, which this thesis primarily, but not exclusively, concentrates on, is the belief systems. Simons (1995, p34) defines belief systems as “[...] the explicit set of organizational definitions that senior managers communicate formally and reinforce systematically to provide basic values, purpose, and direction for the organization”. Mundy (2010, p501) notes that “[...] these definitions are stated in broad, value-laden terms, because the purpose of a belief system is to inspire organisational search and discovery without prescribing the precise

⁶ Ferreira and Otley (2005, 2009) are two versions of the same paper. The 2005 version is a working paper available on the SSRN website. The 2009 version is the subsequent publication of the paper in the journal *Management Accounting Research*. I include the 2005 version here as prior to the publication of the 2009 version it was a highly cited working paper, including being, as I note here, extensively discussed by Collier (2005). Reading these two versions it is clear that Ferreira and Otley (2009) includes many changes and improvements as a result of the commentaries on Ferreira and Otley (2005) provided by other papers including that of Collier (2005).

nature of the activities.” Primarily belief systems consist of the core values of the organisation. Thus we can view the core values that make up the belief systems as “strategy as “perspective”” designed for “obtaining commitment to the grand purpose” (Simons, 1995, p159). That is, the belief system and the core values within it provide positive direction for employees to search out opportunities for implementing strategy.

Simons (1995, p36) notes that one of the requirements for these core values to be considered part of a belief system is that they be formalised. However in the same explanation he also notes that formal belief systems were only a recent innovation and attributes this to the increasing complexity of the modern organisation. Thus for the purposes of this thesis I allow for the possibility of informal beliefs systems as well as the more formalised counterparts. That is, organisations may specifically formalise the core values in mission and vision statements or use less formal versions through verbal communication and the like. This is in line with the statement by Mundy (2010, p501) that “[...] any MCS that provides managers with information regarding the organisation’s values or priorities can be leveraged as a belief system.” Further as Scapens (1990, p264) notes “[c]ase studies which examine only formal accounting systems run the risk of failing to understand how these systems are embedded within the day-to-day practices of accountants and managers.” This decision proves, as I outline in chapter five, to be critical in conducting the research around the questions that I develop below.

The second LOC are boundary systems, which outline the areas in which the organisation plans to operate or as Simons (1995, p39) states “[...] delineate the acceptable domain of activity for organizational participants.” Boundary systems are seen as a negative control in that they are designed to focus attention, which has been expanded through belief systems, only on actions that enable the organisation to implement the desired strategy. Thus we can understand boundary systems as “strategy as “position”” designed for “staking out territory” (Simons, 1995, p159).

The third lever is the diagnostic control systems that supply information and feedback to management on the efficiency and effectiveness of the operation and are “[...] designed to ensure predictable goal achievement” (Simons, 1995, p59). Diagnostic control systems are designed to assist in the implementation of intended strategy (Mintzberg, 1978). Thus we can understand diagnostic control systems as “strategy as “plan”” designed for “getting the job done” (Simons, 1995, p159).

Finally the role of an interactive control system is to aid learning and dialogue particularly in regard to strategic uncertainty and “[...] are formal information systems

managers use to involve themselves regularly and personally in the decision activities of subordinates” (Simons, 1995, p95). Interactive control systems are designed to identify and assist in the implementation of emergent strategy (Mintzberg, 1978). Thus interactive control systems can be understood as “strategy as “patterns in action”” designed for “positioning for tomorrow” (Simons, 1995, p159).

The extant management accounting research that utilises the LOC framework typically focuses on understanding diagnostic and interactive controls and the relation between the two (Ahrens & Chapman, 2004). Thus, this type of research focuses on topics such as the use of budgets (Abernethy & Brownell, 1999), on non-financial management accounting change (Vaivio, 1999), and on the context of innovation (Bisbe & Otley, 2004). However focusing only on half of the LOC can at best only provide a partial understanding of how MCS work in practice (Mundy, 2010).

It is only recently that research has expanded to include a more holistic view of MCS through not only investigating diagnostic and interactive control systems but also to look at belief and boundary systems. Examples include Bruining, Bonnet & Wright (2004) who note that there is a need to develop coherence between strategy and all four LOC subsequent to a management buyout; Tuomela (2005) who finds that not only are strategic performance measurement systems used diagnostically and interactively but also that these systems have implications for belief and boundary systems; and Widener (2007) who examines the existence of mission and vision statements and the extent to which senior management hold them to be important.

Widener (2007) typifies what Collier (2005, p324) notes about Simons explanation of belief systems. That is, Simons (1995; 2000) focuses on formal belief systems with specific attention to mission and vision statements with little or no attention given to informal belief systems. This focus on formal belief systems may be due to the difficulties identifying and measuring something that has not been formalised and thus hard to specify. This problem was overcome to some extent by Collier (2005) who provides evidence of an organisation with a relatively informal belief system that was effectively communicated verbally to employees.

I note that research, while still limited, is increasingly focusing on belief systems. Within this limited but growing area of research very little is known about the process of developing core values within the belief system and the impact this process has on other areas of MCS. Thus the first research question in relation to the first research aim extends this line of research by directly investigating this process. I state the first research question more formally as follows:

1.1 How are core values within the belief systems developed?

Chua and Mahama (2007, p54), however, critique the LOC for the separation of beliefs out from the other types of controls. They note that in this ostensive understanding of MCS the former is often seen as a social type of control whereas the latter, and more specifically accounting, as a technical type of control. Further they note that performative understandings, such as those that ANT provides, reject this duality with the justification that the latter can embody beliefs and thereby enact social control. However in practice core values are often defined in ostensive terms and therefore the question remains as to how these beliefs get embedded within other types of management controls. Hence I state the second research question in relation to the first research aim as follows:

1.2 How is this process influenced by and how does it act upon other management controls?

The importance of still maintaining a holistic view of MCS, and hence the importance of the second research question, while studying one aspect of MCS, the belief systems, is illustrated by Hopwood (2009, p433) who notes that:

“Of course much could already be done to alleviate some of the major environmental difficulties if there was a will to act [...] However, although a strong will to act might result in less call on calculative devices, including accounting, to construct new patterns of incentives and visibility, I sense that the role of calculation would still not be minimal.”

Also with regard to this comment by Hopwood and its focus on the environment, I note that in order for the above research questions to provide support for the first research aim, the context of the research needs to be sustainability. In section two and three above I outline how to have any chance of realising the state of sustainability requires a major change in the current underlying capitalist mindset. As Tinker and Gray (2003, p749) note, it is “[...] a battle over hearts and minds about what sustainability means [...]”. Further Gray (1992, p399) puts forward that in order for these underlying changes to occur requires first the

placing of sustainability at the heart of all of our considerations. This is in line with Latour's (1998) argument that in order for ecological movements to become effective in prompting change requires first the change in beliefs around the natural and human ecology, which are normally seen as a means to an ends rather than an ends in and of itself. Thus the realisation must be made that our current ways of doing things cannot continue on a planet of finite resources (Cairns, 2001, p152). Further, Birkin (1996, p240) draws on Leopold (1966) to show that, given the current economic mindset, in accounting for sustainability the critical issue is not techniques but rather values. Thus it would appear that the context of sustainability will provide the ideal setting for research around belief systems and if so then evidence in support of the first research aim will be generated.

In summary the first research aim of this thesis, as I develop and motivate in section three above, is as follows:

1. Investigate whether the context of sustainability is useful in furthering our extant understandings of MCS.

Due to this research aim being too broad in this section I outline, develop and motivate two research questions as follows:

- 1.1 How are core values within the belief systems developed?
- 1.2 How is this process influenced by and how does it act upon other management controls?

I now turn to developing research questions that relate to the second research aim.

3.5 Accounting for sustainability and the SEA literature

In this section I focus on the second research aim, which I outline in section three above, that questions whether focusing on MCS can extend our extant understandings of issues around sustainability. As I outline above, this provides too broad a research area to fully investigate within the time and space limits of this thesis. In this section I therefore provide an overview of accounting for sustainability and the SEA literature. From this overview I justify the selection of legitimacy theory as an area in which to develop research question in respect to the second research aim. In section six I develop specific, narrowly defined research questions in relation to legitimacy theory. By providing answers to these

questions I will be able to assess the support for this research aim. It is therefore the purpose of the following two sections to develop specific, narrowly defined research questions with which to address the second research aim.

3.5.1 Accounting for sustainability

To start with there is very limited accounting literature that directly addresses SD and sustainability concerns. As Bebbington (2007, p234) notes “[...] there is relatively little literature that takes SD as its starting point”. However Bebbington does state that notable exceptions include Bebbington and Thomson (1996), Milne (1996), Bebbington (2001), Gray and Milne (2002; 2004), Baxter et al (2004), and Birkin et al (2005). Since Bebbington’s (2007) statement there have been a small but increasing number of notable examples, some of which I refer to in section four above. However, in comparison to the broad array of literature that constitutes the domain of SEA research, it would be fair to say that accounting for sustainability is an underdeveloped area of research.

Given the discussion in section two above regarding the contested and ambiguous (Ball & Milne, 2005; Bebbington, 2001; Gray, 2010; Milne, 1996; Milne et al., 2006) nature of the concept of sustainability it is not surprising that “[w]e are, therefore, researching an unstable and moving set of practices” (Bebbington, 2009, p189). Further, beyond the few specific examples within the accounting for sustainability literature, it remains unclear how practitioners are formulating understandings of such a complex, contested and ambiguous concept. However, it is relatively certain that whatever attempts are being made, “[a]t present, accounting for SD falls short of a comprehensive, coherent fully linked image of how an organisation interacts with social, environmental and economic arenas” (Bebbington, 2001, p144). Indeed it is not even certain that given these complexities and the current capitalist mindset that is dominated by a focus on profit through growth that many, if any, organisations are attempting to make systematic assessments around sustainability and thereby make decisions and take actions on this basis (Bebbington, 2009, p189).

What is clear, however, is that there is an increasing growth of standalone sustainability and social and environmental reports (Thomson & Bebbington, 2005) over the last few decades. However, Milne and Gray (2007, p191) note that while this increase, which is largely as a result of voluntary action, in reporting may appear to be positive it must be tempered with the knowledge that no apparent progress towards anything that resembles strong form sustainability has been made. As they note (p184) the issues, as I outline in section two above, around sustainability are of such importance that they should not be left to

the voluntary but uncritical self-reporting of many, but not all, organisations as a means to resolving these problems.

It is due to the ubiquitous nature of the stand alone sustainability report in practice (Thomson & Bebbington, 2005) and corresponding focus in research (Milne, 2007; Owen, 2008) that the first research question that relates to the second research aim, which I develop in the next section, concentrates on the stand alone sustainability report. Given the lack of understanding with regard to internal processes, the subsequent two questions that relate to the second research aim, focus on the broader set of organisational management controls beyond the sustainability report. In this way this thesis aims to contribute to our understandings around accounting for sustainability. However, as there is a lack of research in this area I draw upon the wide SEA literature in order to provide more focus to these research questions. Before exploring how the SEA literature can assist in doing this I first, in the next two parts of this section, explore the differences and similarities between accounting for sustainability and SEA in order to establish the appropriateness of doing so.

3.5.2 Differentiating accounting for sustainability and SEA

In drawing upon the SEA literature in order to provide focus for the research questions that I develop in the next section, I must first acknowledge that differences exist between it and the accounting for sustainability literature. As Bebbington (2001, p143) suggests, while both areas have a similar focus on impacts of economic activity on society and the environment, there are differences between the two. At the very core of the differences is the contested and ambiguous nature of sustainability. That is, what is to be sustained is unclear and often merely taken for organisations having to manage their social and environmental impacts (Ball & Milne, 2005, p316). But as can be seen from the discussion in section two above, sustainability is a broader concept that takes into account much more than just the social and environmental impacts of an organisation. As Milne and Gray (2007, p195) note “[...] it is essential to recognise that reporting about the social and the environmental – in whatever form it is undertaken – remains for us a distinctly different prospect from accounting (or reporting) for sustainability.”

The differences in what is considered within the respective areas can be illustrated with reference to one specific area of sustainability that is not necessarily a consideration of SEA. That is, to attain the state of sustainability requires an equitable and fair distribution of the resources available (Milne & Gray, 2007). This requirement not only applies to the current generation but also between all generations to come. However, addressing the social

and environmental impacts of an organisation does not necessitate the consideration of intra and inter generational equitable and fair distribution concerns.

Finally, the distinction between the two can be further illustrated through contrasting the degree to which they require a rethink of the underlying mode of economic activity. In contrast to the assumptions underlying SEA (see Gray, Kouhy & Lavers, 1995a for a discussion of these), sustainability requires a radical rethinking of the way in which our current economies are structured (Bebbington, 2001, p143) and therefore would require corresponding radical change in economic organisations (Gray et al., 1995b, p220). This moves several researchers (for example Ball & Milne, 2005; Gray, 2010) to question whether accounting for sustainability has any meaning at the level of the organisation. This discussion, therefore, highlights differences that exist between SEA and accounting for sustainability. The question remains as to whether enough similarities exist between the two to facilitate the development from the SEA literature of research questions that actually relate to accounting for sustainability. I now discuss these similarities in the next part of this section.

3.5.3 Similarities between accounting for sustainability and SEA: the need for change

Having outlined the underlying differences between accounting for sustainability and SEA in the previous part of this section, I now turn to examining the similarities between the two. This is in order to establish the case for drawing on the broader SEA literature to provide focus for the research questions in relation to the second research aim. The starting point, in a parallel to the previous part of this section, is to note that in pointing out that differences exist between the two, Bebbington (2001, p143) also highlights that both have a similar focus on the societal and environmental impacts of economic activity. Further the two primary concerns that Bebbington (1997) notes as prevalent in and motivation for much of SEA research are largely applicable to accounting for sustainability. These are the limited ability of conventional accounting to address SEA (and sustainability) issues and the desire to develop new forms of accounting that overcomes the first concern.

These two concerns hint at one of the most profound similarities between SEA and accounting for sustainability. That is, both have an implicit motivation for change (Bebbington, 2007; Gray, 2002). It can be argued the former has a limited conception of the need for change, limited to changes in the way organisations impact on society and the environment (Gray et al., 1995a, p51), in comparison to the latter, which requires radical

changes in the underlying economic structure. Nonetheless, regardless of the extent required, both include implicit change agendas.

Gray et al (1995b) provide evidence of the limits of conventional accounting in assisting or influencing the change process with regard to the natural environment agenda. They do also, however, find an increase in the use of environmental accounts and that such accounts have the potential to assist in this change, hence giving a role to accountants in this process. However Bebbington (2007) draws on Laughlin's (1991) notion of change and notes that these are only likely to occur within an organisation as a result of a disturbance. Further, from a review of the extant literature Bebbington (2007, p230) suggests the following as a rough typology of disturbances:

“One could suggest that change could be triggered by (1) changes in legislation, (2) events which challenge the legitimacy of an industry or organization, (3) expectations of environmental performance emerging from the media, (4) generalized expectations that entities should be environmentally responsible and (5) the development and use of particular tools or techniques for managing the natural and social environment within which organizations operate.”

Bebbington (2007) further notes that, with reference to Larrinaga-Gonzalez and Bebbington (2001), observed changes may be as a result of the interaction between multiple disturbances. Specifically Bebbington (2007, p228-229) notes that “[i]mplicit in this conceptualization is that regardless of the particular track taken, one may observe a particular end point”. While in this thesis the notion of disturbances and the above typology prove to be useful, from the theoretical lens of ANT such end points are seen as temporary and should they prove to be constant and stable then this would require explanation (Latour, 1986, p268). That is, the particular end point can be seen as a leaky black box (Callon & Latour, 1981) that given time will once again come under challenge by a new disturbance to the organisation.

Therefore the challenge for the accounting for sustainability researcher, given the implicit change agenda in their work, is how to use these disturbances to prompt change within organisations and economies that represent real steps towards achieving this state. Tinker et al (1991, p29) caution that researchers in such areas as accounting for sustainability “[...] inevitably take sides in social conflict and that “responsible” researchers should strive to ensure that their choice is a socially well-informed one.” Countering this argument Gray

(2002, p699) notes “[...] the alternative/critical project does not offer any alternatives to the programme for change aspired to by the social accountants.” Thus in this research I aim to contribute to the extant literature through providing research that adheres to the need for strong form sustainability but also investigates, through focusing on the mundane practices of individuals, and thereby presents the potential ways in which real change may be achieved.

This does bring into question whether, how, and why SEA or accounting for sustainability in practice result in change. Bebbington (2007, p233); through referring to Maunders and Burritt (1991), Cooper (1992), and Birkin (1996); notes “[t]hese and other authors suggest that in order for ‘disaster’ to be averted some underlying change in individual, company and societal rationales have to take place [...]” but “[...] it would appear that underlying attitudinal change is not happening, or at least if it is happening researchers have yet to uncover it.”

This statement is strengthened with reference to Larrinaga-Gonzalez, Carrasco-Fenech, Caro- Gonzalez, Correa-Ruiz, and Paez-Sandubette (2001) who investigate nine Spanish companies and find that, even if structural and organisational changes are occurring, conventional understandings of the environment still hold. Worse still the potential for real underlying change that SEA has the promise to deliver is not realised due to these organisations utilising it as a means of trying to hijack the environmental agenda. In this respect the ability of accounting to close down, silence or distract from other debates has been a common theme in the literature (for example Buhr, 2001; Neu & Taylor, 1996; Rahaman et al., 2004; Tinker et al., 1991). Further Larrinaga-Gonzalez and Bebbington (2001, p285) suggests that SEA is only effective in providing influence when management, within an organisation, enrol it to reinforce the status quo.

This, therefore, highlights the tensions (Larrinaga-Gonzalez & Bebbington, 2001, p286) that exist between the implicit change agenda of SEA and accounting for sustainability with the apparent appropriation of these in practice to reinforce the dominant business as usual mentality. Gray (2002, p701, emphasis in original), for instance, questions “[...] how can we seek change without a complete understanding of the present *plus* a complete specification of how change does and can take place?” Further, Adams (2008, p368) suggests that in order to prompt such change first requires an in depth understanding of the internal complexities of an organisation, which can only be obtained through engagement, the like of which Adams and Larrinaga-Gonzalez (2007) advocate. Thus in this research I aim to discern from practice the way in which accounting for sustainability is appropriated in order to assess whether or how the implicit change agenda may be implemented. In order to do this,

however, I first need to select an appropriate means of focusing the research questions that I develop below. Thus, in the next part of this section I outline some of the different streams from within the SEA literature from which I select legitimacy theory to provide the means of focusing the research questions.

3.5.4 Different streams of SEA literature

Thomson (2007) provides an exhaustive summary of the different themes that have been addressed within the broad remit of the SEA and accounting for sustainability literature. From his review we can understand that research within this literature has focused more on some areas than others and some specific methodologies are more utilised than others. Such diversity contributes to Owen's (2008, p241) comment that "[...] there appears to be no clear agreement as to what actually constitutes social and environmental accounting research". However, Gray, Dey, Owen, Evans, and Zadek (1997, p347) suggest this diversity is healthy and desirable given the diversity of organisational types, social contexts and understandings of the issues at play. Thus for Gray (2002, p692) the benefit of research in this area is the examination and encouragement of new accountings in order to open up space for these to occur.

The importance of the opening up of space within organisations for new accountings to emerge within is seen in Maunders and Burritt (1991) finding that conventional accounting is highly inconsistent with the deep green ecology perspective. This finding is not surprising given that social and environmental performance, unlike the quantitatively measured profits calculated by conventional accounting, cannot be measured in a market system orientated way (Patten, 1992, p472). This implies, according to Hopwood (2009, p433), that "[a]s changes occur in our concepts and focus of accountability for the environment, the demands for different flows of information, accounting and otherwise, are also likely to grow." However, Everett and Neu (2000, p5) warn that much of the new and emerging accounting that focuses on social and environmental concerns falls within ecological modernism, which is a discourse of the status quo and "[...] distracts us from asking difficult questions regarding the role of environmental accounting in perpetuating unequal and exploitative social relations."

Thus it is not surprising we see that the extant evidence suggests sustainability reports produced by organisations do not actually represent accounting for sustainability (Ball & Milne, 2005; Gray, 2010; Gray & Milne, 2002; Milne et al., 2006; Milne, Tregidga & Walton, 2003; Milne et al., 2009). At the heart of this problem is the lack of connection

between the accounts that business offer, and arguably the underlying frameworks used to produce these accounts, which outline the activities of the organisation concerned and how these activities contribute to or detract from global sustainability (Gray, 2010). As Milne (2007, p55, emphasis in original) suggests “[...] the danger is that through their reporting organisations convince themselves and potentially others that they *are* operating in a sustainable fashion.”

More promisingly Thomson and Bebbington (2005) argue that such reporting can be seen as a process of educating those internal and external to the organisation. However they recognise that education has three roles which are “[...] a constitutive role (that is, education tells us what we know about the world), an oppressive role (if it functions to maintain existing power differentials) and a transformative role (if education enables us to take our view of the world and to change the world as a result).” (p509) They find that the reports produced by organisations typically are a one way communication process from management to stakeholders and thereby take constitutive and oppressive roles and not usually a transformative role. In line with this Hopwood (2009, p438) suggests that reporting is not likely to produce transparency and therefore he puts forward the need to find other means through which what is known of an organisations actual practices is improved. Further Hopwood (2009, p437) states

“It is as if the report serves as a corporate veil, simultaneously providing a new face to the outside world while protecting the inner workings of the organization from external view. Done with skill and a fair amount of planning and thought, it is possible for some modes of reporting to thicken that veil such that even less is known of the corporation despite the apparent openness of its reporting. Once again this suggests an area in urgent need of more research.”

In terms of the extant literature that investigates reporting; Gray, Owen, and Adams (1996, p45) note; and with reference to Thomson (2007) this still appears to hold true; that political economy theory, stakeholder theory, and legitimacy theory are the most widely employed within the accounting literature. All three of these perspectives focus on understanding the intersection between the organisation and its environment (Neu, Warsame & Pedwell, 1998, p267) and even with clear differences between them, they have been seen as overlapping in many respects (Gray et al., 1995a, p52). Due to the predominance of these

three perspectives in the accounting literature, it is from these that I choose one with which to drive the investigations into the second research aim. That is, if MCS proves to be a good context with which to extend our understanding of one of the three most commonly utilised perspectives, then it would stand to reason that evidence has been found in support of the second research aim.

In deciding which of these three to select I note that one of the roles envisaged for the sustainability report is of providing greater accountability (Gray, Owen & Maunders, 1987). Owen, Swift, and Hunt (2001, p272) note that for stakeholders to be able to hold management accountable require some form of mechanism to do so, which also requires the mechanism to have a direct influence on organisation decision making. In questioning whether sustainability reports are such a mechanism, we can see that O'Dwyer (2005, p291) suggests that the rhetoric these reports contain, through striving to simplify the complexities of reality, do not tend to fulfil this role and worse still sideline concerns around the need for change. O'Dwyer (2005) suggests these reports amount to management controls designed to manage threats external to the organisation and thereby do not constitute a two way dialogue. Even if this two way dialogue was active, Unerman and Bennet (2004, p691) note that this still does not give a voice to; as sustainability would suggest is needed; "[...] future generations, the natural environment or non humans affected by these activities." Specifically of concern is that in O'Dwyer's (2005, p291) case the board's control of the process closed down all possibility for key stakeholders, including those that Ball (2007) labels as workplace activist, to act.

Thus the above extant evidence suggests that this type of reporting does not aim to promote stakeholder dialogue or engagement. Further, Owen et al (2001) note that rather than being a process of active stakeholder engagement it is rather a public relations exercise that aims to embed the business as usual perspective. Buhr (2001, p416-417) notes that, while the normal case is for organisations not to come under the influence of environmental stakeholders, these stakeholders, under certain conditions, can apply enough pressure to induce action by a specific organisation. It is for this very reason that I select legitimacy theory as the one perspective of the three with which to focus my analysis in respect to the second research aim. However, I do note that in selecting legitimacy theory by the very nature of it overlapping with the other two perspectives I am not entirely excluding them. In the next section I develop research questions in respect to legitimacy theory and the second research aim. Before I proceed with this, I first in the following two parts of this section

justify the selection of legitimacy theory and distinguish it from the recent research on reputation risk management.

3.5.5 Justifying the selection of legitimacy theory

In the previous part of this section I select legitimacy theory out of the three main streams of SEA research to utilise in this thesis. As I note earlier, the extant literature on social and environmental accounting (and accounting for sustainability) is focused on reporting and as Bebbington (2007, p233) notes “[...] legitimacy theory explanations dominate the literature.” Further, as Owen (2008, p247) suggests “[i]ts popularity amongst researchers is, indeed, particularly evidenced by the appearance of a special issue of AAAJ (Vol. 15 No. 3, 2002), edited by Craig Deegan, devoted to SEA studies employing a legitimacy theory lens.” Hence, if through focusing on a broader understanding of MCS I can extend our understanding of such a dominate perspective then in turn I will provide support for the second research aim.

In the next section of this chapter I set out an explanation of legitimacy theory which I then use to develop research questions in relation to the second research aim. However, before proceeding, I note that the applicability of legitimacy theory, in relation to the second research aim, goes beyond just being the most dominate perspective in the extant literature. Specifically a tension exists between the rationale of change (Bebbington, 2007) that underlies much of the accounting for sustainability literature and the practice of using sustainability reporting to embed business as usual. Legitimacy theory, while it allows for the possibility of change, mostly focuses on the strategies an organisation employs to maintain business as usual practices (Unerman & Bennett, 2004, p692).

A good example of the use of reporting to achieve legitimacy rather than instigate change is supplied by Rahaman et al (2004) with their analysis of social and environmental reporting at the Volta River Authority (VRA). The VRA was originally set up in 1961 by the Ghanaian government with the aim of supplying the local population with electricity. The project was partly funded by the World Bank who insisted, as part of the deal, on the provision of social and environmental reporting and also that the VRA enter into a contract to supply 60% of their production to an aluminium smelter, owned by a USA corporation, at a set price for thirty years. With steadily increasing costs and 60% of production being sold at a fixed price the VRA needed to find some way to justify increasing the price for the remaining 40% of their production, which was sold to the local population. The way in which they achieved this was through employing highly trained accountants (educated at top

international institutions such as Harvard) who implemented a sophisticated costing system and thereby found ways in which to allocate the increasing costs to the remaining 40% of supply. Thus the accountants' educations were used to find ways to justify (or legitimise) the increase in prices of the supply to the local population. However these price increases meant that the majority of the Ghanaian people could not afford to purchase electricity. Thus Rahaman et al (2004) find that the VRA used social and environmental reporting to achieve legitimacy and mask many of the true impacts of this organisation. In particular as the VRA did not report that its original goal of providing electricity to the Ghanaian people had not been achieved it remained invisible to those outside the organisation.

Puxty (1986, p97) notes that as accounting is “[...] an artefact within that system it is affected by the ruling ideas of the system and reproduces the nature of the system by its existence.” However Puxty (1986) does recognise that as there are potentially many types of accounting this enables it to act in varied and sometimes surprising way and as a result “[...] makes its role as a mystifier of social relations and a legitimator of power and domination the more insidious and threatening” (p98). This would therefore suggest that reporting is highly likely to produce legitimacy but not real and substantial change in relation to sustainability. However, in this thesis the focus goes beyond reporting to include a broader perspective of MCS. Therefore, I utilise legitimacy theory in order to better understand, with regard to this broader perspective, whether the possibility for change occurs and if so whether it is also stifled through the use of the broader MCS.

Further, Weinberg (1998, p246) argues that in order to understand whether any organisations are serious about engaging with the required changes requires firstly examining the structures that organisations have for identifying the need to change, with specific attention to whether this need is identified by insiders or outsiders. However, this is not sufficient in itself, as there is also a need to examine how an organisation reacts once this need is identified. Through examining the particular organisations reaction this will highlight the values that it has in relation to sustainability. It is with this in mind that in the next section I outline the understanding of legitimacy theory that I utilise and from this develop related research questions. Prior to doing this, I first briefly, in the remainder of this section, differentiate legitimacy theory from reputation risk management.

3.5.6 Distinguishing legitimacy theory from reputation risk management

Before proceeding in the next section to develop research questions in relation to legitimacy theory, I first note that reputation risk management (RRM) is beginning to be used

within the SEA literature. Specifically Bebbington, Larrinaga-Gonzalez and Moneva-Abadia (2008a) offer RRM as an alternative understanding of corporate social responsibility (CSR) reporting where it is viewed as both an outcome and part of this process. They present reputation as a separate but related concept to that of legitimacy “[...] with reputation being a relative measure and legitimacy being more bimodal in nature” (Bebbington et al., 2008a, p346). Thus this gives the potential for social and environmental issues to effect reputation with subsequent flow on effects to organisational legitimacy. It is therefore clear from Bebbington et al’s (2008a) analysis that RRM offers much potential as a way to further our understanding of CSR reporting. The commentaries on this approach by Unerman (2008), Adams (2008), and Bebbington, Larrinaga-Gonzalez, and Moneva-Abadia (2008b) illustrate the newness and therefore the potential of it. However, these commentaries also clearly illustrate the need for further extrapolating and development of this approach. As it is not an aim of this research to extrapolate and develop such a theory I therefore do not utilise RRM in favour of legitimacy theory. Hence, future research has the potential to extend the ideas presented in this thesis through an RRM analysis.

In closing this section, I also note that Bebbington et al (2008b, p372), in their commentary, do raise concerns whether it is appropriate to think of legitimacy theory as a theory per se. Further (p373) they suggest that “[i]n this respect, our concern with legitimacy “theory” is matched with our avoidance of the word “theory” in the context of RRM: we rather conceive RRM as a thesis or as a “motive” (Unerman, 2008) that does not exhaust the possible explanations of CSR reporting.” With regard to these concerns over whether legitimacy theory can be thought of as a ‘theory’, the findings contained in this thesis do lend support to a perspective where organisations have a multitude of motives, including attaining or maintaining legitimacy, to act. However, more formal discussion of these concerns is beyond the scope of this thesis.

3.6 Legitimacy theory

In this section I develop the research questions that I will investigate in order to assess whether support exists for the second research aim. In doing so I also provide an understanding of legitimacy theory that is consistent with ANT and also thereby note the implications of using ANT in relation to legitimacy theory. In this way I justify the applicability of ANT as the theoretical lens through which to analyse the data I collect from the case organisation. As always I proceed with the caveat that in terms of space restrictions

it is not possible to provide a comprehensive and exhaustive literature review of legitimacy theory. In defining legitimacy theory I first turn to Deegan (2002, p292) who notes:

“Consistent with the view that organisations are part of a broader social system, the perspectives provided by legitimacy theory [...] indicate that organisations are not considered to have any inherent right to resources, or in fact, to exist. Organisations exist to the extent that the particular society considers that they are legitimate, and if this is the case, the society “confers” upon the organisation the “state” of legitimacy.”

Thus legitimacy theory focuses on the process through which organisations construct an argument as to why they should be entrusted with the right to utilise the resources available to society. Therefore we see that:

“Legitimacy is a condition or a status which exists when an entity’s value system is congruent with the value system of the larger social system of which the entity is part. When a disparity, actual or potential, exists between the two value systems, there is a threat to the entity’s legitimacy.” (Lindblom, 1993, p2)

This implies, as is consistent with the theoretical lens of ANT (Latour, 1986, p268), that the state of legitimacy, if achieved at all, is a fragile and temporary state. Thus organisations must continuously construct proof of why they should continue to have the right to use the resources available to society. Hence we can see that any given organisation is faced with the potential at any moment for society to remove permission to use its resources (Deegan, 2002; Lindblom, 1993) particularly as what is legal and considered legitimate are not always aligned (Dowling & Pfeffer, 1975, p124) and often changes over time (Buhr, 1998; Dowling & Pfeffer, 1975). That is, organisations have a wide range of different stakeholders with potentially competing views and agendas some of which will be legally enforceable while others relate to less formal social contracts (Unerman & Bennett, 2004). Hence “[...] how or whether management reacts to perceived legitimacy gaps (perhaps through corporate disclosures) is based on their perception of how society views the

organisation in terms of whether what is being done is acceptable – that is whether there is perceived to be a legitimacy gap in the first place.” (Deegan, 2002, p296)

An important question to ask, however, is who within the applicable society makes the assessment that a given organisation has the state, or lack thereof, of legitimacy. Thus the notion of the ‘relevant public’ (Lindblom, 1993) indicates that, while these assessments are performed on an individual basis, collectives interact with the organisation in question. In line with the understanding of power from an ANT perspective (Latour, 1986), it is the ability of these collectives to act in providing or removing support that makes them relevant to a specific organisation. As Deegan (2002) notes, the use of the term ‘relevant publics’ borrows much, while acknowledging little, from stakeholder theory. Who an organisation deems to be the relevant public is of importance, as I will discuss further in chapter six, to how it strives to maintain its legitimacy.

Thus we can see that legitimacy theory relates to how organisations attempt to maintain the social contract, which goes beyond their legal requirements (Deegan, 2002), with their relevant publics, which in turn allows them to continue to operate within society. However it is important to note that this matching of value systems is in perception only (Dowling & Pfeffer, 1975, p122) and actual alignment may or may not in practice occur. As Deegan (2007, p128, emphasis in original) suggests “[f]or an organization seeking to be legitimate it is not the *actual* conduct of the organization that is important, it is what society collectively knows or *perceives* about the organization’s conduct that shapes legitimacy.”

As I mention in the last section, the decision to focus on legitimacy theory is influenced by the extent to which it has been utilised in the SEA literature. Owen (2008, p247) notes that there has been a dominance in the research seeking to understand corporate social disclosure practice by the use of legitimacy theory as the main interpretive focus. Examples include Buhr (1998) who uses a historiography, interviews and content analysis to investigate how a corporation responds to changing government regulations and how they chose to present this in their annual report. She finds the data more consistent with legitimacy theory rather than political economy theory.

One of the earliest examples of the use of legitimacy theory within the accounting literature is that of Guthrie and Parker (1989). They examine social disclosures across one hundred years, 1885 to 1985, of BHP Ltd annual reporting and fail to find support for legitimacy theory as the primary explanation. In order to readdress some of the concerns that Guthrie and Parker (1989) express, Deegan, Rankin & Tobin (2002) examine the social and environmental disclosures of BHP Ltd from 1983 to 1997. In contrast to Guthrie and Parker

(1989) they use media attention as a proxy for community concerns and find “[...] a strong association between BHP’s disclosure policies and community concern – a result consistent with legitimacy theory but inconsistent with Guthrie and Parker (1989)” (Deegan et al., 2002, p313). From this we can understand that legitimacy theory has at least some merit in helping to understand the social and environmental disclosure of organisations.

Another early example of research that utilises legitimacy theory is Patten (1992) who examines annual report environmental disclosures of petroleum firms, excluding Exxon, in the wake of the Exxon Valdez oil spill. He finds support for legitimacy theory with these organisations significantly increasing their disclosures with the amount of change relating to firm size and ownership.

In a similar vein Deegan and Rankin (1996) use legitimacy theory to examine disclosures made by twenty Australian companies successfully prosecuted between 1990 and 1993 by the New South Wales and Victorian Environmental Protection Authority. They find that the amount of disclosures significantly increases in the year of prosecution suggesting “[...] that Australian annual reports do not provide an accurate portrayal of corporate environmental performance” (Deegan & Rankin, 1996, p60). Further the vast majority of disclosures were positive in nature with few organisations disclosing negative news even though this would be the expectation given the successful prosecution.

A further example in this vein of research is Deegan, Rankin, and Voght (2000) who use five major incidents to examine the reporting practices of selected firms subsequent to these incidents. They find that on average there is an increase in the social disclosures within their annual reports which “[...] support a view that organizations utilize their annual report as a means of influencing society's perception of their operations, and as a means of legitimizing their ongoing existence” (p101). Thus these studies provide an indication that, given a major disturbance, organisations use their disclosures to promote the positive aspects of their social and environmental performance.

In respect to the promotion of positive aspects of an organisation, Milne and Patten (2002) use a decision experiment to examine the legitimising effect of environmental disclosures on investors within the context of the chemical industry. They find that positive disclosures can assist with the restoration or repairing of an organisation’s legitimacy under a long-term investment scenario.

It also appears that organisations use different types of positive disclosures in order to assist their efforts towards attaining legitimacy. For example Cho and Patten (2007) divide disclosure types; first excluding disclosures relating to litigation as they are unlikely to be

used for legitimacy purposes; into monetary and non-monetary. This division allows them to find additional evidence that organisations do use environmental disclosures within the financial report as legitimising tools.

Further the type of ownership also appears to have an influence. Cormier and Gordon (2001) use legitimacy theory to compare disclosures within the annual reports of publically and privately owned electric utilities. They find in line with legitimacy theory and related to political ownership that compared to privately owned utilities the publicly owned disclose more social and environmental information.

However, it also appears that increasing the number of social and environmental disclosures is not always considered to be the most effective strategy in terms of attaining or maintaining legitimacy. For instance, de Villiers and van Staden (2006) use content analysis to examine environmental disclosure trends in the context of South Africa. They find that that legitimising objectives may also be “[...] served by changing the type (general/specific) or reducing the volume of environmental disclosures” (p763).

Another concern of interest in the extant literature is the applicability of legitimacy theory as an alternative theory or explanation for the practices of social and environmental disclosures. In this vein, Gray, Kouhy, and Lavers (1995a) use legitimacy theory; along with stakeholder theory and political economy theory; to overview and analyse thirteen years of social and environmental disclosures of companies in the United Kingdom (UK). Through mapping the trends across these thirteen years they find evidence of all four of Lindblom’s (1993) legitimising strategies, which I outline in this section below, being used. Further their complimentary analysis using three theories finds support for these being:

“[...] better seen as two (overlapping) perspectives on the issue which are set within a framework of assumptions about “political economy”. Therefore the differences [...] are differences in levels of resolution of perception rather than arguments for and against competing theories as such.” (Gray et al., 1995a, p52)

Another relevant question is whether the disclosure tactics an organisation employs changes based on whether the organisation is seeking to gain, maintain, or repair legitimacy. O’Donovan (2002) examines this very question through the use of a quasi-experiment centred on interviews structured around four scenario vignettes. He finds that the legitimacy tactics

that managers are most likely to deploy differs with whether the organisation is seeking to gain, maintain, or repair legitimacy.

Notably, in doing this research O'Donovan (2002, p347) introduces the term "conferring publics" to distinguish the stakeholders that have the required attributes to confer or withhold legitimacy for the organisation in question. I will note in chapter six that it is important to understand who the organisation believes or perceives to be their conferring publics. That is, it is who the organisation believes or perceives to be their conferring publics that they will treat as their relevant publics. Further O'Donovan (2002) notes that an organisation's legitimacy may be affected by changes it makes and also through changes in the composition or values (through evolving social awareness, regulatory or institutional pressure, media influence, interest group pressure, corporate crises) of the conferring publics.

In relation to changes in the composition or values of the conferring publics, the extant literature includes examples of research looking from their perspective. For example, Deegan and Rankin (1997) use legitimacy theory to investigate, via a questionnaire, the perception of annual report users of the relative usefulness of the environmentally focused disclosure in terms of their own decision making processes. They find that the perception of how relevant the disclosures are to the decision making process differs significantly across different types of stakeholders. However, they also find that the financial indicators were perceived to be significantly more important than environmental performance by all of the different users of the information.

Related to this are the perceptions of those internal to the organisation that is making the disclosures. A notable example of research in this area is O'Dwyer (2002) who interprets managerial perceptions of the motives for social and environmental disclosures and non-disclosures using the theoretical lens of legitimacy theory. Through examining legitimacy as both a process and a state, a distinction that Gray et al (1995a, p54) also notes, O'Dwyer (2002) finds that while these disclosures at times assist with the process they are perceived by managers as incapable of being used to attain the state. That is, O'Dwyer's (2002, p416) research:

“[...] indicates an overwhelming perception of CSD [corporate social disclosure] as an unsuccessful legitimization mechanism. Therefore, while CSD is sometimes perceived as being employed as part of a legitimacy process, its employment in this manner is ultimately

viewed as failing to aid in securing a state of legitimacy for organisations.”

Thus, combining these two studies we can see that external perceptions of disclosures differ across different stakeholders with financial indicators being perceived as a better base for decision making (Deegan & Rankin, 1997) and that internal perceptions could be characterised as a level of cynicism towards the legitimising abilities of such disclosures (O'Dwyer, 2002). In terms of this evidence we can begin to question the ability of these reports to assist with decision making processes. Cooper, Taylor, Smith and Catchpole (2005, p957) suggest that “[...] Social and Environmental Accounts that do not make connections with the rest of the social totality will be flawed in terms of their usefulness in making socially effective and efficient decisions.” The natural progression from questioning the usefulness of these reports in terms of decision making is to question what their intended role is.

Prior to proceeding to formalising this line of enquiry, I first address who the relevant or conferring publics of standalone sustainability reports are. The majority of the research that I refer to above examines disclosures within annual reports. However this is probably more a reflection of the practice of standalone reports being a relatively recent trend and as a result a “[...] phenomena that is under-explored in terms of the characteristics of these reports, who produces them, how they sit within organisational routines and how they are experienced by those outside of producing organisations.” (Bebbington et al., 2008b, p371). Thus when Neu et al (1998) overview the relevant publics of environmental disclosures they do so for annual reports rather than standalone sustainability reports. They suggest that the relevant publics who utilise the annual report include financial stakeholders, regulators, and environmentalists. While Neu et al (1998, p269) note that organisations use a variety of different means of media, “[...] the annual report appears to be the preferred method for communicating with the aforementioned relevant publics as opposed to the general public [...]” as “[...] the annual report possesses a degree of credibility not associated with other forms of advertising.” This is echoed by Buhr (1998, p186) who, in commenting on why she focuses on the annual report, notes:

“There are many other communication vehicles employed by a corporation such as verbal communication, advertising, public

relations brochures and employee newsletters. However, none of these has the “legitimacy” of the annual report.”

Similarly Milne and Patten (2002, p373) comment on the need to identify who the intended recipients of these disclosures are. They follow Neu et al (1998) in assuming that the environmental disclosures within annual reports are aimed primarily at the financial stakeholders. Since the move to standalone sustainability reports it is questionable whether this is still applicable. Regardless of this, there is still relevance in Milne and Patten’s (2002, p382) comment that “[t]he focus has largely been upon what firms are doing with information rather than upon whom the actual or intended recipients might be, and what they are or are expected to be doing with the information.” In a consistent comment Owen (2008, p248) notes “[...] little attention appears to have been paid as to how (or whether) the legitimisation process itself works or what its effects might be.” Thus, through the use of the practice orientated theoretical lens of ANT, I aim to contribute to the extant understanding of legitimacy theory through focusing on how the legitimising process works. Given the focus on reporting (Milne, 2007; Owen, 2008) within the SEA literature as the main legitimising device, I start this investigation through re-examining its role within this process. Hence the first research question is formally stated as:

2.1 What is the role of the sustainability report in the process of attaining legitimacy?

The belief in the dominance of reporting as the main device through which legitimacy is strived for is reflected in the following:

“Where managers perceive that the organisation’s operations are not commensurate with the “social contract” then, pursuant to legitimacy theory, remedial strategies are predicted. Because the theory is based on perceptions, any remedial strategies implemented by the manager, to have any effect on external parties, must be accomplished by disclosure. That is, information is necessary to change perceptions. Remedial action which is not publicised will not be effective in changing perceptions (Cormier & Gordon, 2001). This perspective, as provided by legitimacy theory, highlights the strategic importance

(and power) of corporate disclosures, such as those made within annual reports and other publicly released documents.” (Deegan, 2002, p296)

Thus it appears that the main and most effective means of publicising remedial actions for breaches in the social contract is within annual reports or more recently in standalone sustainability reports. In examining this I do not dispute the need for publicising but question the sustainability report as the main or most effective means given the level of cynicism for these by organisational managers (O'Dwyer, 2002). In relation to this I turn to Owen (2008) who suggests that there is no clear agreement as to what SEA is. Owen (2008) suggests that guidance can be gained from the work of Gray (2002) and Deegan and Soltys (2007). For instance Gray (2002, p692) notes that it “[...] can usefully be thought of as the universe of all possible accountings” that go beyond merely the economic. With this definition in mind it seems perplexing that SEA research and resulting literature still seems to have a heavy focus on reporting given the multitude of different types of accounting presented in the academic literature outside of that which is focused on SEA issues.

In reflecting on this dominance in the SEA literature on reporting, Ball (2007, p760) notes that the accountants within her case organisation did not really have anything to do with the practice of environmental accounting and reporting. This means, as Ball (2007) notes, that typically SEA research has mainly focused on the interface between the organisation and society. However Ball (2007) suggests that SEA research should examine, as it has recently started to, the internal pressures within the organisation that come to bear to respond to external pressures.

Adams (2002), in earlier research, also notes the potential problems with a narrow focus on reporting. As was the case with Ball (2007), within all seven companies in her study; when looking to perform interviews around health, safety, and environmental reporting; she was referred to either the head of the environmental department or someone within the corporate communications department (see also Gray et al., 1995b commentary on the involvement (or lack thereof) of accountants in environmental related organisational change). Thus Adams (2002) notes that the narrow focus on reporting and those involved in it may miss some of the more comprehensive understandings of the practices involved with SEA. Further she outlines the large variety of media her case organisation uses to distribute and communicate health, safety and environmental information. Adams (2002) also overviews the lack of knowledge surrounding the internal contextual variables that influence

reporting practice which she categorises into the two broad areas of the process of reporting and the attitudes of internal actors.

Within the case organisation I study in this thesis I also find, in line with Ball (2007) and Adams (2002), that the sustainability report was the domain of the Corporate Affairs Manager rather than those within the accounting function. This appears to be consistent with Parker (2005, p850) who notes that accounting and accountants seem to hold SEA as barely relevant. As I note above, and elaborate on in more depth in chapter six, this attitude was clearly demonstrated at my case organisation with the sustainability report viewed as a "hygiene" factor [Chief Financial Officer (CFO)] or worse still "a fly in the ass of the elephant" [Managing Director (MD)]. This level of cynicism contrasts with the dominant perspective, as I outline above, in the SEA literature of the importance of such disclosures. Deegan and Rankin (1997, p568) sum up this perspective by stating that "[a]ny view that annual report disclosures of environmental information affect the perceptions or decisions of annual report readers (whether this view is held by researchers who adopt legitimacy theory, or otherwise) relies on a belief that the disclosures matter – that is, that the disclosures have an impact on the various decisions to be made"

Given this apparent paradox between the apparent cynicism for SEA reporting by practitioners (O'Dwyer, 2002) and the perspective within the SEA literature, I question why it is that reporting has held such a dominating position within the literature utilising legitimacy theory. Further, it opens up the possibility that organisations seek to maintain their legitimacy through other means than the sustainability report. Thus the second research question specifically seeks to better understand this possibility and is formerly stated as follows:

2.2 In relation to question 2.1 what is the role of other management controls in the process of attaining legitimacy?

Through focusing on the broad practices of organisations as they strive to maintain their social contracts with their relevant publics I seek to understand not only the role of the report but also allow for other management controls to have a role within this process. Hence this will allow us to better understand why and how many management controls are enrolled during the process of an organisation trying to gain or maintain legitimacy. Further this more holistic understanding allows us to place in perspective the relevant importance of the sustainability report in this process. As we will see when examining the data from the case organisation in chapter six this widening of focus to include a much more comprehensive

understanding of what SEA is or can be is not only desirable but also necessary in order for a more comprehensive and coherent body of knowledge to develop.

Further, the more striking question that will develop out of the data from the case organisation is whether all these management controls have the same role. In order to address this question I must utilise a framework for classifying what these roles are. Deegan (2002, p296) notes that in terms of frameworks to classify the strategies undertaken by organisations in relation to striving for legitimacy, two have seen predominant use in the SEA literature, namely Dowling and Pfeffer (1975) and Lindblom (1993). In this research I select Lindblom's (1993) framework to utilise, albeit that it is unpublished, due to it drawing from Dowling and Pfeffer (1975) and having been extensively cited within the SEA literature.

Lindblom (1993) outlines four strategies through which organisations seek to obtain legitimacy. The first of these strategies is whereby the organisation makes actual changes and informs their relevant publics of these changes. Much of the extant SEA literature that utilises legitimacy theory tends to overlook this first strategy as Bebbington's (2007, p233) notes in her comment that "[l]egitimacy-theory informed investigations, however, tend to assume that organizations use social and environmental reporting to ensure that change does not happen." The second is whereby the organisation attempts to educate and inform the relevant publics of the appropriateness of their actions. The third is the association of the organisation with a powerful legitimising symbol in order to distract the attention of their relevant publics away from areas that may provide a legitimacy crisis. The fourth and final strategy is where the organisation strives to make adjustments to the perceptions of their relevant publics. These four strategies have been used to investigate diverse areas however in this thesis the focus is directly on the process of our case organisation trying to achieve legitimacy. Hence the third research question is as follows:

2.3 If other management controls play a role in the process of attaining legitimacy then which of Lindblom's (1993) four strategies are being used?

Prior to proceeding to the next section, there is one side issue that I need to address. While above I have argued that legitimacy theory provides a suitable context within which to investigate the second research aim, I do not however use it, as Deegan (2007) describes it, as a positive theory. Specifically, while acknowledging that it is derived from political economy theory, Deegan (2007, p127) suggests that:

“It is not a theory that is used to provide prescription about what management *ought or should* do. Hence, it is generally accepted that legitimacy theory is a *positive theory* (it seeks to explain or predict particular managerial activities).” (Deegan, 2007, p129, emphasis in original)

In this thesis legitimacy theory is not being used as a positive theory, as Deegan (2007) suggests, as I am not seeking to explain or predict. Rather I am using it instead as an analytical or conceptual framework to assist with understanding (some of) the situated practices of the actors in their mundane lives (Garfinkel, 2002).

Therefore, in closing this section I note that the use of ANT does have specific implications in relation to how legitimacy theory can be operationalised within this thesis. Specifically ANT as a practice theory, and referring to the outline I provide in chapter two, is highly applicable to the use of legitimacy theory, which is also “[...] considered to be a systems-orientated theory” (Deegan, 2002, p292). However, as Reckwitz (2002, p254) notes “[i]n practice theory [...] discourse and language lose their omnipotent status” as “[d]iscursive practices are one type of practices among others.” This possibility has at times been recognised within the sustainability accounting literature. For example during his discussion of what is sustainability, based on an extensive and comprehensive overview of the epistemological uncertainty that surrounds this concept, Gray (2010, p55) notes “[f]rom here we may proceed with reasonable confidence that sustainability is not exclusively a discourse structure.” This does not, however, correspond to not recognising the potential for discourse to have a central and critical role within the process under investigation. As Tinker et al (1991, p41) suggest “[d]iscourse is not passive but transforming, situated within history as projection and interpretation, contributing to lineages of meaning, and recreating ways of knowing and ways of doing.” Rather it does correspond to allowing for other types of practices to take this central and critical role. Thereby I do not presuppose which practice will take what role within any given process. Hence in using the theoretical lens of ANT to investigate legitimacy theory I do not give any a priori privileging to the sustainability report. Rather I trace the associations that make up the translation process of the case organisation as it strives to attain legitimacy to better understand the role of all the different types of management controls within this process.

In summary the second research aim of this thesis, as I develop and motivate in section three above, is formerly stated as follows:

2. Investigate whether focusing on MCS can extend our understanding of issues around sustainability.

Due to this research aim being too broad in this section I outline, develop and motivate three research questions as follows:

- 2.1 What is the role of the sustainability report in the process of attaining legitimacy?
- 2.2 In relation to question 2.1 what is the role of other management controls in the process of attaining legitimacy?
- 2.3 If other management controls play a role in the process of attaining legitimacy then which of Lindblom's (1993) four strategies are being used?

3.7 Issues of concern

Prior to concluding this chapter I will touch on two issues that require clarification. The first, which I cover in the first part of this section, is in relation to engagement and managerial capture. The second issue, which I cover in the second part of this section, is in relation to why I choose largely not to draw from the body of literature that can be summarised under the heading of environmental management accounting.

3.7.1 Engagement and the issue of managerial capture

The first issue I wish to clarify before proceeding with the remainder of this thesis is in relation to, as Adams (2002), Gray (2002), Parker (2005), and Adams and Larrinaga-Gonzalez (2007) note, the lack of studies that report engagement with practice. Parker (2005, p849) in particular notes “[...] the former criticism carries some justification in that the majority of theorising has been deductively derived and that the SEA field has yet to seriously attempt any significant inductive theorising from field derived data.” Further Bebbington (1997, p367) suggests that engagement has as its aim the changing of the practices with which the researcher engages. Promisingly Owen (2008) notes an increase since 2004 of field based research but much of this still focuses on reporting. However in terms of the lack of engagement, Adam and Larrinaga-Gonzalez (2007, p334) note that “[...] there is a need to study the way in which it [SEA] is used, in order to understand what factors drive or prevent changes towards improved sustainability and accountability performance.”

Bebbington (1997, p367) suggests that “[a]t the core of the concerns of the critical school [...] is whether environmental accountants’ engagement with practice avoids being captured by the powerful interests with which they engage.” Thus the issue of concern, which Adams and Larrinaga-Gonzalez (2007) note constrains research that engages with organisations, is the problem of “managerial capture”. O’Dwyer (2003, p524) defines the term as “[...] the means by which corporations through the actions of their management, take control of the debate over what CSR [Corporate Social Responsibility] involves by attempting to outline their own definition which is primarily concerned with pursuing corporate goals of shareholder wealth maximisation.” Parker (2005) points to how Tinker and Gray (2003), O’Dwyer (2003), and Bebbington (1997) hold concerns regarding how SEA research has been implicit in the managerial capture of SEA and thereby preventing a more radical intent to develop. Therefore this concern is around whether managers within the organisation being engaged will utilise the research to further their own business as usual perspective and in doing so capture the change agenda that is implicit in SEA research (Gray, 2002). Owen (2008) also notes these concerns and refers to Deegan and Blomquist (2006), Ball and Seal (2005), and Neu and Gomez (2006) as raising concerns as to whether changes in organisations are merely within business as usual without much actual SD and really only aimed at creating legitimacy. However this does allow for the possibility of engagement that enables rather than constrains the possibility of change beyond the business as usual mentality (Bebbington, 1997, p368). Adams and Larrinaga-Gonzalez (2007) put forward the possibility of engaging with organisations while at the same time maintaining a critical distance and in doing so the research not suffering from managerial capture. But in doing so we must first arm ourselves with research methodologies that allow such engagement.

I put forward practice theory, and more specifically ANT, as a theoretical lens that has the potential to overcome the concerns of managerial capture. Practice theory has the potential to assist the SEA researcher, through examining actual methods and practices that actors utilise within the field, which lead to insights about whether the changes seen are real or just perceived. The central concern (see Tinker & Gray, 2003) of managerial capture is that “engagement with organisations will end up being irrelevant because it will not change practice” (Adams & Larrinaga-González, 2007, p338). Doing research that uses ANT to extract knowledge from practice will of course fall into this category as it will not in and of itself change the practices. However without knowledge and understanding of the mundane practices which actors use to make themselves understood in their daily lives (Garfinkel,

2002) it would seem impossible to know how change can be effected to move towards a more socially and environmentally responsible state of being.

However this is not to say that using practice theory, and specifically ANT equates to managerialist research (see Dey, 2007b; Owen, Swift, Humphrey & Bowerman, 2000). As Gray (2002, p699) notes “[...] managerialist accountings can have the (unintended?) consequence of strengthening organisational legitimacy and thus permitting the capture of social and environmental agendas by the business structure.” Research using the theoretical lens of ANT focuses on the practices actors use within their normal and mundane lives and not just those of the managers or some other class of actors given a privileged status by the researcher. With the use of ANT the important point is to follow the actors (Latour, 1987) and let them decide what the groups of interest are to be without presupposing or privileging any actor or groups of actors (Latour, 2005). Prior to concluding this chapter, I first in the next part of this section overview a body of literature that I specifically have chosen not to reference due to its managerialist perspective which thereby makes it susceptible to the very concerns that I outline here.

3.7.2 *Environmental Management Accounting (EMA)*

The second issue I wish to clarify before proceeding with the remainder of this thesis is in relation to why I choose on the whole not to draw from the body of literature that can be summarised under the heading of EMA (Owen, 2008, p244). A way to define EMA is to note that it is “[...] the generation, analysis and use of financial and related non-financial information in order to integrate corporate environmental and economic policies, and build sustainable business.” (Bartolomeo, Bennett, Bouma, Heydkamp, James & Wolters, 2000, p37)

Examples of EMA include Bartolomeo et al (2000) who provide findings from a project that focuses on Europe and on the present and future links between environmental management and management accounting. They find that EMA can assist with the identification of hidden costs which supports the case for waste minimisation and that there is some evidence to suggest that modifications to activity based costing (ABC) may enable it to become a useful tool for EMA purposes. A further example is Burritt, Hahn, and Schaltegger (2002) who develop what they label as a comprehensive framework for EMA that they believe provides the most appropriate structure for management use. Yet another example is Burritt and Saka (2006) who find that links between eco-efficiency measurement and EMA information is underdeveloped in the Japanese context.

Burritt (2004) overviews problems with conventional management accounting in addressing information in relation to environmental issues. These problems include environmental costs are underestimated and usually included in general business overheads, short term focus of performance appraisal techniques which exclude environmental considerations, and a general absence of accounting for externalities. He concludes by discussing the merits, downside, and potential of EMA in addressing these concerns. In the same vein, Gale (2006) applies an EMA methodology to the financial report of a Canadian paper mill and finds that the environmental costs this methodology calculates are roughly twice that reported by the paper mill.

While a small amount of this type of research has broadened its focus onto management controls and MCS it does so from the same perspective of business as usual, which Milne et al (2009) caution amounts to a potentially dangerous impression of “doing” sustainability. One example is Epstein and Wisner (2001) who overview the potential benefits of using a balanced scorecard to implement sustainability strategies. However the authors do not address the issue of their sustainability focused balanced scorecard still embedding the underlying purpose of a balanced scorecard which is aimed at economic growth and resulting ecological destruction. Therefore it would seem that these sustainability focused balanced scorecards are in line with weak form sustainability rather than a much more needed strong form focus.

Further examples, which all have a similar focus on weak form sustainability, include Epstein and Wisner (2005) who survey Mexican manufacturers to examine the relationship between MCS and environmental compliance. They find that the degree of management commitment, planning, belief systems, measurement systems, and rewards will affect the success of environmental compliance. Another example is Burnett and Hansen (2008) who utilise data envelopment analysis to investigate eco-efficiency and MCS. They find that efficiency improves within a given plant as the amount of polluting decreases. A final example is Henri and Journeault (2010) who also use a survey to investigate the extent that eco-control influences an organisations environmental and economic performance. They find that eco-control has an indirect effect, via environmental performance, on economic performance but only in specific contexts.

With reference to these examples we can see that EMA falls within what Everett and Neu's (2000) label as ecological modernism as it downplays critical issues such as social justice and ecological limits and in doing so may end up championing the status quo, business as usual mentality. Thus while EMA arguably and commendably moves beyond conventional

management accounting, labelled as exploitationism by Milne (1996), it is debatable whether it goes far enough as it is still firmly entrenched in a business as usual mindset (Bebbington, 1997, p368). Bebbington and Gray (2001, p561) outline concerns that this body of literature amounts to “[...] non-analytical, professionally orientated managerial literature in which an unquestioning style assumes environmental management and environmental accounting will deliver holy grails.” Hence EMA falls within what Owen (2008, p246) refers to as “[...] an overly managerialist perspective which offers little challenge to the status quo.” Further as Gray and Milne (2002, p69) note “[e]ven profitable, efficient organisations operating state-of-the-art environmental management practices can be unsustainable if they are increasing throughput.” Given that the definition of sustainability that I use in this thesis and the broader focus on MCS differ significantly with EMA, I therefore on the whole do not utilise this body of literature in this thesis.

3.8 Chapter summary

In the next chapter I provide an overview of the case organisation and the research methods I utilise to gather data. However, prior to proceeding to this chapter I first provide a summary of this chapter. Subsequent to introducing the chapter in the first section I develop an understanding of sustainable development and sustainability in the second section. The prime difference between these two concepts is that the former is a process that aims to try and implement the latter, which is a dichotomous state, that is we are either sustainable or we are not. I therefore define the state of sustainability as humanity not over-consuming the resources available to them and thereby irreversibly depleting the levels of natural capital (Wackernagel & Rees, 1996) while at the same time ensuring an equitable and fair distribution, both within the current generation as well as across all future generations, of the resources available (Milne & Gray, 2007). The purpose of defining sustainability in this way is to provide context for the discussion within the rest of this thesis.

With this definition in place I motivate the two research aims that I investigate in this thesis in section three. In motivating these two research aims I note that Berry et al (2009) make the observation of a lack of research at the intersection between sustainability and MCS. After exploring the potential reasons for this I develop the following two research aims:

1. Investigate whether the context of sustainability is useful in furthering our extant understandings of MCS.

2. Investigate whether focusing on MCS can extend our extant understandings of issues around sustainability.

In section four I concentrate on the developing of research questions in relation to the first research aim. To assist with this I enrol Simons' LOC (1995) and focus on research questions that may provide evidence in support of the first research aim. Specifically as the underlying rationale for research in accounting for sustainability is an agenda of change (Bebbington, 2007), which first requires a significant shift in the current capitalist mindset, I focus these questions primarily on belief systems. Therefore, the questions are as follows:

- 1.1 How are core values within the belief systems developed?
- 1.2 How is this process influenced by and how does it act upon other management controls?

I then proceed to addressing the second research aim. Before developing specific research questions I outline, in section five, the limited extant literature on accounting for sustainability. I therefore justify drawing on the broader and more established SEA literature. From the many streams of research within this literature I select legitimacy theory as the most promising perspective to assist with developing applicable research question with which to assess the support for the second research aim.

In section six I then develop these specific research questions. I do so by firstly providing an overview of the extant literature on legitimacy theory. In doing so I note that this largely focuses on reporting. Hence I seek to understand whether our understandings of legitimacy theory can be broadened through a more holistic re-examination through the use of a broader MCS perspective. Thus the questions I develop are as follows:

- 2.1 What is the role of the sustainability report in the process of attaining legitimacy?
- 2.2 In relation to question 2.1 what is the role of other management controls in the process of attaining legitimacy?
- 2.3 If other management controls play a role in the process of attaining legitimacy then which of Lindblom's (1993) four strategies are being used?

Finally in section seven I detail two issues of concern, managerial capture and not drawing from the broad literature that is known under the heading of EMA. With the appropriate literature in place and the development of two research aims and five related research questions complete, I now turn, in the next chapter, to providing an overview of the case organisation and the research methods I utilise to collect data.

CHAPTER FOUR – CASE STUDY AND RESEARCH METHOD OVERVIEW

4.1 Introduction

In the previous two chapters I provide an overview of the theoretical lens and research questions respectively. I now turn in this chapter to providing an overview of the case organisation. Further, in this chapter, I outline the methods through which I collect, organise, and analyse the data from this case organisation. In doing so, I provide an understanding of the connections between data, theoretical lens, research questions, and research aims. In this respect I note that to provide a full and extensive answer to the research questions would require a description of so many actors and associations as to not be practical given the space restrictions of this thesis. Thus in line with Law (1986) I concentrate instead on the critical actors and associations through which I can gain meaning in relation to the research questions asked in this thesis. Therefore the aim of this chapter is to provide the context for this analysis through describing the case organisation studied and to provide a general overview of the events that I focus on.

I structure the rest of this chapter as follows. In section two I outline and justify the selection of the case study research method. I follow this in section three with an overview of the case organisation, Kiwi, where I collect my data from. This overview includes a description of the Australian based organisation, Koala, which Kiwi is the New Zealand operations of and the United States based organisation whose products they manufacture under license. Section four then overviews the process I use to collect and analyse data from Kiwi. I then in section five provide a brief description of the translation process at Kiwi centred on attempts to introduce sustainability related concerns to the organisation. I close in section six through providing a brief summary of the chapter.

4.2 Appropriateness of case study as the research method

The aim of this section is to outline the appropriateness of using a case study research method to investigate the research questions that I develop, motivate and outline in chapter three. The starting point for this justification is to note that in relation to economic orientated research that focuses on issues around the ecology, such as I undertake in this thesis, Constanza (1989, p2) states “[t]here is probably not one right approach or paradigm, because, like the blind men and the elephant, the subject is too big and complex to touch it all with one limited set of perceptual tools.” However, in deciding upon a method to use to investigate the research questions I note that this decision is guided by my choice of theoretical lens (Crotty,

1998; Ryan, Scapens & Theobald, 2002), which I outline in chapter two. The theoretical lens, actor-network theory (ANT), that I use in this study focuses on the situated practices (Garfinkel, 2002) of actors in their mundane lives. According to Scapens (1990, p278) “[...] case studies should explore the day-to-day accounting practices of real people in the context in which they work.” While the focus of this thesis is broader than just accounting practices, this still suggests that a case study is an appropriate method for my research questions given the use of the theoretical lens of ANT.

As I note in chapter one, the two research objects of this thesis are MCS and sustainability, both of which I further define and elaborate on in chapter three. The use of a case study as a research method can also be seen to be appropriate given these two research objects. In respect to the first research object, MCS, I refer to Scapen’s (1990, p264) who suggests “[c]ase studies offer us the possibility of understanding the nature of management accounting in practice; both in terms of the techniques, procedures, systems, etc. which are used and the way in which they are used.”⁷ Through demonstrating how the benefits of a case study method relate to the generation of knowledge of MCS use in practice, this, therefore, also links back to the theoretical lens of ANT and its focus on situated practices. Further, the appropriateness of using a case study method for researching MCS is seen in Berry et al (2009, p16) making the following statement:

“[...] it seems essential that more emphasis should be placed on the study of real control systems as they operate in practice. Theoretical speculation has its place, but it needs to be strongly grounded in organisational reality. This is especially true of an integrative activity such as MCS design and use. The advantages of field studies⁸ in this context are considerable. They help ensure that the many factors that influence the results of a control systems operation are considered. They help focus on issues that are very real to organisations, and they allow the changes that occur over time to be monitored.”

⁷ In chapter one, section three I outline how management accounting is a subset of MCS. Thus, while this quote refers to management accounting I contend that it holds true for MCS of which management accounting forms part.

⁸ It may be argued that differences exist between field studies and case studies. While acknowledging these differences, in this thesis the two are considered essentially the same and therefore at times I may use or, as the case is here, refer to them interchangeably.

In respect to the second research object, sustainability, and specifically, as I outline in chapter three, the underlying need for change in this respect, we can see that a case study method has the potential to provide new understandings. Bebbington (2007, p236) in her review of research on sustainability and the need for change notes that “[o]ne observation that can be drawn from the above is that there is a relative dearth of studies of change that focus on particular organization settings [...]” with “[t]he most likely way in which we would be more informed on organizational change is via in-depth case studies of change moments in organizations”. Thus, this statement lends support for the appropriateness of using a case study method in this thesis.

I note that Bebbington (2007, p236) continues through suggesting that “[g]iven the relatively recent history of accounting/reporting for SD, it is too early to see 5- to 10-year case studies of organizational change, yet it is this type of study that is required.” As I outline below, the case study in this thesis covers a period of five years. However, the time span over which I collect data at the case organisation is eighteen months. Therefore, while the data covers the period that Bebbington (2007, p236) suggest as beneficial my time within the organisation collecting data does not and as such is a limitation of this research. But as with all limitations this is a potential area for future research to address.

Before proceeding to the next section, where I provide an overview of the case organisation, I note that the use of a case study method has specific implications most notably in relation to the limits of being able to generalise the findings. However, in this respect Milne et al (2009, p1221) note that case studies “[...] permit in-depth interpretative analyses and understandings of specific practices at specific times or over specific periods, and within specific contexts (Llewellyn, 1992; Ryan et al., 2002; Scapens, 1990; 2004)” Further, Scapens (1990, p260) notes that “[i]n particular, research informed by social theory is likely to make rather different uses of case study methods compared to research informed by traditional economic theory.” Hence here, as I note in chapter two, I use it as a critical case study (Flyvbjerg, 2001). Therefore my aim is not to provide findings to generalise to a specific population but rather, as Scapens (1990, p273) notes in relation to a critical case study, “[t]he objective of such a case study would be to determine whether the theory provides good explanations, or whether alternative explanations need to be developed.” That is, I utilise the theoretical lens of ANT to reflect the understandings of the practices I observe at the case organisation on theories of management control and sustainability in order to further our knowledge in these areas. Thus, in combining the case study method with the theoretical lens of ANT I am aiming, as Boedker (2010, p613) suggests, to:

“[...] trace the footsteps and activities of real people in organisations as they travel through life looking for surprises, expansions and leakages, which may not be visible in scientific models and quantification. Here, the focus is on change, surprise and unpredictability. The world is a messy and complex place and researchers should reveal and investigate this, not silence it.”

I now, therefore, turn in the next section to outlining the case organisation that provides the setting within which I gather data in order to address the research questions and research aims in turn.

4.3 Case organisation overview

The aim of this section is to provide an overview of the case organisation that is the subject of this research and, as such, from which I gather data in relation to the research questions that I develop, motivate and outline in chapter three. I provide in the first part of this section an overview of the case organisation, in its broadest sense, in order to situate it within a global context. Then in the subsequent parts of this section I explore the composite parts of this organisation. To start this I provide a description of the case organisation, Kiwi. I then overview Kiwi’s parent company, Koala, prior to providing details of the multinational organisation, Eagle, which they are, in turn, part of.

4.3.1 Overview of structure

The case organisation, Kiwi, where I collected the data from and the greater network that it forms part of is depicted in figure two below. From figure 2 we can see that the case organisation, Kiwi, is a socio-technical agencement (STA)⁹ set in a network of other STAs and associated networks. That is, Kiwi is the New Zealand operations of the organisation, Koala. In turn, Koala has the license to manufacture the products of Eagle within five countries. Further, Eagle, has over three hundred similar organisations in the majority of countries, or parts thereof, throughout the world that manufacture its products within their local settings. Thus, collectively all these STAs and associated networks make up the Eagle group of companies and thereby can be considered as a truly large multinational organisation.

⁹ Refer to chapter two, section three, subsection four for a description of STAs.

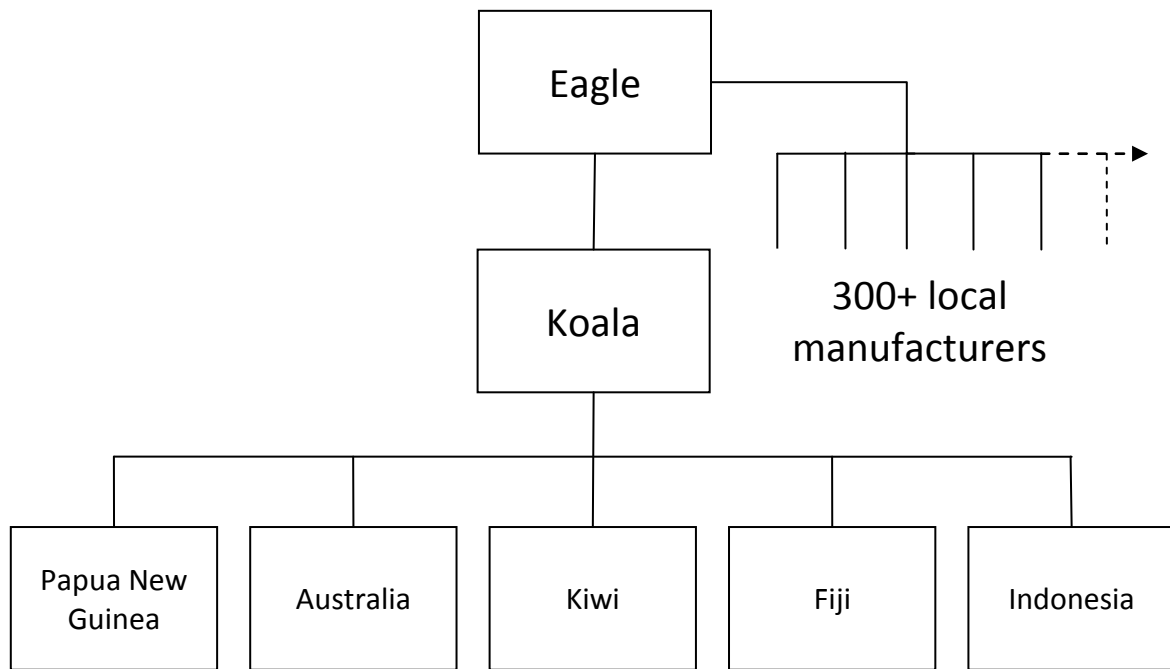


Figure 2: Organisation structure

In the remainder of this section I will unpack and describe some of these STAs and elements of some of the associated networks. However, it is not necessary for the purposes of this thesis to describe in depth the entirety of these STAs and associated networks. Hence, in the next part of this section I start this overview with a context setting description of the STA, Kiwi, which constitutes the unit of analysis for this thesis.

4.3.2 *Kiwi*

The case organisation that I select for this research, ‘Kiwi’, is the New Zealand manufacturer of arguably one of the best known organisations in the world and operates in the fast moving consumer goods (FMCG) industry. In New Zealand they are market leaders in two of the product lines that they compete in and have interests in all product lines within its market sector in order to support their core products. It offers a range of internationally recognised brands along with local brands including one that is widely recognised as a New Zealand icon. Kiwi mainly supplies the products they manufacture to their customers who are retailers of FMCG; such as supermarkets, petrol stations, and corner shops; who in turn sell them to the end consumer.

Kiwi employs approximately one thousand people across sixteen sites located throughout New Zealand, five of which are manufacturing sites with the remainder being

distribution sites. Kiwi has a traditional structure with a Managing Director (MD)¹⁰ heading up the senior management team, known within Kiwi as the New Zealand Leadership Team (NZLT). The NZLT, in turn, comprises General Managers (GM) of specific functional areas and includes, for example, the Chief Financial Officer (CFO), the GM People and Performance, and the GM Operations. While this leadership structure remains relatively stable, changes are made when required. For example when the GM Corporate Affairs left Kiwi in March of 2009 her position was disestablished and her responsibilities were taken up by other members of the NZLT. Below each of the members of the NZLT the structure of each functional area differs. However, each functional area has a structure of managers and employees that is appropriate to its focus.

I detail the process through which Kiwi was selected as the case study organisation in section four below. However, the reason for choosing Kiwi is due to their unique structure, which I overview in this section, and the extensive and unique sustainability challenges that they face. That is, as a manufacturer in the FMCG industry, Kiwi is highly reliant on the resources they obtain from the ecosphere for their continued profitability and survival. For example, as the former Director of Sustainability Value Chain Initiative for Eagle commented on during his interview¹¹, the combined and extended networks of Eagle purchase something like four percent of the world's sugar supplies each year. During her presentation¹² to an undergraduate class at the University of Auckland the Project Manager Finance noted that this compelled Kiwi to track and try to predict world sugar prices in order to try and foresee potential problems prior to them occurring. Further she noted that this has become especially relevant since a portion of the available sugar supply has started to be diverted to the production of bio-fuels.

The reliance on resources extracted from the ecosphere is compounded for Kiwi through their past profitability and success being largely based on the promotion of consumerism. As I note in chapter three it is the incompatibility of our economies, which focus on growth and thereby encourages consumerism, and an ecosphere of limited resources

¹⁰ The MD of Kiwi is also responsible for Koala's Fijian operations. However, besides having a common MD the rest of the Fijian structure is wholly separated from Kiwi. Thus, I only note this for the purposes of accuracy. As this study only focuses on the New Zealand operations of Koala the remainder of this thesis only includes research that relates directly to Kiwi.

¹¹ Specifically the Director of Sustainability Value Chain Initiative for Eagle commented, during his interview on 24 November 2009, that "Eagle buys something like 4% of the worlds sugar, which is a hell of a lot of sugar but it's actually not enough market power to drive real change in the way that sugar gets grown and sugar is incredibly water intensive."

¹² This presentation was held on 13 October 2008 to the undergraduate management accounting class of Dr Chris Akroyd. I give further details of the importance of this presentation to this research in section four below.

that is responsible for the issues around sustainability. Hence, Kiwi provides the ideal context in which to observe actors and their situated practices as they try to address this tension.

Finally I note that Kiwi operates as if it was a wholly New Zealand owned company, as their employee proposition ‘Refreshingly Kiwi’ demonstrates. However, as I depict in figure two above, they are legally the New Zealand operations of an Australian listed company, ‘Koala’, whose headquarters are located in Sydney, Australia. I, therefore, in the next part of this section, provide an overview of Koala.

4.3.3 *Koala*

Koala is one of the more than three hundred organisations that manufacture under license, and sell within a set geographic region, the products of the large well known multi-national organisation, ‘Eagle’. The set geographic region for Koala includes New Zealand, Australia, Fiji, Papua New Guinea, and Indonesia. Koala’s head office is located in Sydney, Australia and across these five countries they employ over fifteen thousand people, have over seven hundred thousand active customers who provide them with access to over two hundred and sixty five million consumers. In 2009 Koala had revenue of just over four and a half billion Australian dollars and EBIT of close to eight hundred million Australian dollars.

Being geographically dispersed results in specific challenges in terms of management control. Primarily geographic dispersion can create problems of a trade off between giving the operations in each location the flexibility to react to rapidly changing local conditions and still maintaining control in terms of ensuring the local operation implements the intended strategy. Koala uses a boundary control and an interactive control¹³ in order to circumvent this problem. The boundary control it uses to constrain potential actions is a delegated authority system whereby each individual manager is given a specific dollar amount, appropriate for their position within the organisation, which they are allowed to authorise transactions up to. If a transaction exceeds this amount then they are required to request approval from a manager further up the hierarchy that has the appropriate delegated authority. The interactive control is the preparation of annual business plans and associated budgets. The result, within Kiwi¹⁴, is that each manager of a business subunit; for example production

¹³ These two controls were referred to by a number of actors in their interviews including the MD and the CFO. Thus my understanding of these controls is based on multiple descriptions. In the case of the annual business plans, associated budgets, and associated presentations my understanding was further enhanced through being shown several examples by a number of different individuals.

¹⁴ My understanding is that this process does not differ across all five countries. However, I only state this process in terms of Kiwi due to this being the only place where I have been able to establish the situated practices of the actors involved.

plant managers, and Sales Region Managers; prepares an annual business plan with associated budget. They are also required to deliver the annual business plan with associated budget in a presentation to the managers above them in the organisation's hierarchy. These managers, in turn, collate the business plans and associated budgets in order to present them as a whole to the NZLT. Once the NZLT has given approval for all the business plans and budgets they are once again collated and sent to Koala for approval.

This form of control at a distance allows the MD of Kiwi to have a great degree of latitude in how they operate. However, the delegated authority and the annual business planning process are not the only things that constrain available actions. That is, Koala is in turn thirty percent owned by a company from the United States of America (USA), 'Eagle'. This thirty percent ownership allows Eagle to appoint two of the eight directors of Koala. Further still Koala is reliant on Eagle for global marketing and more importantly the secret ingredient of their most famous product. That is, while Eagle only directly owns a few of the more than three hundred local manufacturers of their products, they deliver to each manufacturer a base for their most famous product, which is made up of secret ingredients. The local manufacturers then add further, well known, ingredients to arrive at the finished product. Thus for Koala, and Kiwi in turn, in order to maintain their license to produce Eagle's products and to ensure the continual flow of this secret ingredient, they are governed by strict requirements around product related metrics; such as quality, branding, and packaging. To put the relationship between Koala and Eagle further into context, I now in the next section provide a brief description of Eagle.

4.3.4 Eagle

Eagle has a history of over one hundred and thirty years. In this time they have grown from a local manufacturer operating in one southern state of the USA to now, as I describe above, having over three hundred companies, of which Koala is one, who manufacture its products in over two hundred countries. As I state above, Eagle controls the metrics around its products with the result being that wherever a consumer is in the world they are virtually guaranteed a standard product in relation to these metrics. In each geographic location Eagle maintains a local office in order to monitor the level of alignment to these metrics, as well as performing other functions such as supplying the secret ingredient and coordinating local and global marketing. In this respect New Zealand is unique in that the local office of Eagle is located on the same site, albeit in a different building, as Kiwi's head office and manufacturing plant in Auckland.

Many commentators point to Eagle's successful advertising campaigns as the main driving force behind this growth. So successful was one of their campaigns that it is credited with redefining the image of a well known Western folk lore character. However, more recently Eagle has come under increasing criticism as one of the iconic organisations seen as responsible for the rise of consumerism and thereby the sustainability issues now confronting us. This has further been compounded through the association of their products with rising diabetes and obesity levels throughout the world. As the CFO comments this image tends to be at odds with the traditional southern USA values that Eagle started out with:

“I always question sometimes the responsible marketing [...] promises that get made within the [Eagle] system but at the end of the day I do think they genuinely are the good [...] you know, deep south American, good Christian values, sort of that [...] tend to find their way through into the brand [...] cause every time we try to push the limits, you know, you don't find us with an [specific product type] [...] if we wanted to win the [specific product type] category in New Zealand we'd have [...] we'd follow the sort of the [competitor's specific product type] model which is [...] you know, soft porn, [...], focused on [...] university students and [...] all that sex sells. But you just can't go there with the system¹⁵”

Thus, in response to this mounting criticism Eagle has begun to engage in initiatives in respect to sustainability issues. This also includes forging alliances with other organisations, such as WWF, that have a focus on this area. Eagle consequently uses its influence over its local manufacturers in order to drive this focus throughout the organisation. As I note above, in the case of Koala, Eagle's thirty percent stake, the right to appoint two out of the eight directors, controlling global marketing, and holding the secret ingredient allows them to have significant influence over the operations of Koala. Thus we see in chapter five that when Eagle signalled sustainability as an important issue that should be engaged with Koala, and Kiwi in turn, were also compelled to begin to understand what this entailed.

¹⁵ The combination of Eagle and all of the companies with licenses to manufacturer within specific geographic regions are collectively referred to by actors within the organisation as “the [Eagle} system” or “the system” for short.

4.3.5 *Section summary*

The aim of this section is to provide an overview of the case organisation and in so doing provide context for the analysis that I perform in chapters five and six. Thus we see that Kiwi, the case organisation, is the New Zealand manufacturer for, and thereby ultimately part of, a multi-national organisation, Eagle, headquartered in the United States of America. That is, Kiwi is the New Zealand operations of an Australian listed company, Koala, which in turn is significantly under the control of Eagle. Eagle has this significant control through owning thirty percent of Koala, appointing two of the eight directors, controlling global marketing, and supplying the secret ingredient for their best known product. I depict this relationship in figure two above. With this overview in place I now turn, in the next section, to providing details of the data collection and analysis process.

4.4 Data collection and analysis

The aim of this section is to provide a description of the process that I undertook in relation to collecting data from the case organisation, as I describe in the previous section, and subsequently analyse in respect to the research questions; which I develop, motivate and outline in chapter three. However, prior to proceeding with this description I note that the use of the theoretical lens of ANT has implications for this process. Notably the literature on ANT provides guidance on how to approach this process. Specifically it advocates following the actors (Latour, 1987; 2005) rather than the formal organisational chart (Christiansen & Varnes, 2007). Callon (1998, p267) notes how this process is further complicated as “[...] actors belong simultaneously to several social worlds and any analysis must take this multiple identity into account in order to trace the dynamics of the interactions.” However, there is the possibility of following the actors aimlessly throughout their network given the endless number of associations that make up society and as a result we must let our research questions guide us as to how to limit the focus of our investigations (Law, 1986). These implications provide the basis to the data collection process that I describe in the next part of this section.

4.4.1 *Data collection process*

The majority of the data collection process occurred between June 2008 and November 2009. In 2008 the data collection involved attending three corporate presentations, as I summarise in appendix one, by different actors from within Kiwi. Two of these

presentations were given by senior managers of the case organisation and the other by a project manager of the finance department with who I negotiated research access.

Specifically, the first of these presentations was by the GM Corporate Affairs at the World Environment Day Business Symposium. The GM Corporate Affairs was one of four invited speakers from industry who took part in this event with her presentation focusing specifically on some of the societal aspects of the sustainability issues Kiwi was implicated in. During the attendance at this event I made the decision that the four organisations that each of these speakers represented would be ideal candidates for the case organisation for this research. This decision was based on the fact that each of these speakers attending signalled that for the organisations they represented, including Kiwi, sustainability was an issue that at some level was being engaged with. Given that each of these invited speakers was from the senior management of the organisations they were representing this further signalled that sustainability was an issue that the organisation was taking seriously. Thus at this very initial stage Kiwi was one of four organisations that I felt would be an appropriate organisation for this research. I therefore began to research each of these organisations to narrow it down to which specific organisation of the four would be the best suited to target for inclusion in this research.

On the basis of this research, by the time of the second presentation by the Project Manager Finance, I had narrowed the four down to specifically wanting Kiwi to be the case organisation. As such all that remained was to negotiate the research access, which this second presentation provided the perfect opportunity to do. The presentation the Project Manager Finance gave was to my PhD Supervisor's, Dr Chris Akroyd, undergraduate management accounting class at the University of Auckland and included an overview of some of the sustainability issues that Kiwi was specifically implicated in. Thus this presentation further convinced me of the applicability of this organisation to my research. Through Dr Akroyd I had prearranged a meeting with the Project Manager Finance which took place straight after the presentation. During this meeting I negotiated research access and set in place steps, such as writing a research overview for the Project Manager Finance to take to the NZLT, to be completed prior to entering the research site.

The final presentation was by the CFO of Kiwi, who by this stage had agreed to be my sponsor on the NZLT. This presentation involved the CFO being one of the plenary speakers at the 2nd New Zealand Management Accounting Conference. While this conference was organised by Dr Akroyd, the CFO's attendance as a plenary speaker was more fortuitous than good planning. That is, Dr Akroyd approached one of the sponsors of the conference,

CPA Australia, to request that they provide an appropriate speaker and they in turn put forward the CFO as this speaker. The CFO's presentation provided a good overview of Kiwi including an overview of their chosen strategy, revenue management practices, and again an overview of some of the sustainability issues faced.

In summary these presentations provided the opportunity to see that Kiwi would be an appropriate case organisation for this research and to subsequently negotiate research access. Further these presentations allowed me to gain an initial understanding of the case organisation prior to more formally entering the field. The presentations covered a wide range of information including the background to the case organisation, details of chosen strategy, how competitive advantage was achieved and maintained, and specific sustainability related issues that Kiwi was implicated in. I further strengthened my background understanding of the case organisation through undertaking a review of publically available data on Kiwi from the internet, annual reports, and sustainability reports.

Subsequently, in 2009 I formally entered the field to collect data. The formal data collection occurred between March and November of 2009 and covered the operations at Kiwi from 2004. I conducted interviews, made observations, and collected documents and artefacts. Interviews and observations, as I summarise in appendix one, were carried out in both Auckland and Christchurch. In total I conducted twenty three hours of interviews with all the relevant actors within the Kiwi network and key actors from associated networks in order to trace the translation around sustainability. That is, given the use of the theoretical lens of ANT the interviews were carried out at all levels of the organisation including the Managing Director; members of the New Zealand Leadership Team (GMs of individual portfolios such as People and Performance and the Chief Financial Officer); middle management (such as project managers from operations and finance; and the procurement and distribution manager); and ordinary workers (such as sales reps and distribution drivers). Following Ahrens and Chapman's (2006, p833) warning "[...] not to take for granted stability in management accounting systems¹⁶, their uses, and organisational roles" I also performed nineteen hours of observations. These observations allowed the opportunity to deepen my understanding via seeing first hand key activities in practice. Further interviews and observations were also conducted with actors from outside the technical boundaries of

¹⁶ This is yet another example where I am using a reference to management accounting as applicable to management control. I again refer the reader to chapter one for a discussion of the relation between management accounting and management control.

the case organisation including customers, suppliers, and a member of senior management from the United States headquarters of Eagle.

During interviews and observations I also had access to a large number of internally and externally available documents and artefacts, some of which, due to their sensitive nature, I was only able to view onsite at the case organisation. This included information from websites, the organisations intranet, management reports, traditional management controls (such as budgets) and more issue specific management controls (such as the organisations carbon footprint report and supporting calculative spreadsheets). I provide a full list of artefacts in appendix two. I now turn in the next part of this section to providing a brief description of the data collected.

4.4.2 Overview of data

As I describe above; the data I collect from the case organisation includes attendance of corporate presentations, interviews, observations, and artefacts; all of which are consistent with the typical sources of data that one would expect from a case study (Scapens, 1990, p274). The variety of the types of data is also consistent with the use of the theoretical lens of ANT as Hansen (2011, p120) notes in the following:

““Following the actor” but also recognition of the value of different forms of data, such as interviews, observations, document studies, etc. both represent resources that the researcher can exploit in terms of bringing translations / enactments of theoretical abstractions / conceptualizations into focus. More data – more resources”

Thus it is the aim of this part of the section to provide a description of the resources I collated through the process that I describe in the previous part of this section. Further I note that while, as I mention above, the process of collecting the data occurred during the time period of June 2008 and November 2009, the time period that the data covers extends from the beginning of 2004 until I exited the field in November 2009.

In respect to corporate presentations, interviews and observations I provide a schedule of those undertaken in appendix one. Specifically this schedule outlines that during the three corporate presentations that I attended the three actors from Kiwi presented for a total of two and a half hours. During each of these presentations I took detailed notes that recorded the key points being made in the presentation, and where time allowed what was written on the

presentation overheads¹⁷, details of any resulting discussions, and my own thoughts regarding the presentation including those related specifically to the material being presented.

The schedule also outlines the twenty three interviews that I conducted and which actor(s) were the subject(s) of the interview. From this we see that the total time for these interviews was twenty three hours with an average interview time of one hour. Each interview entry constitutes a distinct and separate event. That is, where, as is the case of the Christchurch Production Planning Manager, there is more than one entry for the same actor on the same date, these are distinct events separated by an amount of time significant enough to allow me to reflect on the previous interview and thereby prepare for the forthcoming one.

All the interviews were recorded and subsequently prepared for analysis through transcription. I personally did the initial transcription for fourteen hours of these interviews. However, once I obtained some funding for this purpose and in order to speed up the process, I had the initial transcribing of the remaining nine hours performed by a professional organisation that specialises in providing these services. Regardless of who performed the initial transcription, once this was complete I performed a second read through while listening to the recording in order to check for accuracy. It was only with the completion of this step that I progressed to analysing these transcripts, the process of which I overview in the next part of this section. As with the presentations I took notes as appropriate; recording such details as where the meeting was being held, diagrams or pictures drawn by the actor being interviewed, and any other information that I deemed to be relevant.

The final part of the schedule in appendix one relates to the observations I performed at the case organisation. This details the eighteen separate instances over which I performed a total of nineteen hours of observations. As with the interviews, each entry of an observation constitutes a distinct and separate event. That is, where there are two entries on the same day the observations were separated by sufficient time to allow for preparation for the specific observations being undertaken. Even where the locations were the same, such as the observations in the Christchurch Production Plant on 18 November 2009, not only were the observations separated by time but also the focus of the observations were on different aspects of the situated practices that occur at that location.

At times these observations involved me being given a desk at the location to work at. I spent the time making notes as to what situated practices I could observe around me, the

¹⁷ Of the three presentations the GM Corporate Affairs did not use overheads. Further, while I took notes during the presentation, I was subsequently able to obtain and retain a copy of the Project Manager Finance's overheads.

physical environment that I was located in¹⁸, and with regard to any conversations that I participated in. That is, where possible I took the opportunity to have informal and therefore unrecorded discussions with the actors who were located within the area that I was given a desk in. Further in line with Adler and Adler's (1987) discussion of the level of participation of the researcher within the case organisation, I took as active a part as was permissible in order to gain as comprehensible understanding of the situated practices as possible. Hence, for example, when I was out observing the sales reps I actively helped set up a new set of fridges within a customer's store and took part in the discussions between the sales rep and the customer. In another example, when I was observing the delivery drivers I participated in unloading the stock from the trucks and engaged in the light hearted banter with other delivery drivers from different organisations. In a final example I attended lunch time seminars for actors, located at Kiwi's Auckland production facilities, as part of an initiative to promote aspects of Kiwi's perspective on sustainability. However, despite my best efforts, due to the restrictions placed on my access by Kiwi, at best my involvement could be labelled as what Adler and Adler (1987, p36) describe as peripheral membership.

Throughout the presentations, observations, and interviews I was mindful, as the quote from Hansen (2011, p120) above encourages, to be aware of the artefacts that also may assist me with my analysis of the translation process under investigation. To that extent I provide, in appendix two, a schedule of artefacts in this regards, with a summary of these below in figure three:

	Internal only	Publically available
Documents:	51	64
General artefacts	4	3
Media	13	55
Notes	46	

Figure 3: Artefact summary

I divide the schedule of artefacts in appendix two into two categorisations. The first categorisation details whether the artefact was only available to specific actors within Kiwi who in turn shared it with me or whether the artefact is available to any member of the public. The second categorisation details whether I was only able to view the artefact on site

¹⁸ It should be remembered that the theoretical lens of ANT allows for non-human actors. As such I was interested in the physical environment in order to allow for the potential of these types of actors to participate in the translation process. Hence I recorded notes, for example, on the type of information that was posted on bulletin boards for production works to see or the details of banners hanging from the roof within the communal portion of the Head Office.

at Kiwi or whether I was able to retain the artefact, or a copy thereof, for my own records. Further I divide the artefacts into the four categories of documents, general artefacts, media, and notes.

With regard to documents, from schedule two it can be seen that I either collected or viewed one hundred and fifteen in total. Many of these relate to management controls that one would expect to find in most organisations of this size; such as business plans, budgets, scorecards and KPIs. Of specific interest with regard to these traditional management controls is Kiwi's policies, or boundary controls, which are on the whole publically available documents. That is, many of these I was able to obtain through publically available channels such as Kiwi's and Koala's websites. However, this was not to say that these, as a result, are only for show purposes as many of these policies were referred to by the actors at Kiwi during interviews and observations.

Many of these documents also relate to management controls with some form of sustainability focus. Most notably are the three that specifically focus on Kiwi's Carbon Footprint. I viewed and extensively discussed these three documents during an interview with the Project Manager Finance that largely focused on the project she headed to calculate Kiwi's Carbon Footprint. I discuss this process and these documents further in chapters five and six.

The other documents with some form of sustainability focus are the thirty six sustainability reports that I reviewed and analysed in relation to this research. The first are the two reports that Kiwi produced during the time period that this research covers. I first read these reports in the early stages of preparing to enter the case organisation, referred back to them frequently during data collection, and conducted further analysis of them at the conclusion of the data collection process. I provide further details of the analysis of these in chapter six. Another four of these sustainability reports are those that Aussie produced during the time period under investigation. I reviewed these in order to provide additional context to the actions of Kiwi. I note that they did provide information that directly relates to Kiwi but on the whole this was based on the information already provided in Kiwi's reports. The remaining thirty reports relate to other organisations that manufacture Eagle's products throughout the world. Thus these reports are from a cross-section of organisations in the extended Eagle network and all are the last reports that these organisations produced during the time period under investigation. The selection of these reports was largely guided by the need for them to be written in English. My review and analysis of these reports was a means to check, enhance and gain further validation of the findings that I provide in this thesis.

The next category of artefacts is the seven that I label as general artefacts. Of note here are the two bags with Kiwi's branding over them. One of these was given to every employee of Kiwi during the 'Sustainability September' initiative run by the Corporate Affairs Manager and contained sustainability related information, a schedule of events that were occurring during 'Sustainability September', and an energy efficient light bulb for the personal use of the employee. The second bag was a back pack, with the branding of one of Kiwi's products on it, given to every employee that participated in the 'Keep New Zealand Beautiful' event. This event involved Kiwi giving volunteering employees time off from work to participate in litter abatement on Auckland's waterfront. Hence this bag included snack food, a rubbish bag, a recycling bag, plastic gloves, some of Kiwi's products, and a t-shirt with both Kiwi and Keep New Zealand Beautiful branding on it.

The other artefact of note in this category is the LOHAS (Lifestyle of health and sustainability) branded product, manufactured by one of the organisations in the extended Eagle network located in Japan. I became aware of this product on a trip to Japan in June of 2009. My supervisor, Dr Chris Akroyd, translated the label for me with the key points being that the packaging required forty percent less material and energy to produce than other similar products. This results in the packaging having a significantly different feel to it than other similar products. I therefore took this artefact with me to subsequent interviews at Kiwi as a means of stimulating discussion.

The next category of artefacts is those that I label as media. Unlike the previous two categories, where there was an equal split between those that were only internally available and those publically available, the majority of artefacts in this category are publically available. With regard to those that are publically available on the most part the reason for their inclusion was as a result of an actor being interviewed or observed referring to it. For example, when the Corporate Affairs Manager referred to the fact that she had arranged a screening of the film "The 11th Hour" (2007) for employees, I made sure to obtain a copy of the DVD so that I could also watch the movie. This also applies to websites which I generally reviewed in order to gain a better understanding of an organisation referred to in interviews. An example of this is the website of the Packaging Council of New Zealand, which I reviewed early in the data collection process as a result of the multitude of references being made to this organisation. The exception to this is the websites maintained by Kiwi, Koala, and Eagle, which I reviewed initially as part of the background research I did prior to entering the case organisation.

The notably exceptions, in that they are not publically available artefacts, in this category is Kiwi's intranet and revenue management IT system. I was shown different parts of Kiwi's intranet by various actors that I interviewed or observed. This system obviously was changed and updated during the time I was collecting data. Therefore follow up interviews often provided an opportunity to also assess the changes and updates that had been made in the intervening time. In terms of the revenue management IT system, this is used by the sales reps in their day to day activities and they are supplied with laptops with wireless internet access in order to be able to remotely connect to this system as required. The sales rep that I spent four and a half hours observing provided an overview of this system at the beginning of these observations and I was subsequently able to watch him use this system throughout the observations.

The final category of artefacts is the set of notes, forty six in total, which I created throughout presentations, interviews, observations, and for two of the many phone conversations that I had with various actors at Kiwi. I have included these in the list of artefacts in order to provide a comprehensive and complete list. Specifically, I took notes for two phone conversations that involved more than making the usual arrangements in relation to research activities. That is, these specific phone conversations are best thought of as informal interviews. With the description of the data complete, I now turn to describing the process of analysing this data in the next part of this section.

4.4.3 Data analysis process

The process of data analysis that I undertook was guided by the theoretical lens of ANT. In this regards Hansen (2011, p120) notes:

“The aim of analysis is to produce interesting descriptions of practice that illustrate the heterogeneous, performative, and relational character of theoretical abstractions and conceptualizations. The aim is to unlock established views on a phenomenon's significance and to illustrate “the power of practice””

Therefore the process that I undertook had as its aim to understand the translation process at Kiwi and thereby construct meaning in relation to the research questions that I develop, motivate and outline in chapter three, Specifically, this requires understanding the

situated practices (Garfinkel, 2002) of the actors, both human and non-human, within their mundane daily lives.

I began the process of analysis right from the beginning of data collection. In particular, throughout the formal data collection phase I iteratively reviewed the data, the research questions, and the applicable literature. Through starting right from the early stages of data collection with this iterative process I was “[...] seeking to generate a plausible fit between problem, theory, and data” (Ahrens & Chapman, 2006, p836).

I centred the analysis on constructing the translation process of Kiwi and the issues confronting it in relation to sustainability. Through performing an iterative analysis process I was able to continually assess my level of understanding of the translation at Kiwi, where the gaps of my knowledge were, and whether the data I had collected sufficiently addressed the research questions. Thus I was seeking to construct a plausible narrative from which to extract answers to the research questions.

In order to do this I coded the data I had collected and utilised nVivo software to assist with this process. Further nVivo assisted with the organising and analysis of the data. However, the coding that I undertook did not take the form of trying to separate the data into different themes or aim to develop new theory as is the case with grounded theory (Glaser & Strauss, 1967). Rather the coding of the data had two distinct purposes. The first was to assist with the construction of the understanding of the translation process. The coding in this respect was to place data into categories of specific events, specific actors, and specific trials of strength. The second was to collate meaning around and assist with the analysis in regard to each of the research questions. For the research questions with regard to the first research aim this coding focused on creating an understanding in relation to the process through which a core value within a belief system developed and how the other LOC acted or were acted upon during this process. In respect to the research questions with regard to the second research aim this coding focused on creating an understanding in relation to the process through which Kiwi sort to attain and maintain legitimacy. Further the coding sought to provide understanding of the roles of the sustainability report and other management controls within this process. That is, through the data analysis process I was seeking to be able “[...] to articulate organisational members’ theories-in-practice and their motivations as well as the ways in which they relate to observed activities in the field” (Ahrens & Chapman, 2006, p825). Analysing the data in this way allowed me to exit the field only once I was confident that I had an understanding in respect to these research questions.

However, the data analysis process did not cease once I had exited the field. That is, I continued this iterative process of data analysis including refining and reviewing the coding. As part of this process I presented the findings as often as possible to colleagues, at doctoral colloquiums, in seminars at other universities, and at conferences. In this regards, my confidence in the findings was furthered strengthened through winning the best paper award at the 4th New Zealand Management Accounting Conference which was based on Chapter 5 of this thesis.

In November 2010 I conducted a follow up interview with an actor from Eagle at their offices in Sydney, Australia. This actor's role within Eagle of 'Sustainability Initiative Lead' for the South Pacific required him to interact with key actors within Aussie and Kiwi as they confronted their sustainability related issues. As a result this actor has in depth knowledge of the translation process at Kiwi that I researched. This interview provided me with the ideal opportunity to gain further confidence for the validity (Ahrens & Chapman, 2006) of my findings, which I present in the next two chapters.

4.4.4 Quality Criteria

In assessing the quality of the data analysis, as I describe above, I turn to Mouritsen et al (2010, p299) who outline five rules of thumb for "[...] quality criteria for an ANT analysis" and is summarised in figure four below. I note that this was published subsequently to my performing the majority of the data analysis. However, my reading of the ANT literature prior to beginning the data analysis enabled me to develop an understanding of what was required that is consistent with this quality criteria. Further, I had several discussions with two of these authors with regard to how to approach this research using the theoretical lens of ANT and how this should be undertaken with regard to achieving a quality outcome. Hence, the subsequent publication of this article allows me to have a firm reference with which to articulate the quality criteria with which I was measuring my data analysis against.

This figure provides a summary of Mouritsen et al's (2010) quality criteria, in the authors' own words, but not a complete description. However, my intention of including this is to demonstrate the test of quality that I put myself through in respect to the data collection and analysis process.

Rule	Criteria
1	“Treat all entities (variables, factors, elements, actors, systems, subsystems, etc.) as entities <i>in search for</i> boundary, power, and identity which are not given a priori.” (Mouritsen et al., 2010, p297)
2	“All entities are considered to be actors, whether they are human or not. Being an actor means being <i>able to bend the world around itself</i> and thus make the world speak its language in certain situations.” (Mouritsen et al., 2010, p297)
3	“An ANT analysis starts from observable practices rather than from an assumed context. The environment, including the culture, class struggle, discourses, and other external forces, are not accorded power before it can be shown how they will influence an interaction. Interaction may coalesce into a proposition about the environment, but the environment is then a summary of interacting entities rather than an external force. [...] In an ANT analysis, if context is important, it is identified by the analysis, rather than being assumed.” (Mouritsen et al., 2010, p298)
4	“When analysing the power of entities, follow the actors in practice. Since entities do not have strong boundaries, and since their power and identity are not given a priori to understand their boundaries and power, the researcher has to <i>follow them in action</i> .” (Mouritsen et al., 2010, p298)
5	“All entities are coloured by <i>their relationship to other entities</i> . Entities exist in a network, with reciprocal relations between them. So, an entity is strong because it is involved in defining the boundary, power, and identity of other elements in the network. Generally, we can only understand the relationship between two entities, such as A and B, if we understand how another element, such as C, affects this relationship. [...] In ANT, any relation, even between two entities, has to be understood as containing at least three elements, because otherwise there will be no network.” (Mouritsen et al., 2010, p298-299)

Figure 4 Summary of quality criteria for an ANT analysis

Beyond these criteria for the desired level of quality, there are also ethical considerations to be taken into account when approaching such research. It is to these considerations that I turn in the next part of this section.

4.4.5 Ethical considerations

The approach to ethical considerations is governed by the University of Auckland Human Participation Ethics process. This process required me to develop a participants’ information sheet and consent form. The participants’ information sheet is designed to be given to the participant for their records and provides an understanding to the participant of what my research was aiming to achieve, what their role in this research was to be, and all the implications for them in participating in this research. The consent form then provided the participant with the opportunity to express their willingness to take part in the research, acknowledged that they had been provided with the participants’ information sheet and

understood all within it, and had the right to withdraw from participating in the research at any stage.

Once I had developed these forms I then submitted them for approval to the University of Auckland Human Participation Ethics Committee. After making minor corrections that were requested I was granted ethics approval by the committee with a reference number of 2008/274. This ethics approval covered a three year period starting from 13 August 2008. I ensured that I gave each participant both of these forms and have retained in a secured place the signed copies of the consent forms. With the description of the data collection and analysis process in place I now, in the next section, provide a brief overview of the events at Kiwi that constitute the translation process that this research focuses on.

4.5 Overview of events at Kiwi

In this section I aim to provide an overview of events at Kiwi that I base on the data collection as I describe in the section above, which occurred during the time period under investigation. That is, in this section I provide an overview of the translation process at Kiwi centred on attempts to introduce sustainability related concerns to the organisation. I start this by noting that prior to 2004 Kiwi's efforts focused on two interrelated issues. The first was over concerns of the link between their products and obesity. The second was over concerns of an artificial sweetener, aspartame, which they use within 'diet' versions of some of their products.

However it was not until the beginning of 2004 when in response to similar measures taken by Eagle and Koala that Kiwi began to broaden their focus onto wider sustainability issues. The initial response was to hire the Corporate Affairs Manager with one of her key tasks being to produce a standalone sustainability report for Kiwi. While this may appear to be relatively late in terms of international reporting habits, I note (Milne, Owen & Tilt, 2001; Milne et al., 2003) that New Zealand organisations in general have been late adopters of these practices. Putting this further into context, Gray and Milne (2002, p67) suggest "[t]he truth of the matter, however, is that the take up of social, environmental and sustainability reporting by large global corporations is relatively underwhelming and New Zealand is lagging behind even those slow rates of take-up." Thus, the first of these reports was completed for the 2006-7 year. The Corporate Affairs Manager contracted an outside consulting organisation, 'Consult', in order to assist with the preparation of this report. The second report, for the 2008 year, was completed by the Internal Communications Officer due to the Corporate

Affairs Manager being away on long term leave. At the time of my exiting of the field at the end of 2009 no further reports had been produced.

The translation of sustainability issues gained a powerful (Latour, 1986) spokesperson, the CFO, after the first report had been completed. This enabled Consult to manoeuvre to become more prominent within the translation through demonstrating how they were the obligatory passage point (OPP) to what was deemed to be an emergent and important consumer group for Kiwi, known as LOHAS. It was through Consult providing 'facts' (Baxter & Chua, 2003) proving the importance of this new and growing consumer group that the CFO not only stepped forward as spokesperson but also arranged to have Consult provide further services beyond their involvement with the sustainability report. These services consisted of providing guidance for a cross-functional group, the 'Imagineering Team', set up by the CFO. Initially this group gathered for "Blue Sky" [Project Manager Operations] type meetings as described in the following:

“[...] it was a generalistic, sort of, approach to start off with. You know we were looking at more market based impact [...] the concept of LOHAS and that, it is sort of, you know, there's some moving sort of centre [...] tendency for people to be a lot more conscious around what they were purchasing and the impact the environment or, you know, economic impact, you know, with coffee and fair trade coffee and stuff like that, you know, so it wasn't just based around environmental stuff but for me it was just understanding our market place a little bit better [...] then the context that I took away for our team, which is purely procurement centred at that point of time was around what could we do to make a difference.” [Procurement / Logistics Manager]

As seen above, the result of the Imagineering Team meetings was a vast array of initiatives being rolled out in various parts of the organisation through the efforts of the individual members of the team. Examples of the types of initiatives included changing the sales rep car fleet to more fuel efficient models, focusing efforts on reducing or reusing waste produced in production, and initiating a project to construct the organisations carbon footprint. However these initiatives were not always successful and generally disparate with no clear direction across the organisation. At the time of my exiting of the field many trials of

strength and counter-actors with anti-programs had slowed the momentum of these initiatives to the point where whether there would be a continued focus on them in the future hung in the balance. The threats to the continuing focus on sustainability issue by Kiwi were diverse and included the likes of economic recession, key actors such as the CFO leaving Kiwi, and other key actors going on long-term leave or moving within the organisation.

The background described above provides context within which to situate the analysis that I perform in the subsequent two chapters of this thesis. To categorise the type of case that Kiwi represents I turn to Gray et al (1995b) use of Laughlin's (1991) categories of change and note that on the basis of the events I describe above the category of "reorientation" is most appropriate. Specifically reorientation "[...] involves a (probably reluctant) introduction of the appropriate issue to the organization [...]" but "[...] this introduction does not touch the core of the organization and nothing substantive really changes" (Gray et al., 1995b, p225). Further a parallel can be drawn between the actions of Kiwi and the case organisation of Larrinaga-Gonzalez and Bebbington (2001, p279) in that "[...] since the introduction of environmental protection as a strategic corporate goal, [Larrinaga-Gonzalez and Bebbington's case organisation] has proceeded along what may be viewed as a typical path for organizations seeking to "green" their activities". With this background understanding in place I now, in the next section, provide a summary of this chapter before I proceed, in the next chapter, to addressing the first set of research questions.

4.6 Chapter summary

In this chapter I aim to provide sufficient context within which to judge the findings that I present in the next two chapters. I start this by providing a justification of the case study method as the most appropriate method given the use of the theoretical lens of ANT. After this I provide an overview of the case organisation, Kiwi, and the extended network that it is nested within, including descriptions of its parent organisation, Koala, and the organisation, Eagle, whose products it manufactures under license. I then, in section four, provide a description of the data collection and analysis process. This includes an overview of the data, the quality criteria I use to assess the data collection and analysis, and how I dealt with the ethical considerations that a case study method involves. Finally in section five I provide a brief overview of the events at Kiwi that constitute the translation process that this research focuses on. With this context in place I now turn in the next chapter to addressing the first set of research questions that collectively provide evidence with which to assess the first research aim.

CHAPTER FIVE – RESEARCHING MCS IN THE CONTEXT OF SUSTAINABILITY

5.1 Introduction

In chapter three I refer to how Berry et al (2009) note the lack of research at the intersection of management control systems (MCS) and sustainability. I believe that a potential reason for the lack of research at this intersection is the apparent incompatibility of traditional MCS, which focus on profit through economic growth, and sustainability. Thus, in one of the few papers within this area, Ball and Milne (2005) note the need for radical changes in MCS. This reflects the common identification of sustainability as an important area for organisations and holds out the potential for changes to occur within their MCS. In turn this suggests that the intersection of MCS and sustainability may be a fruitful area of research for the MCS researcher and accounting for sustainability researcher alike. Therefore, in this chapter I address the first research aim of this thesis, which is as follows:

1. Investigate whether the context of sustainability is useful in furthering our extant understandings of MCS.

As I note in chapter three, this research aim is too broad. I therefore narrow this into questions that through answering I can assess the support for this research aim. In doing so I note that sustainability has the potential to affect the beliefs of actors and as this is an area of relatively little research I outline, develop and motivate two research questions as follows:

- 1.1 How are core values within the belief systems developed?
- 1.2 How is this process influenced by and how does it act upon other management controls?

Therefore, in this chapter I investigate what Simon's (1995) labels 'Belief Systems' with sustainability providing the context in which to conduct this investigation. If sustainability proves to be a good context within which to develop new knowledge related to these research questions then it will provide evidence in support of the first research aim. To conduct this investigation I utilise concepts from ANT, details of which are given in chapter two, as the theoretical lens through which to analyse the data that I collect from the case organisation, which I present in chapter four.

This chapter is organised as follows; in the next section I mobilise the concept of translation (Callon, 1986a; b) to investigate the research questions. Further in that section I utilise the concepts of short and long translations (Mouritsen et al., 2009) to understand how ostensive and performative understandings (Latour, 1986) of the core value are both required to enable it to fulfil the role put forward by Simons (1995). Providing an overview of the translation to develop a core value at the case organisation allows me to draw out appropriate implications with regard to the research questions in the third section of this chapter. The drawing out of implications with regard to the research questions assists with examining the first research aim in section four where I find support for the potential benefits from using sustainability as a context for researching MCS. I then provide concluding remarks in the fifth section of this chapter.

Underlying this chapter is the performative understanding of management controls and MCS that I develop using Latour's (1991) European hotel key example in chapter two. In developing this performative understanding I note that the many different types of MCS frameworks are classification and labelling systems, each with their own unique strengths and weaknesses, which researchers use to overlay the data they collect at their case organisations. In classifying and labelling the data in this way they can provide extra meaning for themselves and their peers. Thus I select Simons (1995) LOC as the management control framework to utilise in this thesis specifically as he includes belief systems in his framework. As Simon's (1995, p34) notes these belief systems primarily consist of the core values that are critical to the enactment of strategy in the organisation. Further Collier (2005) notes that in Simons LOC the informal aspects are implicit to the belief systems. With regard to this Nixon and Burns (2005, p264) note that:

“One point that appears to emerge from the empirical reality [...] is that either the management control literature has over-emphasised the influence of diagnostic and interactive controls relative to informal, social controls (the belief and boundary systems of Simons (1995) framework), or the social controls are becoming more important in the 21st century.”

Hence, Collier (2005, p336) highlights that, given the relative lack of research into the belief systems of Simon's LOC and specifically the informal aspects of these, this is a gap in the literature worthy of further attention. Since Collier made this point LOC based research

has begun to focus more holistically and include belief systems (see for example Mundy, 2010; Widener, 2007). Mundy (p516) specifically notes “[...] the importance of using the framework in its entirety in order to gain a comprehensive understanding of the interface between managers and MCS in their attempts to guide, direct, and control organisational activities.” However both Simons (1995; 2000) and this recent research (see for example Mundy, 2010; Widener, 2007) focus on belief systems that are already in place within an organisation. I extend this research by examining the process through which belief systems, and the core values contained within them, develop. Likewise, I contribute to our understanding of the role that the other LOC play in this process.

Therefore it is my aim in this chapter to specifically investigate how core values within this part of the LOC framework develops. Further I aim to investigate the role of the other LOC in this process as they are acted on by and act upon the developing core values within the organisation’s belief systems. In doing so this research contributes to addressing the concerns of Ahrens and Chapman (2007, p3) that:

“[...] contemporary discussions of management control (e.g. Kaplan & Norton, 1996; Simons, 1995) frequently seek to address strategic concerns. They do not, however, tend to elaborate on the specific activities through which their exhortations might be taken up.”

Further I have taken care to incorporate Collier’s (2005) concerns regarding research that focuses on formal controls alone. That is, my focus is on the use of controls regardless of whether they are formal or informal, rather than just the existence of controls. This enables me to trace the development of core values within the belief systems that have not yet necessarily been formalised in mission and vision statements. Further it enables me to develop the understanding that the use of informal elements of the belief system is a way for senior managers to encourage experimentation as to what the “grand purpose” of the organisation could be.

The longitudinal case study that I use in this research is of an organisation, Kiwi, that is engaging with a particular issue, sustainability (Wackernagel & Rees, 1996), which has the potential to change its core values, if not the entire belief system of the organisation. In doing so I acknowledge that sustainability is an important but contestable and broad concept (Ball & Milne, 2005; Gray, 2010). However it is not my intention in this chapter to enter the debate of what sustainability is or can be. Rather the focus of this chapter is to investigate the

process through which belief systems evolve. Therefore for the purposes of this chapter the concept and issues surrounding sustainability, whatever they may be, merely provides me with the context in which to examine organisation belief systems. It is in fact the contestable nature of sustainability that allows me the opportunity of studying the process of developing a new core value and the attempts to incorporate it within the existing belief systems of the case organisation. This is a point that I will return to in section four when I discuss whether the findings from the research questions contribute to the research aim that they link to. I achieve this through studying the actors within their organisation as they struggle to understand and respond to such a contestable concept.

The use of ANT allows me to gain a new understanding of core values within belief systems being the result of two translation processes. The first process establishes what the belief is to be. That is, a descriptive or an ostensive understanding (Latour, 1986). For example, we may each personally have a core value that states that ‘we wish to be good people’. However this alone does not provide us much meaning around what must be done to be a good person let alone what a good person is. Hence a second translation establishes what must be done to achieve the core value. That is, a performative understanding (Latour, 1986) or as Ahrens & Chapman (2007, p21) state “[...] we can see the way in which the precise nature of objectives [...] arises from daily activity as much as daily activity is shaped by those objectives.” Thus in relation to our example the second process provides to us meaning about what a good person is and what must be done in order to be one. Through tracing the associations that form as actors are enrolled into and defect from the networks under construction, ANT provides the means for investigating and understanding the process of developing a core value within the case organisation. It is this process of developing a core value at the case organisation that I now turn to examining in the next section.

5.2 Translation of a core value at Kiwi

The data from the case organisation, Kiwi, traces the forming of associations and the translation process of the development of a core value within their belief systems around sustainability issues. The development of the core value involves two translations. The first, a short translation, involves few actors and establishes an ostensive understanding for the core value. The second, a long translation, is reliant on the first, short translation, to create the space for it to occur, involves many actors and seeks to establish a performative understanding for the core value. In the first part of this section I outline the short translation at Kiwi before proceeding in the second part of this section to outlining the long translation.

5.2.1 *Short translation for an ostensive understanding of the core value*

The short translation at Kiwi began in early 2004 with the problematization of sustainability issues by many different actors and networks. Most influential were the actions taken by the associated networks of Eagle and Koala. A video produced by Eagle that they circulated internally within their extended and associated networks is an example that typifies the types of actions taken. In this video images of Ghandi, Aung San Suu Kyi and Ang Lee are presented alongside historic and iconic images of Eagle in an effort to urge actors within the extended networks to take action with regards to the issue of sustainability. This is further enforced through the statements that “If we consume what we do today we will need the resources equivalent of 4 planets” and “by redesigning the way we work and live so that sustainability is part of everything we do”; images of masses of waste; recycling efforts; renewable energy sources; and making promises to “grow our business, not our carbon”, “always reuse the waste we generate”, and “give back every drop of water we take”. Thus this artefact is constructed with the purpose of enrolling the extended and associated networks of Eagle, including Koala and Kiwi, into taking action in respect to sustainability issues through influencing their respective belief systems.

Koala also took actions to start influencing the beliefs of Kiwi. Foremost of these were the implementation within Operations of four sustainability focused KPIs known as the environmental performance metrics (EPM). These were namely water usage, energy usage, waste minimisation, and recycling level. Koala developed a spreadsheet to collect data for these and required Kiwi to collect the data and report the results to Koala. However for many years these EPMs were limited to data collection within the Operations department and the emphasis placed on them by Koala was mostly irrelevant and therefore ignored in Kiwi. This was because in Australia water shortage is one of the greatest ecological problems faced. Therefore Koala placed most emphasis on the EPM that measured water usage and channelled their efforts into improving this EPM. However in New Zealand water is in relatively plentiful supply resulting in the emphasis placed by Koala on the water usage EPM being mostly meaningless for Kiwi¹⁹. Thus at Kiwi these EPMs were, at best, being used diagnostically.

¹⁹ In making this statement I note that this is a common perception among New Zealanders (Ministry for the Environment. (2009a). *On Tap? Attitudes, behaviours, and perceptions of household water use – informing demand management*. Wellington, p. 54.), including those within Kiwi, rather than a reflection of the real quality and supply of water within New Zealand. Evidence suggests that potentially this is not actually the case in New Zealand (Ministry for the Environment. (2009b). *Our Rivers: Trends in water quality*. Wellington, p. 2,

However as a result of the combined problematization by Eagle and Koala, as exemplified above, the short translation began at Kiwi. This translation involved the New Zealand Leadership Team (NZLT) beginning to discuss what the appropriate solution to the problematization should be. Within a short period of time the NZLT had decided the appropriate course of action should be to develop a core value around sustainability. In short this core value was that sustainability was an important issue that society faced and one in which Kiwi wanted to be seen as an ‘emerging leader’.

This short translation developed an ostensive, or descriptive, understanding of the core value that was informal but still designed to be part of Kiwi's belief system. However this ostensive understanding alone was not effective in and of itself for Kiwi to comprehend what must be done to achieve the core value. That is, the ostensive understanding lacked the ability to outline what must be done in order for Kiwi to be seen as an emerging leader in sustainability issues. The ostensive understanding did, however, create the required space within which the second, longer translation could occur. That is, it opened up for the core value the possibility of identifying a performative understanding that would outline what Kiwi might have to do to be seen as an emerging leader in sustainability issues. This would require, among other things, the imposing of identities as to who was to be doing the judging of the emergence, the definition of sustainability issues, and in this context what an emerging leader is. It is now this long translation that I turn to providing an overview of in the next part of this section.

5.2.2 Long translation for a performative definition of the core value

The second, long translation began with the Managing Director (MD) of Kiwi problematizing the need for a performative understanding through signalling to the actors within the Kiwi network that this was an important area of uncertainty. It is important to note that at this stage with the long translation only just beginning, so much yet had to be determined. As a result the ostensive understanding of the core value was still being communicated informally rather than as part of the inscriptions that made up the formal belief system. In this way the NZLT was allowing for a greater degree of freedom for actors within Kiwi to construct their identities in relation to the new core value than had it been inserted into the formal belief systems of mission and vision statements.

Ministry for the Environment. (2009c). *Our Water: Groundwater quality*. Wellington, p. 1, Verburg, P., Hamill, K., Unwin, M., & Abell, J. (2010). *Lake water quality in New Zealand 2010: Status and trends*. In National Institute of Water & Atmospheric Research Ltd. Hamilton, p. 48.)

The initial problematization by the MD resulted in what Callon (2009, p543) labels as “multiform problematization” or “a network of problems [...] whose content and extension evolve in relation to the translations that are attempted between problems.” That is, due to sustainability being a contestable and ambiguous concept (Ball & Milne, 2005; Milne, 1996) constructing an identity for it proved problematic but was required as part of understanding what it is to be an emerging leader in sustainability issues and in identifying those that would see Kiwi as such.

These interdependent problems resulted from the development of the ostensive understanding of the core value. Therefore with the problematization by the MD, aimed at providing a performative understanding for the new core value, being multiform in nature, multiple actions were required that enrolled multiple human and non-human actors in order to experiment as to what this performative definition could be. The initial action taken was the 2004 hiring of the Corporate Affairs Manager to promote the external image of Kiwi with a particular emphasis on sustainability related issues. A large part of this revolved around the producing of a sustainability report. It was decided that this should be a stand-alone report distinct from the reporting of financial results as Kiwi only reported these in the combined group annual report. The first of these was produced by Kiwi for the 2006-7 financial year and was printed directly on cardboard packaging²⁰. This report outlined current achievements and future goals in the four areas; as determined by Eagle; of marketplace, workplace, community, and environment. However no dedicated information system was set up in order to produce this report. Rather the information was personally gathered by the Corporate Affairs Manager through talking to the respective actors in the areas of interest. This included asking the Integrated Management Systems Manager for the data from the tracking of the four sustainability focused EPMs.

The network being assembled during the multiform translation was further strengthened through the addition of a spokesperson – the Chief Financial Officer (CFO). The CFO signalled this as an area he wanted to take leadership in. The CFO was seen to be powerful in potential (Latour, 1986) due to being a ‘leader of leaders’ and having key non-

²⁰ That is, the report was printed directly onto the corrugated cardboard that normally would have been made into boxes used for the transportation of Kiwi’s products to their customers. The corrugated cardboard was as if it had been taken directly off the production line with logos of the corresponding product visible at places throughout the report. Thus each report was unique in that it depended on which part of the box a certain page was printed onto as to what image (e.g. product logo, barcodes, “please recycle” logos, etc) is visible below the printing that was superimposed onto it. However, I was informed by the Corporate Affairs Manager that the particular product line that this corrugated cardboard packaging related to had been discontinued and therefore had it not been used for this report then it would have been discarded.

human actors, which included the calculative architecture of the accounting system, in his network. The CFO mobilised his network into supporting the actions taken towards the development of the performative understanding and thereby further stabilising the identity of the core value.

One of the first actions put into motion by the new spokesperson for the assembling network was the forming of a cross-functional team – the ‘Imagineering Team’ - to focus efforts. The Imagineering Team was specifically charged with engaging with initial efforts to develop a performative understanding for the core value. In other words the Imagineering Team had as its remit to develop knowledge around sustainability, what it meant to be an emerging leader in this context, and who the audience was to judge Kiwi as such.

An outside consulting firm, ‘Consult’, was engaged to assist the Imagineering Team in their efforts. Consult had previously been engaged to assist with preparation of the sustainability report and had mainly been chosen due to their founder being a previous work colleague of the Corporate Affairs Manager. Consult used this new consulting opportunity to increase their importance to Kiwi. They did this through trying to impose the identity of those that would judge whether Kiwi was becoming an emerging leader. That is, they tried manoeuvring to become an obligatory passage point (OPP) to a market demographic increasingly perceived as important by Kiwi. This demographic was labelled as Lifestyles of Health and Sustainability (LOHAS) who were seen as conscientious consumers whose purchases were driven by a set of beliefs focused on healthy living and sustainability ideals. Consult provided ‘facts’ (Baxter & Chua, 2003) that ‘proved’ that LOHAS was an increasingly expanding group which potentially could be a key demographic for Kiwi as commented upon by the CFO:

“There is, sort of, conscientious consumer group [LOHAS] span all of those income groups and sits at around between thirty or forty percent. So whether they gain momentum and really do mainstream [...] then that will probably be the biggest question.”

Regardless of Consult’s efforts to influence the performative understanding the Imagineering Team sessions acted upon those involved. Once members returned to their respective areas they started taking actions in relation to those areas in order to experiment so as to develop knowledge around sustainability, what it meant to be an emerging leader

relative to their areas context, and who the audience was to judge Kiwi. An example of this is provided by the Procurement / Logistics Manager:

“Yeah, [...] we’ve run a session with [...] we’re in a session with our suppliers last year. We’ve invited them openly as part of a formal process called ‘The Supply Challenge’ to come to us with ideas about how we can make our business more sustainable.”

Along with a drive to enrol associated networks into their efforts the Procurement / Logistics Manager was also responsible for enrolling other sustainability related management controls within his area. Foremost amongst these was a boundary control, sustainability focused procurement guidelines, that acted upon procurement decisions to make sustainability issues a consideration. The implementation of this boundary control can be seen in the following example given by the Procurement / Logistics Manager:

“We have a huge fleet of [...] Reps vehicles and [...] yeah they were [...] there are still a lot in the fleet at the moment [...] Vitaras which I think use [...] 13.2 litres of petrol per one hundred kilometres. Now I personally drive a XR8 which is a V8 and my car’s more fuel economic than a [...] than the Reps vehicles got on the road, they’re four wheel drives [...] so we did a lot of work on finding a vehicle that would be [...] a lot [...] more [...] fuel efficient so we’ve basically halved our fuel costs [...] on the vehicles we’ve now put in. We’ve put the VW Golf 1.9 litre turbo diesel [...] So that, you know, the parity piece between petrol and diesel, we know diesel is a lot cheaper than petrol, great [...] but now we’ve gone from [...] 13.2 litres per hundred kilometres to something like 5.6. So we’ve actually seen nearly a sixty percent decrease in our [...] fuel cost on the vehicles we’ve put in [...] so the purchase price of the Golf was higher but the total cost of ownership of the Golf is a lot cheaper because the service intervals are longer [...] all those sort of things. And VW is, sort of, seen as a leader with their blue motion technology as well. So from a market placement it was a good branding

opportunity for us as well to, I suppose, use [...] you know, what was seen to be best leader in the market and aligning ourselves to them.”

Other measures taken as a result of this boundary control included swapping to an electricity supplier who utilises only renewable energy sources, light weighting of packaging projects, and exploring new uses for recycled packaging. Thus we see the boundary control being enrolled into helping impose an identity for the performative understanding of the core value.

The increased actions being taken in the forming of associations, in the translation process to address the multiform problematization, over time had not resulted in a black boxed performative understanding for the new core value. This prompted the MD to act at the beginning of 2008 through reviewing the four EPMs used as a diagnostic control by the operations department. From this he selected one, waste minimisation, and indicated that this should be the one that all production facilities focus on. Thus the MD signalled that for the operations department the waste minimisation EPM should become their interactive control.

The EPM measured the percentage of waste produced in the production process that was being recycled. In order to gain commitment to this EPM being used interactively and actions being taken to improve the performance in relation to this EPM, the MD shifted the targeted performance from ninety percent to ninety nine percent. In essence the MD altered the identity of the EPM in order for it to more effectively act upon the various production networks. Two production plants, one of which was Christchurch, had previously been comfortably exceeding the ninety percent target. The Christchurch Production Planning Manager’s reaction to the change in the target is explained in the following:

“I thought these guys need their heads read, no one can get ninety-nine, it can’t be achieved. And that was it, so I had a word [...] I sent my manager a couple of emails that I was pretty hacked off because it’s part of but it’s not my main job, I’ve got [...] all my other responsibilities and to have to sort of somehow endeavour to lift those levels, I mean you normally go up in stages don’t you, anyone’s normal quota would, but I must say, now I’d probably say that they had [...] foresight.”

Thus the shifting of the target was initially met with anger by many within Kiwi, including the Christchurch Production Planning Manager, as they believed they had done everything they could with their available resources to be above the target before it shifted. However the shifting of the target had two immediate and positive outcomes. The first of these was that the EPM began to be used interactively with all levels of the operations department monitoring and discussing the performance against the target. This included production facilities that had poor performance seeking advice from the recognised leaders in this area including the Christchurch Production Planning Manager. Secondly it forced the recognised leaders to start to scan for opportunities to improve their performance against the new target. In the case of the Christchurch Production Planning Manager this resulted in the fortuitous find of an external organisation that specialised in recycling dry waste through an article about them in the local newspaper (The Press, 2008). With the assistance of this organisation they were able to improve their performance to consistently meet the new target of ninety nine percent recycling.

Also in 2008 the spokesperson for the network being assembled, the CFO, instigated a project to enrol a new management control. That is, the CFO put into place a project to calculate Kiwi's carbon footprint. The CFO selected one of his direct reports, the Project Manager Finance, to head up the project. In her words the carbon footprinting project came about as follows:

“Effectively we just looked at what was happening and [...] the potential of the ETS [The New Zealand Government's Carbon Emissions Trading Scheme] coming in as well [...] and what was happening within the group and where things were at [...] the group was starting to look at carbon footprint [...] for the Australian business [...] but we were also wanting to look at it at the same time as opposed to [...] to wait”

It was decided that 2007 would provide the base year for the project as it was the latest complete year for which data was available. The challenge of collecting the data given the complexity of the business was significantly underestimated resulting in the project overrunning the initial time frame. It also led to the Project Manager Finance commenting that personnel with an accounting background were probably best suited for the job of compiling

and calculating carbon footprints. This was due to having a good holistic understanding of the organisation combined with experience of using spreadsheets to collate and manipulate data.

Some actors within Kiwi, such as the Project Manager Finance, held an expectation that the enrolment of the carbon footprint would allow for the difficulties being experienced with the multiform problematization to be overcome. That is, an expectation existed that it would provide the necessary understanding of sustainability, it would enable Kiwi to become an emerging leader, and it would put an identity to those that would judge Kiwi as such. It would achieve this through bringing focus to the many sustainability initiatives occurring across the organisation and enabling them to act together to address the multiform problematization. That is, once the base year was calculated the carbon footprint would take a prominent role within the network and through being used interactively it would act to draw together existing initiatives and provide direction to drive future initiative.

The initial calculation of the base year provided surprising results. Prior to this calculation Kiwi was expecting their heaviest carbon (or carbon equivalent) areas to be from their production processes and the vehicles they use for their sales reps and delivery drivers. Hence discussions prior to this calculation had solely been around strategies to reduce emissions from these sources. However the calculation of the base year carbon footprint expanded the scope of these discussions in an unexpected way. This was due to these two areas being dwarfed by the total emissions from the refrigeration equipment that Kiwi maintained at their customers that alone tripled their carbon footprint. Further this calculation not only expanded the scope of discussion as to emission reduction strategies but also altered the very format of the carbon footprint report for the base year. That is, the report was expanded to show the results in total and also the results without the emissions from the refrigeration equipment. It was felt that if the total emissions alone were shown then the refrigeration equipment emissions would dominate the reader's attention to such a degree that the remainder of the results would not achieve visibility. Had the remainder of the results not been visible then they would not have the opportunity to act upon the reader.

The initiatives that would have come out of the carbon foot printing project were interrupted due to the Project Manager Finance going on long term leave in mid 2009. This typifies the types of trials of strength faced during the time covered by this research that Kiwi was trying to address the multiform problematization and develop a performative understanding for the new core value. Despite senior management support the initiatives that have been implemented had been reliant on the efforts of individual actors located at various parts of the Kiwi network. As sustainability is a contested and ambiguous concept (Ball &

Milne, 2005; Milne, 1996) the data shows that each of these actors understood it in a different way. Hence the identity of sustainability required as part of the multiform problematization remained problematic. Thus their actions, of which I have outlined some above, did not lead to a coherent strategy as their efforts were disjointed and they had limited resources at their disposal. This left the efforts of the actors particularly susceptible to trials of strength such as that of the Project Manager Finance going on long term leave. Other key actors, such as the Corporate Affairs Manager and the former Integrated Management Systems Manager, also took long term leave during this time and other important actors, such as the Project Manager Operations, were reassigned roles within Kiwi or the greater Koala / Eagle network resulting in loss of momentum in sustainability focused initiatives.

The situation that Kiwi found itself in at the end of 2009 when this research was concluded was one where the translation around the performative understanding for the core value which required addressing the multiform problematization was still ongoing. A number of relatively major trials of strength, such as has been mentioned above, had resulted in the weakening and disjointing of the network being assembled. Foremost of these trials of strength was the departure at the beginning of 2009 from the network of the spokesperson, the CFO. Although he had stopped being the official spokesperson for this network for a year prior to leaving he was still seen as the leader that gave legitimacy to the network. His replacement as the spokesperson of this network, the GM Corporate Affairs, also left the Kiwi network within a week of the CFO further weakening and disjointing the assembled network.

Probably the greatest trial of strength that this network faced was the 2008/09 economic recession. This resulted in even fewer resources being available. The biggest impact of the recession, however, was that it put the Kiwi network's focus firmly back on economic profit. Gray and Milne (2002, p68) suggest that "[e]qually it is both obvious and well established in research that any organisation facing a conflict between its financial performance (most obviously performance affecting share price and dividend) and its social or environmental performance is bound to give preference to the financial in all but the most extreme cases." Thus, as economic profit is firmly embedded in Kiwi's formal belief systems it naturally took precedence over sustainability which only featured in the informal belief systems. I now provide a summary before proceeding to the next section.

5.2.3 *Section summary*

In this section I have outlined the two translations that occurred at Kiwi as they attempted to develop a new core value focused on sustainability issues. The first translation was short and provided an ostensive understanding for the core value. The second was long and still ongoing, albeit in a weakened state, when I exited the field. It focused on providing a performative understanding for the new core value but given the very complex nature of the multiform problematization it struggled with this endeavour. Further I have outlined how other management controls were enrolled to assist with these efforts. I have outlined how these could be labelled and thereby classified within the other three areas of the LOC. I finished this section by outlining some of the trials of strengths that had weakened the network being assembled prior to the conclusion of my research. Now in the next section I turn to examining the implications of this data.

5.3 Implications

In the previous section I provide an overview of the translation processes at Kiwi of developing a new core value within their belief system. Further I show how this process acts upon and in turn is acted upon by the other LOC. The data suggests that the translation process began as a result of the problematization by the associated networks of Koala and Eagle who signalled it as an area of strategic importance and uncertainty that had the potential, if left unchecked, to affect organisation performance. This resulted in two translations at Kiwi in order to try and establish the new core value. The first was a short translation that involved the NZLT developing an ostensive understanding for the core value. This understanding was that Kiwi wanted to be seen as an emerging leader in relation to sustainability. The second was a long translation that struggled with a multiform problematization in an effort to develop a performative understanding for the new core value. The multiform problematization was that identities needed to be developed for the interrelated problems of what was sustainability, what it meant to be an emerging leader in relation to this, and what was the identity of those that judge Kiwi as such. It can be seen that the second, long translation involved many different actors within Kiwi trying many different things in order to identify and impose the identities required to find solutions for the multiform problematization. Thus, this is an example of what Ahrens and Chapman (2006, p825) describe as “[...] actors in the field are – depending on the specific motivations that grow out of their particular practices – also developing, testing, discarding, or refining

suitable theories that help them understand the logic of the social systems within which they work.”

Further the second, long translation proved to be constantly susceptible to trials of strength and anti-programs. Due to the complexity of the multiform problematization it was open to influence from other actors and networks; primarily from Eagle, Koala, and Consult; who manoeuvred to gain positions of OPP. These respective networks of actors tried to use their influence to manoeuvre Kiwi into supporting their translation of various aspects of the multiform problematization. That is, we can see these respective networks tried to impose an identity on one or more aspects of the multiform problematization and thereby identify themselves as the OPP to this aspect.

Based on this analysis, the first implication of this study is that for core values within belief systems to fulfil the roles that Simons (1995) assigns to them requires the development of both a performative and an ostensive understanding. The roles Simons (1995) assigns to core values is that they provide basic values, purpose, and direction for the organization and thereby gain commitment to the organisations grand purpose. The ostensive understanding provides a space for the core value in which the performative understanding can develop. This performative understanding outlines what must be done in order to achieve this core value.

Returning to Feldman and Pentland (2003, p102-103) we can see this links to their analogy, as I refer to in chapter two, of ostensive and performative aspects of routines to music. In their analogy the musical score provides the ostensive understanding and the actual performance of the music the performative understanding. We can see in this analogy that our knowledge of the music greatly increases through drawing connections between the ostensive and performative understandings. Extending this to the development of core values, we can see that, just as with the performance of music, it may have been possible for the performative understanding to develop without the need of the ostensive understanding. However, the ostensive understanding provides a space, purpose and direction for the development of the performative understanding. Conversely, an ostensive understanding alone may have been developed. However, having an ostensive understanding alone means that the core value is likely to become little more than a vacuous signifier, much in the same way as the musical score does not alone allow us to hear music.

These findings, therefore, add weight to Hansen’s (2011) call for the drawing of connections between research from the alternative perspectives of performative and ostensive understandings. In this research the performative understandings that the use of the

theoretical lens of ANT provides highlights the benefits of this approach. That is, the use of ANT allows the examination of the process of the development of management controls, such as the new core value, rather than just the identification of their existence. However, as Hansen (2011) advocates, connecting to knowledge derived from ostensive understandings, in this case Simons LOC, allows me to provide more meaning with regard to this process. This is in line with Ferreira and Otley's (2009, p264) suggestion that research benefits "[...] from a framework that provides a broad view of the key aspects of a MCS and that allows researchers to obtain an holistic overview in as efficient way as possible." Thus making the connection between the two, allows me to derive greater depth of analysis than had I used the performative understanding alone. Conversely, the use of an ostensive understanding alone, such as MCS frameworks provide, limits the depth of analysis. That is, a MCS framework, by its very nature, can only provide a holistic overview that is static, much like a set of financial statements view of the organisations economic position and performance, and thereby only allows for a one dimensional view of an organisation. Thus we see that the warning of Roberts and Scapens (1985, p454) that "[...] if, however, one treats the picture given in Accounts merely as an image, rather than as reality, then the inevitably partial, selective and potentially distorted nature of the image must be recognised" can also be extended to analysis that uses a MCS framework alone. Therefore this research provides additional evidence in support of Hansen's (2011) call, albeit with reference to the methodological cautions he also provides, for research that connects these two alternative understandings.

The complexity of the multiform problematization highlights the second implication of this research. Through the NZLT not initially attempting to formalise the new core value it allowed actors within the organisation the opportunity to experiment with actions in areas that would otherwise be potentially constrained by boundary systems. With reference to Simon's (1995, p159) notion of belief systems being "Strategy as "Perspective"" we can see this as a way for senior managers to allow experimentation as to what the "grand purpose" could be. By keeping the core value informal senior managers have the opportunity to gauge potential commitment and capabilities within their network and an understanding of alternative perspectives. Therefore it would seem that the formal belief systems of Simons are the result of the two translation processes that first involved their development through the use of informal core values that allow experimentation.

If the informal core value allows for experimentation we then need to question the benefit of formalising them. The data has shown that the use of informal core values help senior managers assess what the "grand purpose" could be and also determine internal

capabilities for implementing the potential “grand purpose”. However ultimately, the data shows, without formalisation actions taken within the network tended to be disjointed and without any clear strategic direction. Thus it would appear that informal core values are an important part of the translation process of creating formal belief systems but may not be sufficient to provide a clear strategic direction that binds all elements of the network into cohesive action. Again referring to Feldman and Pentland’s (2003, p102-103) analogy to music, we can see that the ostensive understanding that the musical score provides is likely to be more effective in producing the performative understanding, the actual performance of the music, if it is formerly put into an inscription that is more transportable and thereby more easily and accurately transferable.

Therefore it seems that there may be benefits for the organisation from formalising belief systems. These benefits may include allowing the actions taken by individual actors to take a more coherent direction. Through making a formal inscription, the senior managers may create a more solid boundary object (Briers & Chua, 2001; Dechow & Mouritsen, 2005; Star & Griesemer, 1989) to act as a common reference point for all actors. Also the formalisation of core values has the potential to enrol actors within the network that had previously chosen to ignore the informal core values. This is not to say that through the formalisation of the previously informal core values coherent and effective actions will result. This may be contingent (Chenhall, 2003) on other elements being put into place; such as a corresponding formalised strategy, making more resources available, and developing appropriate diagnostic controls.

Focusing on the process of developing core values provides a third and final implication. In tracing the associations that form to make up the second, long translation I was able to discern the management controls enrolled into the process. Most importantly, adding weight to the findings of Mouritsen et al (2009), we are able to understand how these management controls rather than merely controlling the implementation of intended strategy are able to act to assist with the development of the performative understanding of the new core value. In other words, the management controls within the process not only assist in implementing the new core value but also help to develop and through doing so change it. I also note that in doing so some of these management controls change identities, such as the waste minimisation metric moving from being used diagnostically to interactively. Finally in doing so some of these management controls also impose new and unexpected identities on other management controls, such as the carbon footprint calculation changing the format of the carbon footprint report. Hence I label this second, long translation as performative as the

management controls involved in it, including the core value being developed, not only reflect reality but act upon it, like Latour's (1991) weight attached to the European hotel key.

As I mention above this implication supports the findings by Mouritsen et al (2009, p738) in the context of innovation management that "[...] management accounting calculations rather than describe the properties of innovation add perspective to them." Further this implication is in line with the research of Kober et al (2007). Through focusing on the two way influence between strategy and MCS, Kober et al (2007) have shown that MCS constantly evolve and in doing so alter the very strategy they are there to help implement. Here I have shown how, during the process of developing core values, other management controls develop as a result, are transformed by the new core value, or act upon and change the core value.

Finally, before I discuss these implications in relation to the first research aim in the next section, I note that the focus on senior management, as put forward in Simon's definition of belief systems, is consistent with the notion that it is they who usually are in a position to set the objectives and goals for the organisation. Further, some researchers (for example Abernethy & Chua, 1996; Ferreira & Otley, 2009) note that the objectives and goals senior management selects are not necessarily the ones that will benefit the organisation as a whole. However Chua (2007, p491) questions whether "[...] operational managers simply 'implement' some higher edict or do they actively devise new strategies as they adapt, translate and make up strategies 'on the ground' in the face of shifting contingencies and unexpected obstacles?" The case study data supports the notion of these operational managers being actively involved in the translation processes of developing the core value but also suggests that belief systems only permeate the organisation to the level of these managers. For employees beyond this level it becomes irrelevant for them to know beyond a very general level of understanding. Rather their actions are driven towards implementing the goals and objectives of managers within the organisation through the careful setting of the other three levers of control by the relevant managers. Hence when I observed, for instance, sales reps I saw that they were aware of some of the initiatives being taken with regard to sustainability such as the replacement of their vehicles with the more fuel efficient VW Golf. However their actions were being driven by the boundary systems, diagnostic control systems, and interactive control systems in place all of which aim to increase sales and market share. Thus, they were relatively unaware and did not seem to care about the existence or development of the core value focusing on sustainability. This lack of understanding or knowledge of the core values that combined make up the belief systems of

Kiwi did not inhibit them from pursuing what they were required by Kiwi to do. Rather the management controls in place effectively acted upon them to make them strive to increase sales and market share. Overall, however, the data does support Chua's (2007, p491) statement that "[...] strategy may not be some activity reserved for 'men in high places' but resides instead in daily routines and activities that translate the abstract ideals of senior managers."

5.4 Addressing the first research aim

In this section I turn to evaluating the contribution that the implications that I outline in the previous section make to answering the research questions and in turn the research aim that I cover in this chapter. The research aim focuses on whether the complex issue of sustainability provides a valuable context within which to study MCS. This research aim combines with the second research aim, which I develop and motivate in chapter three, to reassess the value of conducting research at the intersection of sustainability and MCS. However, as I outline in chapter three this aim is too broad in and of itself. I therefore develop from the first aim two research questions that relate to MCS and which I study within the context of sustainability. Hence I will first examine whether the implications, which I outline in the previous section, answer these research questions before turning my attention to seeing whether this provides evidence in support of the first research aim.

The first research question focuses on the process of how core values develop. I provide evidence that this process consists of firstly a short translation that develops an ostensive understanding for the core value. The ostensive understanding provides the space within which a second, long translation can occur which provides a performative understanding for the core value. Further for this process to occur it is not necessary for the core value to be initially inscribed formally in the organisation's mission, vision, or credo although there may be potential benefits for doing so later in the process.

The second research question focuses on how the process of developing a core value is influenced by and acts upon other management controls. I provide evidence that during this process other management controls are developed to be enrolled into and assist with the translation. Further existing management controls are transformed by the translation process to develop a new core value. Finally the evidence shows that management controls act upon and change the core value during the translation process.

In evaluating how answering these research questions contribute to providing evidence in support of the research aim I first turn to how these implications provide further

meaning with regard to the extant MCS literature. Specifically I return to Mundy's (2010, p501) statement, which I refer to in chapter three, that "[...] these definitions are stated in broad, value-laden terms, because the purpose of a belief system is to inspire organisational search and discovery without prescribing the precise nature of the activities." While prior research shows that belief systems have the purpose of inspiring activities of search and discovery, it does not provide detailed insight into how this process occurs. In this chapter I have shown that the first, short translation provides an ostensive understanding that then provides the space for the second, long translation. The need to develop a performative understanding in the second, long translation provides inspiration for the actors who then undertake activities of search and discovery in an effort to impose an identity for the core value. Hence I show that one of the ways in which belief systems, or more specifically the core values contained within them, inspire search and discovery is through compelling actors to take action to understand what must be done in order to achieve what the core value describes. Further these core values do not prescribe the precise nature of the activities as developing an understanding of these activities is the very objective of the process of search and discovery.

For this research, the context of sustainability provides a good setting within which to develop this contribution to the extant literature. The benefits of using sustainability as the context for this research are derived from the significant levels of uncertainty that it creates for the actors within Kiwi. Sustainability being a contestable and ambiguous concept is further complicated for the actors at Kiwi due to it only having started to permeate the economic realm over the last two decades. As I outline in chapter three, sustainability only began to gain traction as a concept of concern for economic organisations with the release of the Brundtland Report (World Commission on Environment and Development, 1987) where the term 'sustainable development', from which it derives, first appeared and subsequently entered common usage (Bebbington, 2001). Hence economic actors are typically ecologically illiterate (Ball & Milne, 2005) having not received education that include such knowledge, with those within Kiwi being no exception.

The high level of uncertainty combines with the lack of applicable knowledge to provide consequences for the translation process of developing this core value at Kiwi. In summary, the result of these consequences is the drawing out of the whole translation process and consequently making it more observable for the researcher. That is, during the long translation actors within Kiwi struggled with the multiform problematization and even by the time I exited the field it had not reached a black box state. This also had the result that the

NZLT did not take the step of formalising the core value within Kiwi's mission or vision statement and hence allowed me to observe the use of informal belief systems. Thus, through using sustainability I am utilising a context where the translations I observed would have not been so drawn out in other contexts. In many other contexts the spatial and temporal elements may have been such that they would have made the short and long translations indiscernible. In this situation the researcher may only be able to verify the existence of a new core value through its formal inscription in the organisation mission, vision, or credo.

Given the above evidence I therefore find support for the first research aim. That is, the complex issue of sustainability provides a rich setting to further our extant understanding of management control and MCS. It would therefore seem that the context of sustainability has the potential to provide further understandings in many aspects of MCS. One specific area of focus within the MCS research community is organisational change, as evidenced by research networks such as the European Network for Research in Organisational and Accounting Change and journals such as the *Journal of Accounting and Organisational Change*. Sustainability issues have the potential to change not only organisations but also the very economies and societies within which they are embedded. This therefore is another example of where sustainability may provide an ideal context to further our extant understandings of MCS.

The data I collected at Kiwi also provides other examples of areas of research where sustainability provides a valuable context to further our extant understandings of MCS. Specifically it provides some insight into the question Chua (2007, p491) asks of "[...] how and whether major strategic change is associated with new forms of accounting". At Kiwi I observed the CFO starting the carbon foot printing project as an initiative to assist with the imposing of identities within the multiform problematization. Thus it would seem that actors may enrol new forms of accounting into their efforts where current forms of accounting that they have already enrolled prove to be insufficient in helping to provide a solution to the problematization in question. Of course this is still a matter for future research that focuses specifically on this question.

The example of the carbon footprint at Kiwi also provides insight into the concerns of Ball and Milne (2005) who argue that the biggest deficit of current MCS is the lack of ecological literacy in organisations. As I describe above the carbon footprint provided Kiwi with surprising understandings of the refrigeration equipment dominating their emissions. In terms of the Project Manager Finance who was given the job of producing the carbon footprint and related report we see that:

“I mean beyond, yeah, whatever I thought originally with this and [...] in the initial stages I possibly approached it a bit more like an accountant in terms of, you know, it’s a report, it’s got numbers coming in one end and, you know, graphs and reports coming out the other end. [...] That was very naïve, in a very narrow, narrow way of thinking about it [...] there is so much more to it and I faced an incredibly [...] complex process to pull together [...] just even to understand actually the type of emissions that need to come in here and the different parts of the business that actually create those [...] it’s been a very complex process.”

Through the process of calculating the carbon footprint the ecological outlook of the Project Manager Finance changed. Thus one of the limitations of Ball and Milne (2005), which I discuss in chapter three, is that in their discussion of the incompatibility between current forms of MCS and sustainability is that they focus on Otley’s (2005) MCS framework. As per the implication that I outline above, Otley’s framework, as with all MCS frameworks have the implicit limitation that they provide a static one dimensional view of an organisation’s MCS. Hence here we see that through researching MCS using a process view I show that sustainability focused management controls have the potential to reduce this ecological illiteracy. Again of course this is an area for future research that focuses specifically on this question. Before providing a conclusion to this chapter in the next section I note that the demonstration of how sustainability focused management controls can improve ecological literacy begins to provide support to the second research aim that focusing on MCS can extend our understanding of issues around sustainability. However I will leave the full investigation of this second research aim and the three related questions to the next chapter.

5.5 Conclusion

In this chapter I set out to investigate the first research aim through the use of two research questions. These research questions examine how core values within belief systems develop and the role of other management controls within this process. In order to investigate this I collected data from my case study site, Kiwi, an organisation attempting to implement a new core value within their belief system. This results in the research uncovering three

specific implications. The first is that for core values within belief systems to fulfil the roles Simons (1995) assigns to them requires that both an ostensive understanding and a performative understanding are developed. The second implication is that through initially having the core value as informal, not formally inscribed into mission and vision statement, it allows for greater latitude of experimentation as to what the “grand purpose” can be, what the potential commitment to this “grand purpose” is, and the internal capabilities for being able to implement a strategy based on the potential “grand purpose”. The final implication is that during the process of developing core values other management controls develop, are transformed by the new core value, or act upon and change the core value.

In highlighting these implications I also provide support for the first research aim. That is, through using the context of sustainability I was able to add to our extant understandings of MCS through showing how belief systems inspire activities of search and discovery. Thus this research provides support for researching in the context of sustainability being useful in furthering our extant understandings of MCS.

I note that in my case study the second, long translation was still ongoing when I exited the field. However I believe that due to the complexity of the multiform problematization this second, long translation may stretch on for the foreseeable future and may in fact never achieve a black boxed performative understanding for Kiwi. I believe this to be due to this core value focusing on sustainability, which is a complex and ambiguous concept (Ball & Milne, 2005). As is the case for Mouritsen and Flagstad (2005, p211) “[t]he black box is not only “leaky” as Callon and Latour tell us, in this case it was never truly closed even if those who wanted and needed it most designed it.” Future research could examine a less ambiguous situation where researchers are more likely to observe the second, long translation for the core value in question resulting in a black boxed performative definition. However, as I discuss above finding a less contentious situation that provides a suitable context for this type of research may prove to be problematic. However should it be possible to find such a context then, beyond providing conformation of my findings, this may also give more insight into when, how and why a core value becomes inscribed into the formal belief systems such as mission and vision statements.

Due to focusing on belief systems I have specifically chosen to utilise Simons LOC. However in using Simons LOC I am aware that they are not without criticism. One of the criticisms Ferreira and Otley (2009, p266) note is that “[...] in some organizations, such as subsidiaries, belief and boundary systems may be largely beyond the domain of control of the subsidiary.” As this case study follows the translation process in the New Zealand operations

of a large Australian listed company my results may potentially suffer from this weakness. However, as I mention in chapter four, I establish that the case study organisation largely operates as if it were a wholly New Zealand owned company. Thus I establish that while they were influenced by both Koala and Eagle as to what their belief systems should be they have developed their own core values based on their unique New Zealand context.

Another potential limitation of this research is that it was conducted in a relatively large organisation with my findings only potentially being relevant in that context. This contrasts, for instance, with the study of Collier (2005) where his case organisation was dominated by one key actor, the owner, who was still able to assert a lot of direct control with the result being that a large part of the MCS was inherently informal. Therefore it would be of interest in future research to be able to follow the associations within an organisation, such as that of Collier's, starting from when the owner was able to use predominately informal controls to implement their intended strategy. From this starting point the researcher could then follow the associations to where the size of the extended networks that make up the organisation was such that this style of management could no longer produce the desired effect. In this way we might learn more regarding the need to use formal belief systems and how they develop.

This research is distinct from previous research that looks at the formalisation of controls from a life-cycle perspective (see for example Davila, 2005; Granlund & Taipaleenmaki, 2005). The case study organisation is a relatively mature one that did not undergo changes in life-cycle during the study. Thus the use and development of informal core values and changes in the wider LOC were being driven by strategic uncertainty rather than changes in the current state of the life-cycle.

I contribute in this chapter to the holistic understanding, from a process oriented view, of MCS whereby the case organisation was seen as an ever changing network of actors including management controls. Hence here I have added to works such as Kober et al (2007) in seeing senior managers experimenting and developing the controls they need in order to help address the strategic uncertainty they face. My data suggests that this is instigated through firstly developing informal core values within the belief systems. Further, therefore, this chapter contributes to bringing out the potential for research at the intersection of MCS and sustainability. I now turn to furthering the investigation into identifying these benefits through looking into the second research aim in the next chapter.

CHAPTER SIX – USING MCS TO RESEARCH SUSTAINABILITY ISSUES

6.1 Introduction

As was the case in chapter five, the starting point for this chapter is to note that in chapter three I refer to how Berry et al (2009) highlight the lack of research at the intersection of management control systems (MCS) and sustainability. One of the potential reasons for the lack of research at this intersection is the apparent incompatibility of traditional MCS, which focus on profit through economic growth, and sustainability. Berry et al (2009) do note that one of the few papers within this area is that of Ball and Milne (2005). In their paper Ball and Milne (2005) suggest that sustainability implies the need for radical changes in MCS. However, just one management control, the sustainability report, dominates the extant literature (Milne, 2007; Owen, 2008). This, therefore, suggests that the intersection of MCS and sustainability may be a fruitful area of research for the accounting for sustainability researcher and MCS researcher alike. Therefore, in this chapter I address the second research aim of this thesis, which is as follows:

2. Investigate whether focusing on MCS can extend our extant understandings of issues around sustainability.

As I note in chapter three, and as is the case with the first research aim, this research aim is too broad. Just as with the first research aim, I therefore narrow this into questions that through answering I can assess the support for this research aim. In doing so I note that issues around sustainability have the potential to affect the ongoing viability of an organisation and as a result I outline, develop and motivate three research questions as follows:

- 2.1 What is the role of the sustainability report in the process of attaining legitimacy?
- 2.2 In relation to question 2.1 what is the role of other management controls in the process of attaining legitimacy?
- 2.3 If other management controls play a role in the process of attaining legitimacy then which of Lindblom's (1993) four strategies are being used?

Therefore, in this chapter, I investigate management control and MCS in respect to legitimacy theory (Lindblom, 1993; Parker, 2005) as a way of focusing on one issue that

relates to sustainability. At the heart of Ball and Milne's (2005) concerns around the incompatibility between traditional MCS and sustainability is that the former entrenches a version of capitalism that has as its central focus growth of the economy. This focus on growth in the economy reflects in the efforts of organisations to increase profitability, measured in absolute dollar terms. However, increases in profitability within the current capitalist system is usually only obtainable through the drawing of increasing amounts of resources from the ecosphere and thereby contributing to environmental degradation (Milne, 2007; Weinberg, 1998). As Gray and Milne (2002, p69) suggest "[m]ost organisations in pursuit of growth and profit are likely to be increasing their throughput, and consequently, their ecological footprints." This in turn, therefore, moves society away from the state of sustainability.

As Callon and Latour (1981, p296) note "[i]n order to grow we must enrol other wills by translating what they want and by reifying this translation in such a way that none of them can desire anything else any longer." It is this translation of others wills into supporting the aims of the organisation that legitimacy theory focuses on. Hence if a focus on management controls and MCS proves, in answering the three research questions above, to be helpful in developing new knowledge relating to legitimacy theory then this will provide evidence in support of the second research aim.

In answering these research questions I again utilise a case based approach, focusing on the case organisation, Kiwi. This is in line with Owen's (2008, p247-248) suggestion that case based research offers much in respect to furthering our understanding of legitimacy theory given that the majority of prior research utilises desk based research methodologies. In order to analyse the data I collected at Kiwi, in relation to these three questions, I again utilise concepts from ANT, as I outline in chapter two, as the theoretical lens with which to critically reflect back the findings (Flyvbjerg, 2001) to legitimacy theory.

However, prior to proceeding to this analysis I first provide, in section two of this chapter, an overview of the sustainability reports produced by Kiwi. In doing so this helps to contextualise the analysis that I perform in the remainder of the chapter. I begin the analysis of the first research question in section three through analysing Kiwi's sustainability reports utilising Latour's (1987) four tactics for preparing texts against hostile attacks. Building on this analysis I then, in section four, use the concepts of translation (Callon, 1986a; b) as well as framing and overflowing (Callon, 1998; 1999; 2007) to answer the first research question as to the role of the sustainability report in the process of attaining legitimacy. I then turn to the second research question in section five where I utilise the same concepts from ANT to

examine the role of other management controls in the process of attaining legitimacy. The third research question is the focus of section six where I examine which of Lindblom's (1993) four legitimising strategies the other management controls are being used to deploy. Having completed the analysis relating to these three research questions I then turn to drawing out the implications of this analysis in section seven. With the analysis complete and implications in place I then turn to examining the second research aim, in section eight, where I find support for using MCS to extend our understanding of issues around sustainability. I then provide concluding remarks in the ninth section of this chapter.

Prior to proceeding with the rest of the chapter I first note that the three research questions arise from the paradox that reporting is the dominant focus of the extant literature on accounting for sustainability (and social and environmental accounting) (Milne, 2007; Owen, 2008) and yet evidence suggests that practitioners view their own reports with a degree of cynicism (O'Dwyer, 2002). The data that I collected at Kiwi tends to suggest some surprising results that contrast with the extant literatures privileging of the sustainability report. At Kiwi, in line with O'Dwyer (2002) findings, beyond the Corporate Affairs Manager who is responsible for the preparation of the sustainability report, it tended to be viewed as a "hygiene" factor [Chief Financial Officer (CFO)] or worse still "a fly in the ass of the elephant" [Managing Director (MD)]. This tends to suggest, as Czarniawska (2001, p264) notes, "[t]he present irritation of practitioners seems to stem from their conviction that the logic of representation, once its construction is exposed, will not function properly, that is, as a political tool." In contrast much of the extant literature (see for example Deegan et al., 2000; and Neu et al., 1998) has an underlying assumption that many organisations use their sustainability report as the primary means of attaining legitimacy (Lindblom, 1993). Therefore, with the contrast between the degree of cynicism by practitioners for their own sustainability report (O'Dwyer, 2002), with those at my case organisation being no exception, and the dominance of reporting in the extant literature (Milne, 2007; Owen, 2008) I question what its role is in relation to attaining legitimacy. Further, if the cynicism for the sustainability report transfers to it not playing a central role in the processes of attaining legitimacy, then I question whether other management controls have a prominent position in this process. Thus in this chapter I aim to re-examine the role of the sustainability report and other management controls in relation to legitimacy theory.

In defining legitimacy theory I refer to Parker (2005, p846) who notes that "[t]his theory according to Lindblom [(1993)] argues that an organisation is legitimised when its value system matches that of the social system of which it forms a part and that where there is

a mismatch, the organisation's legitimacy is threatened." Thus we see that legitimacy theory relates to how organisations attempt to maintain their social contract with their relevant publics, which in turn allows them to continue to operate within society.

In relation to the initiatives taken by organisations as they strive to maintain their legitimacy Lindblom (1993) outlines four classifications as a way of understanding the different types of strategies that can potentially be deployed. These are make actual changes and inform, attempt to educate and inform, association of the organisation with a powerful legitimising symbol, and make adjustments to the perceptions of the relevant public. Lindblom's (1993) four strategies have been extensively employed within the social and environmental accounting (SEA) literature that utilises legitimacy theory (Parker, 2005). Much of the analysis that utilise these classifications aims to show how the reports of any given organisation predominately utilises one of these strategies over the other three. Given the focus on other management controls in this research, in order to broaden understandings of how organisations strive to maintain legitimacy, I also aim to re-examine which of these four strategies are being deployed.

In developing the approach to investigate these three questions I note that a case based methodology offers much in terms of this type of research (Owen, 2008). However I need to be mindful of the issue that has been raised within the SEA field that researchers need to be specifically aware of. As I outline in chapter three there has been little actual engagement with organisations by researchers in this area (Adams, 2002; Adams & Larrinaga-González, 2007) largely due to concerns surrounding managerial capture (Bebbington, 1997; O'Dwyer, 2003; Tinker & Gray, 2003). The concept of managerial capture is based on the understanding that managers within the organisation being engaged will utilise the research to further their own cause of an appearance of change but no real change in respect to social and environmental issues and in doing so capture the change agenda (Bebbington, 2007) that is implicit in SEA research.

Therefore, as I also outline in chapter three, an appropriate methodology is required in order to address concerns around managerial capture and still be able to investigate these three research questions and evaluate the level of evidence in support of the second research aim. For this reason I conduct a longitudinal case study to re-examine legitimacy theory and utilise the theoretical lens of ANT to move beyond the accounting and legal view of the case organisation to conceptualise it as a network of human and non-human actors held together through associations that are constantly made and remade. In this way the focus of this research is on the situated practices (Garfinkel, 2002) of the actors in their mundane ordinary

lives as they strive to attain and maintain legitimacy through translating the wills of their relevant publics. Further, as I mention in chapter three, through the use of the theoretical lens of ANT discourse loses its privileged position and becomes just one among many types of practices (Reckwitz, 2002).

Thus this perspective allows for the practices around other management controls to be examined on an equal basis as the sustainability report. I note that MCS can be understood as the mechanisms actors use to enable the achievement of their goals and the goals of the wider network to which they belong and include a mixture of both formal and informal processes and procedures (Bisbe & Otley, 2004; Kober et al., 2007). Thus we see that management controls are non-human actors that are enrolled into the network of actors as part of the process of that network achieving its aims. By examining the translation through which the case organisation strives to attain legitimacy I am able to examine the management controls that are enrolled to understand what role they take in this process.

I also note that the use of ANT as the underlying theoretical lens is consistent with the use of legitimacy theory. That is, the theoretical lens of ANT, as I provide a detailed explanation of in chapter two, focuses on translation, which involves the forming of associations, which in turn form networks of actors from the conceptualisation of an issue through to where a particular solution to the issue is at the point of being black boxed. These networks are not stable but rather open to trials of strength from counter-actors with their respective anti-programs (Callon, 1986b). Thus by utilising ANT the focus is on the process through which legitimacy is attained. From an ANT perspective this is a network of actors attempting to align relevant actors or network of actors with the aims of their network in order to prevent them from becoming counter-actors with corresponding anti-programs. Thus legitimacy theory focuses on the process by which a network of actors strives to avoid potential trials of strength. With the research aim, research questions, and the appropriateness of ANT for examining these in place I now, in the next section, provide an overview of Kiwi's sustainability reports that I analyse in the subsequent sections.

6.2 Overview of Kiwi's Sustainability Reports

In the next section I analyse the two sustainability reports that Kiwi produced during the time period under examination using Latour's tactics to strengthen texts against hostile attacks. However, in this section I first provide an overview of these two reports in order to contextualise the analysis that I perform in the remainder of the chapter. Many of the elements from these reports, which I describe below, are typical of such reports (see

Thomson & Bebbington, 2005 for a summary of reporting practices). Therefore, Kiwi's reports do not represent anything that would not be expected to be seen in the reports of any given organisation.

To start this overview I first note that at Kiwi, in line with the studies of Adams (2002) and Ball (2007), the sustainability report was not prepared by accountants. One of the main reasons for the hiring of the Corporate Affairs Manager in September 2004 was to produce the sustainability report in an effort to promote the external image of Kiwi. Further a decision was taken to produce a stand-alone sustainability report due to Kiwi only publicly reporting its financial results in the combined group annual report. As I mention in chapter five no dedicated information system was set up in order to produce these reports with the information being personally gathered by the Corporate Affairs Manager.

The first report that Kiwi produced during the time period under investigation was for the 2006-7 financial year and was twelve pages in length. It was printed on recycled cardboard box packaging direct from the production line with the text back-dropped by images most readers would recognise such as branding and "Please Recycle" logos. The front page cover of the report compels the reader to "Take a fresh look..." (p1), which is followed up on the inside cover with "...at what we're doing" (p2). Then as to be expected, and prior to proceeding into the main body of the report, the next page consists of a message from Kiwi's MD. Notably, while it was widely referred to as the sustainability report within Kiwi, the MD's statement has the heading of "[Kiwi] Corporate Social Responsibility snapshot 2006/07" (p3). The remainder of the report outlines Kiwi's commitment, current achievements, how Kiwi has been recognised and future goals in the four areas of marketplace, workplace, community, and environment. Each of these areas are devoted a page with the preceding page showing an image of relevant actors asking a pertinent question. For example the image preceding the environment section is of a shopper looking at a generic product off a shop shelf with the pertinent question being "I want to make a positive difference through the products I buy" (p10).

The second and final report produced during the time period under investigation was for 2008 and was prepared by the Internal Communication Manager due to the Corporate Affairs Manager being on long term leave. In terms of formatting and putting the report together the Internal Communication Manager states:

"Well, we went from the report that [the Corporate Affairs Manager] had done two years earlier [...] and used that as the base and it's very

brief, just simple bullet points, this is what [...] we're currently doing, bullet point, bullet point, bullet point [...] and we were only focusing on the environment so we looked at that first report and said, the [...] column that said what are we going to do next and that was our starting place [...] had we actually done what we said we were going to do next [...] what are we doing and [...] what are our next steps."

Thus he based the 2008 report on the format of the 2006-7 year report but in a much shorter format. That is, unlike the 2006-7 year report, which was twelve pages long, the 2008 report was four pages in length and only focuses on the environmental. In contrast to the 2006-7 report it is printed on glossy card with the front page cover of the report compelling the reader that "we all have a part to play" (p1). Further the title of this report appears in much smaller text under this statement as "[Kiwi] Environmental Report, October 2008" (p1), both of which are superimposed on an image of a lady and young child sitting on a beach looking out to sea. The message from Kiwi's MD that held a prominent place in the previous report is replaced by the one sentence statement on the second page of "[w]e are committed to combining good business with strong values and making our company more sustainable in every area in which we operate" (p2). Also on the second page are general statements around sustainability, waste, packaging and Kiwi's attitude to the environment. The third page is familiar from the previous report in that it outlines Kiwi's commitment, current achievements, how Kiwi has been recognised and future goals but only in the area of environment. The final page of the report, the back cover, contains little more than a statement taken from a carbon disclosure report prepared by a well known investment bank and a note about the source of the paper used to produce the report.

Having described both reports I now turn in the next section to starting the analysis in terms of research question one which focuses on the role of the sustainability report in attaining legitimacy. To investigate this I first analyse both of Kiwi's reports using Latour's (1987) four tactics to strengthen texts against hostile attacks. Having completed this, in the following section I turn to using this analysis to understand the role of the sustainability report in attaining legitimacy.

6.3 Understanding Kiwi's Sustainability Reports through Latour's (1987) tactics

I start this chapter by noting the dominant position that the sustainability report has within the SEA literature that utilises legitimacy theory (Milne, 2007; Owen, 2008). I also

note that practitioners display a degree of cynicism towards their sustainability reports (O'Dwyer, 2002), with some of the key actors at Kiwi being no exception. Therefore, in this section I begin to answer the first research question in order to better understand the role of the sustainability report in the process of attaining legitimacy. That is, in this section I analyse the sustainability reports produced by Kiwi in terms of the tactics that Latour (1987) outlines to strengthen texts against hostile attacks. With this analysis complete I turn in the next section to understanding the implications for the role of the sustainability report in the translation process of attaining legitimacy. This includes outlining how this fits in with the notions of framing and overflowing in order to set the scene for the investigation of the role of other management controls in this process.

In analysing these reports in terms of Latour's (1987) four tactics I turn first to fortification, which is giving the appearance of being highly technical and thereby demonstrating that they know what they are talking about. Kiwi fortifies their 2006-7 report in a number of ways. To start with the report being printed on recycled cardboard packaging can be seen as compelling the reader to understand that recycling is something that Kiwi's practices as well as preaches. Further Latour (1987) notes that in order to understand fortification we must read the text in question so as to imagine it responding to all the potential objectors that the preparer of the text must strive to overcome. Here we see that the report even assists the reader with this through the use of an image with a pertinent question prior to each section thus placing the potential objectors and their objections within the text itself. These objections are answered in each of the four sections through listing achievements made by Kiwi. Hence these achievements fortify the text through demonstrating to the potential reader the technical abilities in each of these four areas. A good example of this is the noting under the marketplace section (p5) that Kiwi has voluntarily included on its packaging a "RDI" (recommended daily intake) indicator. Further Kiwi fortifies the text through the displacement and representation within the text of a whole array of supporting actors. This is achieved in a number of ways including listing in each of the four areas different recognition in terms of; for example; awards, nominations, and accreditations received from outside stakeholders. Hence this fortifies the claims made in terms of achievements through aligning them with a vast array of supporting actors. The text is further fortified through including references throughout the text to other supporting texts. A good example of this is the inclusion of a reference (p9) to a website about water management set up by Eagle, thereby reminding the reader that Kiwi's efforts sits within a much greater system that brings with it the weight of wide support and many resources.

The 2008 report is fortified in similar ways as the 2006-7 report. While it is not printed on recycled cardboard like the 2006-7 report the vast majority of the second page focuses on recycling. Also the second page provides examples of the text responding to all the potential objectors that the preparer of the text must strive to overcome. Specifically a large statement claims that “sustainability is a hot topic for New Zealanders with many of us doing our part to reduce our impact on the environment” (p2). Thus the potential objection of ‘is Kiwi doing their part’ is answered and further reinforced with a statement on the same page that is titled “so what is [Kiwi] doing?” (p2). This fortification is further strengthened, as was the case with the 2006-7 report, on page three through listing the achievements Kiwi has made in the area of the environment. This thereby demonstrates to the potential reader the technical abilities of Kiwi in the area of the environment. A good example of this is provided under the subheading of climate where the reader is told that Kiwi “[...] are trialling hybrid technology for some of our distribution trucks” (p3) and “[...] use dry lube technology on manufacturing conveyor lines to save water” (p3). As with the 2006-7 report a whole array of supporting actors are displaced and represented within the text to further fortify the text. Again they list, on pages three and four, recognition in terms of awards and nominations received from outside stakeholders, thus aligning them with a vast array of supporting actors. Also as with the 2006-7 report, they include references throughout the text to other supporting texts in order to fortify it through sending potential objectors to these other sources of strength. Hence, on page two, when talking about recycling rates the reader is referred to a report produced by the Packaging Council of New Zealand and thus reminds the reader that Kiwi is an active supporter of greater efforts to encourage recycling by New Zealanders. Thus the potential objection of Kiwi drawing increasing resources from the eco-sphere in order to package their products is deflected onto the ‘greater’ issue of levels of recycling by the New Zealand general public.

The next tactic is stacking, which is formatting the text so that it enables the reader to go from the very intricate details to accepting very general claims. Evidence of stacking in the 2006-7 report is easily discernable in the MD’s introduction (p3). That is, the MD starts the introduction through noting how Kiwi has been active as an employer, sponsor, and manufacturer in New Zealand for 43 years²¹. This is further reinforced by noting that on the

²¹ This may seem a relatively short time if taken in the international context. While the Maori people are believed to have settled in New Zealand in the thirteenth century, Europeans did not start settling in New Zealand until the late eighteenth century. However, it was only with the signing of the Treaty of Waitangi in 1840 that European settlement in New Zealand began to flourish. Hence, this statement regarding the length of time that Kiwi has been active in New Zealand is to be considered in the context of the relatively short period of

international stage they are considered by Eagle to be one of their “anchor” manufacturers. This then flows into a discussion of how Kiwi strives for excellence through always looking for opportunities for improvement. Having made this move from a ‘fact’, to an outsider’s assessment, to a statement of belief, the reader is then expected to move to accepting a self assessment of Kiwi’s respect for the environment and position as a good corporate citizen. Stacking is also discernable in the layout of each of the four sections as the reader is moved from a statement of commitment, through achievements, into outside recognition, and thereby making the plans for the future, the final part of the section, more acceptable to believe that they will be achieved.

In the 2008 report stacking is also discernable in similar ways. That is, on page two the reader is presented at the top with detailed ‘facts’ about levels of recycling by the New Zealand general public and the amount of solid waste being sent to landfill. Alongside this is presented a “did you know” (p2) section with four bullets points providing ‘facts’ about the typical benefits of recycling items commonly associated with Kiwi’s products. This is followed underneath by the MD’s one sentence statement about Kiwi’s commitment to strong values and sustainability. Finally underneath this is the “so what is [Kiwi] doing” (p2) section where the reader is asked to believe that all Kiwi employees are committed to caring for the environment and that Kiwi is actively seeking solutions to help all New Zealanders do the same. Hence the reader is lead from very intricate detailed ‘facts’, through the MD’s statement focused on values, to a point where it is hoped they will believe that the environment is a concern for all at Kiwi to the point where they are part of the solution not the problem. Also, as with the 2006-7 report, stacking is also present in the layout, on page three, of the section that focuses on the environment. The reader is again moved from a statement of commitment, through achievements, into outside recognition. Thus when the reader assesses the final section focusing on the plans for the future it is hoped that, through moving from the intricate to this point, it is more acceptable for the reader to believe that they will be achieved.

The third tactic of staging and framing is whereby the preparer of the text not only narrows the potential readership but also stages a series of trials within the text that the narrowly defined readership would expect to see. In the 2006-7 report the introduction by the MD (p3) also includes elements of this tactic. For example he notes that Kiwi will not only be efficient and profitable but also continue to provide environmental, social and employment

European economic activity within New Zealand, with this amount of time making Kiwi a well established organisation within this context.

leadership in the FMCG industry. Thus the readership gets narrowed to only those with an interest in the FMCG industry. Further the narrowed readership is also shown how Kiwi has overcome the competition in this industry to be leaders in these areas. This is 'proved' in each subsequent section of the text whereby a commitment is made within the specific area and subsequently achieved as demonstrated by a list of accomplishments that are recognised by a given set of stakeholders. For example within the workplace section Kiwi's commitment is "[t]o foster a safe, open and inclusive work environment where a highly motivated, productive and committed workforce drives business success through superior execution" (p7). This is demonstrated to be overcome by Kiwi through a list that includes five different programmes established to improve staff member's skills and abilities, a programme designed to improve staff member's health, and a parental leave package for staff members. In turn Kiwi has demonstrated endorsement for these through including a list of three award recognitions and two different workplace related accreditations gained from outside stakeholders to this area.

In the 2008 report the staging and framing is less forthright than in the 2006-7 report. To start with, and as will be elaborated on below, given the nature of the report being of general distribution, framing is virtually absent. However staging in much the same way as in the 2006-7 report is still present. That is, on page three in the section focused on the environment a commitment is made, with its achievement proved through the inclusion of a list of accomplishments that are recognised by a given set of stakeholders. For example the commitment is made that "[w]e see our packaging as a resource not a waste stream and will manage it as such" (p3). This is 'proved' in the achievements section under packaging innovation where, among other things, the reader is told "[w]e use 100% recyclable material including containers and closures" (p3). These statements are then backed up with the noting of two recognitions from external stakeholders thus lending their support to these claims.

The final tactic is captation whereby the preparer controls the reader into supporting the text by leading them from very acceptable facts through to those that are potentially less acceptable but in doing so leaving little room for dissent. Captation out of all of Latour's tactics is the hardest to recognise within both of Kiwi's sustainability report. However if we again turn to Preston et al's (1992, p575) statement that "[t]he classic way of achieving this control is by first offering general, difficult to object to, statements and moving to lesser known and more contestable ones" we can start to see that in these reports that captation is achieved in the formatting of the report rather than the text itself.

The 2006-7 report starts with the very general and hard to object to statements made by the MD (p3). From there it moves to looking at Marketplace concerns (p4-5), an area in which Kiwi has had long experience in dealing with issues that have the potential to compromise their legitimacy. They then turn to the area of workplace (p6-7), which given their historical low staff turnover and large number of staff members with long service records, is also an area of less contention. This is followed by the area of community (p8-9) where, despite their products being linked with health concerns, like obesity, that affect specific parts of the New Zealand population, they have high profile activity including supporting one of New Zealand's iconic sports teams. It is only once all these less controversial areas have been tackled that they move onto and finish the report with environment (p10-11). As Kiwi is an organisation whose profitability and growth is reliant on using the resources provided by the ecology, this area holds most potential to affect their legitimacy. However the reader who chronologically reads this report is taken through a very well constructed report with the inclusion of a vast number of many different types of supporting actors before even arriving at this point. Thus Kiwi is trying to take the reader from generally acceptable facts through to the point where by this stage the reader should be convinced of not only the fact that they are a good corporate citizen but that this view is held by many supporting actors.

In a similar way, even with its focus only being on the environment, the 2008 report leads the reader from very acceptable facts through to those that are potentially less acceptable but in doing so leaves little room for dissent. At the very start of the report on the front cover the general and very acceptable fact is presented of "we all have a part to play" (p1). On the very next page the statement of "[s]ustainability is a hot topic for New Zealanders with many of us doing our part to reduce our impact on the environment" (p2) moves the reader into the position where Kiwi is assumed to be among the many playing their part. This is further reinforced through listing numerous achievements in the area of environment and inclusion of references to a whole host of supporting actors and networks. Should the dissenting reader reach the back cover still with any doubts they are confronted with a statement (p4) made in a carbon disclosure report prepared by a well known investment bank in which they give credit to the Koala group for their efforts in this area. Hence the dissenting reader is left in no doubt that they are up against not only a New Zealand organisation but a much larger network with operations in five countries whose efforts and achievements in the area of the environment are further supported by other large networks. Thus the reader is led from the general and acceptable fact that we all have a part

to play in dealing with issues around the environment to a final position where Kiwi is presented as not only playing its part but is also moving beyond what is required of them. Therefore the preparer of the text would expect it to be hard for a lone reader to dissent given the vast array of support that has been demonstrated throughout the report.

In summing up this analysis it is clear that all of Latour's (1987) tactics have been deployed. However if we specifically focus on the level of framing we can see that the audience has not been narrowed down to just a few key readers. Given the nature of the text it is not surprising that this is the case as it was always intended to be a public document. The implication of this is while we see all of Latour's (1987) tactics deployed they are not done so as forcefully as would be seen for instance in a scientific text. A clue to the reason for this is given by Latour (1987, p52) in the following:

“Notice that popularisation follows the same route as controversy but in the opposite direction; it was because of the intensity of the debates that we were slowly led from non-technical sentences, from large numbers of ill-equipped verbal contestants to small numbers of well-equipped contestants who write articles. If one wishes to increase the number of readers again, one has to decrease the intensity of the controversy, and reduce the resources.”

Given the release of this document to the general public and thereby potentially large number of readers, it stands to reason that within it there is little room for the deployment of resources for the discussion of controversial issues. This is line with the suggestion of Gray and Milne (2002, p68) that this type of “[...] reporting tended to be assertive, partial and to cherry-pick the “good news””. However it is the more controversial matters of concern that have the potential to compromise Kiwi's legitimacy. Therefore the question remains, if the sustainability report is not enrolled to overcome the more controversial issues what is its role in the process of attaining legitimacy. It is this question that I turn to investigating in the next section.

6.4 The role of the sustainability report

From the analysis that I perform in the last section using Latour's (1987) tactics for making texts resist hostile attacks we can see that Kiwi's sustainability reports were not designed to be used to enrol counter-actors or prevent anti-programs. If the sustainability

report is not a tool for enrolment then the question remains as to what its role is in the translation process aimed at attaining legitimacy. The starting point for understanding the role is the following statement about Kiwi's report:

“Yeah, where we talk about these commitments and meet our targets and how we're tracking against them. But in a way that is easy because we like this to be a sales rep tool so the sales force can go to a customer, yep, okay, one moment, you've got a question on environmental. Here's our targets, here's how we're doing and this is where we plan to be.” [Corporate Affairs Manager]

Thus we start to understand that rather than the report being thought of as being able to achieve enrolment or to overcome counter-actors and anti-programs in the case organisation it is rather a device used to assist with interessement, as is consistent with the findings of previous research (Ball & Milne, 2005; Milne, 2007). That is, as an interessement device it is used to assist with the locking in of all the other actors they have identified into the defined roles that they have proposed. As I mention in chapter two, translation is not linear but rather iterative and ongoing. Thus we see the report as a device used to assist with reaffirming the roles of actors that have already been enrolled into supporting the network. This is in line with Neu et al's (1998, p272) statement that “[...] environmental disclosures are directed at important and supportive relevant publics, not at peripheral and “critical” publics.” Specifically in this example the report is being used to reassure the customer that Kiwi is a responsible corporate citizen and therefore there is no need to have doubts regarding whether to continue purchasing their products. Thus, “[t]he resulting disclosures may be expected to orientated more toward meeting the corporate needs than toward meeting the needs of the relevant publics.” (Lindblom, 1993, p20) This also starts to question who ultimately the relevant publics are, which I will return to discussing below, given the customers concerns would be focused on their abilities to sell Kiwi's products to the end consumer.

Given the role of the sustainability report being as an interessement device, used to reaffirm the identities of those already enrolled into the translation, it is, unlikely to ever sufficiently fulfil the role envisaged for it by the accountability model (Gray et al., 1996). Further, this finding adds weight to previous research (Gray & Milne, 2002; Milne & Gray,

2007) that notes that the current state of reporting labelled as sustainability falls well short of what the name implies.

The reports role as an interestment device can better be understood with reference to the notions of framing and overflowing, which I discuss in chapter two section nine. Specifically we can see with reference to the analysis above that all the overflows reported in Kiwi's sustainability reports are 'cold' overflows. That is, due to the general release of these texts, and therefore the need to avoid controversy, only overflows that have been sufficiently cooled, which Kiwi will be easily able to bring within their existing framing, are referred to. A good example from the 2006-7 report is that in terms of issues surrounding man-made climate change the reader is told that Kiwi will quantify all of their emissions (p11). At the time of this report the New Zealand Government had made provisions for the introduction of the Emissions Trading Scheme (ETS) that would have made it compulsory in the near future for organisations such as Kiwi to produce carbon footprints. Based on the likelihood of having to do one in the future, and to be in line with Koala and Eagle who also had started working on their own ones, the decision had already been made internally at the time of the report to assign the Project Manager Finance to producing Kiwi's carbon footprint. Thus whilst this overflow was still not within the existing framing that Kiwi operated within neither was it a 'hot' overflow but rather one that would soon be subject to reframing.

The finding of only 'cold' overflows being included in these reports is consistent with previous research such as Rahaman, Lawrence, and Roper (2004) who note that the reports produced by the Volta River Authority were being used to keep hidden the worst affects of their operations (also see Milne, 2007 for a discussion of this point). Thus we see that the sustainability report is only part of the existing framing process whereby 'cold' overflows are signalled as the areas of concern that will be brought back within the frame. Therefore it does not take an active role in efforts of reframing or finding other means with which to limit 'hot' overflows. As Callon (2010, p166) notes "[...] markets that work satisfactorily are markets that comply with the terms of reference imposed on them (in terms of efficiency, equity, etc.) and simultaneously leave it up to the political debate to explicitly address the issues resulting from the misfires and overflowings generated by their enactment".

This helps explain why some actors within Kiwi, such as the CFO and the MD, did not see the report as containing substantive 'facts' that have the ability to "[...] accommodate and persuade diverse interests" (Baxter & Chua, 2003, p102) . Rather, as noted earlier, it was openly referred to as a "hygiene factor" or worse still as demonstrated in the following quote from the MD:

“We spend tens of millions of dollars on marketing but the brands right now are not carrying any sustainability messages. The messages are going out to stakeholders and consumers via if you want [...] traditional [...] public relations [...] routes. [...] But in reality that’s always going to be a, you know, a fly in the ass of the elephant, which is our consumer communication so until we can actually work out how to communicate sustainability [...] basically working out how we integrate those messages into the brand messages will be the next big breakthrough for us [...] the real value to us comes in our consumers knowing it [...] but it’s a challenge to get many conflicting messages out there, grab a [most famous product] and have a look at the [...] number of messages that have to be communicated on the label”

This statement shows that for Kiwi brand messaging including those on the labels of products is seen as a better opportunity than the sustainability report to communicate to their relevant publics. This lends weight to Lindblom’s (1993, p20) statement that “[t]he annual report may not be the only or even the best vehicle for disclosure to certain of the relevant publics.” Further, the MD’s statement, in combination with the discussion above, also raises the question of, from Kiwi’s perspective, what is the identity of the relevant publics. While references are made throughout the reports to a broad set of stakeholders the above statement is representative of the sentiments of many, but not all, actors within Kiwi of whom the relevant publics are. That is, many, but not all, actors within Kiwi operate under the Friedman (1962) assumption that the organisation exists solely to make profit. As a result the only relevant publics are the consumers of their products as reflected in the following statement by the CFO:

“Well companies are probably the solution to the problem but actually its going to be driven by changes in consumer behaviour. So [...] the day people stop buying this product its, you know, we’re going to go and find something that they’re going to buy [...] and I think the question mark is around how much responsibility should we take in [...] educating consumers around [...] and changing [...] their behaviour and [...] also how [...] much are we being obstructive

would be the other question for any account. Because the cynics would say that [...] we've got no reason to change the world and being obstructive, when the reality is we're not suppose to kill it.”

Thus we must carefully delineate between, for Kiwi, who the relevant publics are, the consumers of their products, and emergent concerned groups, which arise as a result of ‘hot’ overflows. With this understanding these emergent concerned groups may challenge the organisations legitimacy only through influencing the relevant publics and thereby enrolling them into supporting their anti-programs. It is therefore only with their consumers that legitimacy must be maintained in order that they continue to support Kiwi through purchasing their products. Thus returning to Callon and Latour (1981, p296) we see that Kiwi must translate the wills of their relevant publics to enrol them into buying their products in such a way that they are not influenced by any emergent concerned groups.

It is important to note, therefore, that sustainability issues only gained momentum and were actively concentrated on at Kiwi with the identification of an emergent concerned group, LOHAS, who due to their increasing importance as consumers had the potential to threaten the legitimacy of Kiwi. That is, it was, returning to the above statement of the CFO, through understanding that some of their consumers were beginning to be enrolled by this emergent concerned group that Kiwi realised that they needed to undertake new initiatives. These new initiatives, centred on sustainability issues, were aimed at aligning Kiwi with the LOHAS network and thereby overcoming any potential threats to their legitimacy. This then leads to another question which is, given the conclusion that the sustainability report is used as an interessement device and as such does not guarantee enrolment, what devices are available to Kiwi to identify such emergent concerned groups and prevent them from becoming threats to their legitimacy. Hence in the next section I seek to understand the role of other management controls within the process of attaining legitimacy.

6.5 The role of other management controls

In the previous section the focus was on the first research question with the sustainability report having the role of an interessement device that includes references to only ‘cold’ overflows. With the sustainability report’s role being in relation to ‘cold’ overflows, I find that the expectation is the sustainability report is not able to overcome counter-actors or anti-programs that potentially may arise from ‘hot’ overflows. Therefore in this section I seek to answer the second research question and in doing so better understand

how other management controls can assist in identifying emergent concerned groups and assist in overcoming potential threats to the organisation posed by these groups.

The focus of this section is on what is the role of other management controls within the process of attaining legitimacy. In line with the above discussion around the sustainability report, I expect that if the management control is in relation to a ‘cold’ overflow then its role would be as an interestment device rather than to actively overcome potential trials of strength with counter-actors or anti-programs. With reference again to Kiwi’s Carbon Footprint I note that at the end of 2008 the New Zealand Government changed as a result of a general election. The new government put on hold indefinitely the start of the ETS further cooling an already ‘cold’ overflow. Hence we therefore see that in light of this ‘cold’ overflow Kiwi’s carbon footprint has:

“[...] given us some answers to a lot of other [...] questions which are coming out of a range of different [...] stakeholders [...] environmental groups, government groups, you know, regulatory groups, all sorts of different areas are [...] looking for that information now and you actually have something that we can refer back to”
[Project Manager Finance]

Thus at the time of interviewing the CFO at the beginning of 2009 he was also referring to the Carbon Footprint as a “hygiene factor”. That is, it is necessary to have one as an interestment device and in that way maintain the status quo of the organisations legitimacy but it offers little in terms of preventing or diverting potential trials of strength that may arise out of ‘hot’ overflows.

We therefore need to question what is available for an organisation to deploy when as a result of a ‘hot’ overflow an emergent concerned group potentially threatens their legitimacy. A clue to answering this is given by Callon (1998, p263) who notes that in situations of ‘hot’ overflows “[...] economic agents can no longer be kept at a distance from the investigations which by the same token, they help to hamper: some of them have an interest in maintaining the state of controversy and ignorance and do not hesitate to commit substantial resources to doing so because they can influence the content of conclusions by introducing arguments and problems hitherto absent from the debate.” That is, in cases of ‘hot’ overflows the organisation has only two choices. The first is to find a way to cool it down in order to be able to reframe it. In contrast the second involves initiating activities that

aim to prevent the relevant publics, who are as discussed above the consumers of the organisations products, from being enrolled into the anti-programs of the emergent concerned group and in doing so remove the organisations legitimacy. In other words management controls and related initiatives are used by the organisation in order to enrol the relevant publics into their problematisation of the issue and thereby countering the problematisation of it by the emergent concerned group.

This can best be illustrated at Kiwi with reference to the debate about what sustainability means. As Milne (1996) demonstrates there are an infinite number of ways to understand sustainability. This results in sustainability being an ambiguous and contested concept (Ball & Milne, 2005) and thereby a continual source of ‘hot’ overflows. The data demonstrates that the different actors throughout the Kiwi network have an array of understandings of sustainability that reflect the spectrum of possibilities. However ultimately Kiwi’s continued existence and growth is reliant on drawing resources from the ecology. Therefore when understanding what sustainability is from Kiwi’s perspective, given that this very question is a potential source of ‘hot’ overflows with corresponding emergent concerned groups, we see that:

“What is it [...] and there’s probably a second part of that is [...] what will it become if you like because my view is that’s [...] actually the question, certainly you’ve got to answer that question what’s it going to look like [...] because [...] I think the reason no one can answer the first one is because it’s an evolving thing and it will be whoever can, you know, play hardest in this area will define what it will become and whether it’s society who plays harder or whether it’s business that plays hard will really [...] will vote on how it actually get’s to mean [...] will really determine how it looks at the end of it.” [CFO]

Thus we see that Kiwi enters into trying to prevent emergent concerned groups developing from this ‘hot’ overflow that can challenge their legitimacy through the use of many different management controls that are in relation to many different initiatives. It is only if these individual management controls and initiatives are in relation to ‘cold’ overflows that they will be presented in the report. Hence, as way of an example, in terms of the amount of resources that Kiwi consumes in their production processes they introduced four metrics; known as the Environmental Performance Metrics (EPM); namely water usage,

energy usage, waste minimisation, and recycling level. With regards to what appears in Kiwi's reports, we see that it relates to a 'weak' (Ball & Milne, 2005) understanding of sustainability focused on eco-efficiency. For example, in relation to the waste minimisation metric, we are told in both reports that Kiwi recycled 87.5% of all solid waste at their plants. However it is the absolute amount of solid waste produced that will ultimately determine whether these results are acceptable. If the amount of production increased between the time of producing the 2006-7 report and the time of producing the 2008 report then correspondingly the absolute amount of solid waste that is not recycled also would have increased. That is, the results of these metrics are only ever reported in relative (weak sustainability) and not absolute (strong sustainability) terms (as is consistent with the findings of Bebbington et al., 2001). In this way they avoid reporting on the potentially 'hot' overflow of absolute resource consumption and waste production that may focus attention on their operations from a relevant emergent concerned group that potentially could challenge their legitimacy²².

In turning to answer the question as to the role of management controls in the process of attaining legitimacy in relation to 'hot' overflows I use yet another example from Kiwi. That is, the management control known as 'Estimated Advertising Value' (EAV), which is one of the KPIs used to measure the performance of the Corporate Affairs Manager. EAV is calculated by an outside consulting organisation on behalf of Kiwi and is a count of the number of times that Kiwi has been mentioned in a wide range of media outlets. Further the count is classified by issue and as to whether the reference to Kiwi was positive, negative or neutral. However the Corporate Affairs Manager only writes two to three press releases a year and therefore the majority of these comments made in the media come from:

“[...] third parties are putting stuff in the market; criticism, health, obesity, environment, community sponsorship, well that's our brand leverage. So it's things we're actually doing being commented on by others.” [Corporate Affairs Manager]

Thus the EAV KPI acts on the Corporate Affairs Manager in a way that relates to the ability of management controls to expand and reduce organisational activity (Mouritsen et al., 2009). That is, where negative comments have been made around an issue it assists with

²² Relative measures are often grouped under the label of 'eco-efficiency'. Refer to Ball and Milne (2005, p325) for a fuller discussion of the problems associated with eco-efficiency.

identifying potential emergent concerned groups and related ‘hot’ overflows. Thus though identifying potential counter-actors and anti-programs, that may challenge Kiwi’s legitimacy, it prompts the Corporate Affairs Manager to take appropriate initiatives thereby expanding organisational activity. It is these initiatives, not the sustainability report, which aim to enrol the relevant publics and thus maintain legitimacy. Each of these initiatives will utilise their own set of management controls to assist with their implementation and the dissemination of information to the relevant publics.

Thus the role of management controls within the process of attaining legitimacy differs between ‘cold’ and ‘hot’ overflows. In relation to ‘cold’ overflows management controls role is as interestment devices to reaffirm the identities created for actors already enrolled into giving the organisation legitimacy. In relation to ‘hot’ overflows, the role of management controls is firstly to identify the presence of emergent concerned groups that have the potential to challenge the legitimacy of the organisation. Through the identification of emergent concerned groups the management controls signal the need to expand or reduce organisational activity as appropriate. The resulting initiatives aim to enrol the relevant publics into maintaining the organisations legitimacy. However it is still unclear as to which of Lindblom’s (1993) four strategies these are being used to deploy. It is this very question that I turn to answering in the next section of this chapter.

6.6 The other management controls in relation to Lindbloms (1993) four strategies

In the previous section I address the second research question in relation to the role of management controls in the process of attaining legitimacy. I now turn to the third research question; given the role of other management controls in this process, which of Lindblom’s (1993) four strategies are these management controls being used to deploy. Through again examining specific examples from Kiwi we can further our understanding in terms of this question and see that these management controls and related initiatives are used to pursue what could be labelled as not one but elements of all four of Lindblom’s (1993) legitimising strategies.

In terms of the first strategy - actual change – an example is provided by Kiwi’s use of the EPM focused on waste minimisation. This EPM at Kiwi is actively involved in steering operations towards zero waste. While, as I mention above, in the 2006-7 report this metric was only sitting at eighty seven and a half percent it has significantly improved over the time period covered by this research including two plants, Christchurch and Putaruru, consistently maintaining levels of over ninety nine percent. As I note in the previous chapter, the changing

of the target from ninety percent to ninety nine percent acted upon the best performing production plants, compelling them to search for new opportunities. For instance this enabled Christchurch to find a new supplier of dry waste removal. This new organisation now collects the dry waste from Kiwi, which had previously been destined for landfill, and takes it to their facilities where it gets sorted for recycling. As the Christchurch Production Planning Manager notes:

“I can tell you what, there is tons and tons and tons and tons of stuff which is going through that plant which had it gone through the normal, through the curb side recycling station it would all be landfill [...] they do a whole large gamut of stuff that the council don’t do.”

Thus not only has this enabled Christchurch to improve its performance against the target but also has resulted in the actual change of previously discarded waste being re-directed to becoming the raw materials for new processes. Kiwi has promoted this change, and thereby aimed to inform their relevant publics, through various means including attainment of a packaging award for these two plants from the Packaging Council of New Zealand. Thus despite, as I note above, the concerns of this management control being measured in relative terms, the way in which it is being used internally is prompting actual change within Kiwi.

The second strategy - educate and inform - can be seen in the example of Kiwi’s attempts to promote its use of packaging made out of PET rather than PLA. Kiwi is mindful that PLA packaging is a potential area of overflow as seen in the following quote from the Procurement / Logistics Manager:

“Biodegradable packaging in New Zealand in the short term [...] we don’t like PLA [...] and I see, you know, [one of Kiwi’s competitors] have got a PLA bottle on the market”

Thus they have the incentive to educate and inform their relevant publics to the relative benefits of PET over PLA. Kiwi’s perspective is that while PLA is often seen as more environmentally friendly than the alternative of PET, within New Zealand there is no ability to recycle it thereby not making it a viable alternative. Kiwi has made efforts to educate and inform their relevant publics for instance through writing articles around this

issue. An example is the following, which appeared as part of an article in the November / December 2009 issue of the Kiwi internal magazine:

“The term is new and already much confused and abused. Bioplastics (PLA) was intended to represent plant based (starch) plastics, but now the term is used in the packaging world to refer to synthetic plastics that can degrade. Recycling Operators of New Zealand (RONZ) and many other organisations are concerned about how the use of Bioplastics (PLA) for beverage packaging as a “green” marketing tool is confusing people. In NZ Biodegradable packaging is part of the waste stream and sent to landfill where they do not in fact decompose. The ability for PLA packaging to be composted is reliant on the existence of a sophisticated infrastructure. This is not sufficiently available in NZ [New Zealand] at this date and is unlikely to be so in the foreseeable future. In addition PLA packaging contaminates recyclable plastics. One biodegradable bottle making its way into a bundle of plastic bottles renders that bundle non-recyclable, therefore a plastic recycling symbol should not be displayed anywhere on PLA packaging.” (p4)

I note that this is an internal magazine designed to keep members of the Kiwi network informed, however as the Internal Communications Officer notes:

“So, well it goes internally but [...] just by nature of it being on a paper document we realise that it probably goes to places we’d rather it didn’t like, you know, competitors and such [...] so [...] everything there is [...] a public document and able to be quoted.”

Thus Kiwi can print articles within its internal magazine knowing full well that this magazine is monitored by a wider audience including relevant publics and related emergent concerned groups.

In terms of association with powerful legitimising symbols, the third strategy, Kiwi has begun to interact with WWF. Traditionally Kiwi has held an acrimonious relationship with WWF even though Eagle has a long standing relationship with them. However in 2009

Kiwi made efforts to mend this relationship including inviting spokespeople from the WWF to come along to talk to staff during their lunchtimes. Plans were beginning to be put in place at the time of interviewing the Corporate Affairs Manager in October 2009 to further strengthen this association as she explained as follows:

“Yeah, because they’ve traditionally not been a friend here. They’ve really seen us as a foe, even though there was the international relationship. But we are building, I shouldn’t say rebuilding because there wasn’t anything to lose, it was like there was a relationship and it was, and we’re doing that through the International [Eagle] Foundation. So Worldwide Fund for Nature are quite experienced in applying for money from that foundation so the New Zealand arm, and we’re pulling together a project so it would be a tripartite agreement between ourselves, WWF and Keep New Zealand Beautiful. And essentially we would adopt a region and sort of look at beautification, clean waterways, Keep New Zealand Beautiful volunteers to come in and, you know, litter abatement and all that sort of thing so we sort of adopt a region from sort of a holistic point of view. So Worldwide Fund for Nature, they have six regions that they are currently creating these projects for so we would step into one of them and it would be a long-term thing. So one of the ones they talked to me about would be Far North, then it would be about birds, kiwi protection, helping farmers sort of replanting, you know, sort of multi-levelled as well as the litter abatement and Keep New Zealand Beautiful. So it’s kind of urban and rural.”

These actions can of course be seen as more than just Kiwi trying to align with a powerful legitimising symbol. That is, WWF is a potential emergent concerned group that may put into place anti-programs that threaten the legitimacy of Kiwi. Thus through attempting to mend this relationship Kiwi can be seen to be trying to enrol WWF into not becoming counter-actors that challenge their legitimacy. The above quote also speaks of another legitimising symbol that Kiwi associates itself with. That is, Kiwi gives its staff time off from their normal duties to participate in pollution cleanup events organised by the group

Keep New Zealand Beautiful. Kiwi then actively promotes these events through many channels including local media and again their internal magazine.

The fourth strategy - changing the perceptions of the relevant publics - can be seen in examples at Kiwi including attempts to distance its products from obesity problems. Also closely related to this issue is Kiwi's attempt to change perceptions in relation to the artificial sweetener aspartame used in 'diet' versions of their products. Kiwi's efforts in these two areas predate their initiatives in the broader areas of sustainability and go back further than the period covered by my data collection. Their efforts are represented in the very first data collection that I performed, which was at the World Environment Day Business Symposium held on June 4 2008 in Auckland, New Zealand. This event was organised by the New Zealand Business Council for Sustainable Development due to New Zealand being chosen to be the host country for the UNEP World Environment Day held on June 5 2008. During this event four representatives from leading New Zealand businesses, including the GM Corporate Affairs from Kiwi, had an opportunity to make presentations in a session labelled as "Business opportunities and solutions: how New Zealand businesses are making a difference". While the other three speakers concentrated their presentations on the environmental issues pertinent to their organisations, this was not the case for the GM Corporate Affairs from Kiwi. Rather she took this opportunity to present Kiwi's perspective in terms of obesity and issues related to the inclusion of aspartame in their products in an effort to change the perceptions of those attending the event.

Specifically in relation to obesity Kiwi's efforts have been centred on promoting the products within their extensive range that are seen as healthy and at the same time urging their consumers to act responsibly when using the products linked to obesity. In relation to aspartame Kiwi's efforts have centred on providing scientific 'facts' that argue for the safety of aspartame. The initiatives put in place by Kiwi to change the perceptions of the relevant publics and counter anti-programmes put in place by emergent concerned groups have been publicised through many different channels. These include the voluntary placement of RDI details on their product's labels aimed at assisting their relevant publics in making informed decisions. Most notably within their internal magazine they commissioned articles by a registered dietician for each of the six issues in 2008. In an excerpt from the July / August 2008 issue of the internal magazine the registered dietician notes:

"Aspartame (Nutra-sweet or Equal) is a safe, non-nutritive sweetener used in many diet foods (including diet drinks) in place of sugar. It

provides a sweet taste without any calories (energy) and therefore provides a good option for those who are trying to reduce their energy intake to maintain or lose weight. There has been a lot of media coverage on aspartame in the past 12 months. Some true, some far from the truth. It seems to be a topic on which everyone has their own agenda, regardless of the scientific facts. The agendas gaining the most media attention are political and commercial – not scientific.” (p6)

The article then deals with “commonly held myths about aspartame (put forward on multiple popular websites by anti-aspartame campaigners without substantiation)” (p6). It then continues with:

“The most unfortunate thing is that the smear campaign against aspartame is one that is potentially harming New Zealanders. In the midst of an obesity epidemic, products sweetened with non-nutritive sweeteners such as aspartame are a sensible part of the solution, yet people are being falsely told they are not safe. Robust research published in credible, peer reviewed scientific journals confirm the safety of aspartame and studies show that consuming products sweetened with aspartame is an effective part of a weight management plan.” (p6)

Thus in this article the safety of aspartame is linked with efforts to overcome obesity through the use of products, such as produced by Kiwi, that use this artificial sweetener. Finally the article concludes with the “facts on aspartame” (p6) which is centred on proving its safety and includes a reference to a website run by the New Zealand government where the reader is able to obtain “accurate information” (p6).

This article is followed up in the next issue, September / October 2008, of the internal magazine where the registered dietician presents “Aspartame – Facts & Fiction” (p6). The article overviews how, in conjunction with the New Zealand Nutrition Foundation, Kiwi funded the trip to New Zealand of “[...] one of the world’s leading experts in aspartame” who “[...] was the lead author on a recent major review of all of safety research related to aspartame” (p6). The article outlines how this review, published in the journal *Critical*

Reviews in Toxicology, summarises the findings of over five hundred studies. It then focuses on some of the specific findings of the review and then the registered dietician notes the following regarding this expert's trip to New Zealand:

“Having sat in [the expert's] seminars to health and nutrition professionals I remain frustrated at the lack of balance and misinformation that continues to surround this beneficial ingredient, and urge you question anyone who believes that it is anything other than safe. In my experience you will most likely find that their opinions are based on shaky foundations. I hope that this helps clarify the scientific facts about aspartame so that we can all make fully informed choices about their consumption of aspartame sweetened foods in future” (p6).

The article concludes with providing six bullet points that summarise the key findings of the aspartame expert's review. It is not my intention to provide extensive analysis of these articles using Latour's (1987) tactics for strengthening texts against hostile attacks. However it is interesting to note that in all the articles, including the two referred to above, written by this registered dietician, Latour's (1987) tactics have been heavily deployed particularly in comparison to the two sustainability reports analysed above. This would therefore suggest that these articles and initiatives, such as bringing the aspartame expert to New Zealand to make presentations, have a certain objective. That is, they are intended to change the perceptions of any relevant publics concerned with these issues and are also enrolled into the efforts of countering the anti-programs put forward by the related emergent concerned groups.

It is interesting to note that on the page (p7) following the article on aspartame in the July / August 2008 issue of the internal magazine is two interrelated articles where we see the strategy of association with powerful legitimising symbols demonstrated again. The first of these articles provides an overview of one of the athletes representing New Zealand in the then forthcoming 2008 Beijing Olympics. The second article overviews how one of Kiwi's products, aimed at fitness minded consumers such as athletes, is being used to sponsor the athlete overviewed in the previous article. The article then overviews how this specific product of Kiwi has benefits for sportspeople such as the high performing Olympic athletes.

In doing so Kiwi and its products are linked with fitness, and thereby distanced from obesity, through the legitimising symbol of the Olympics.

Therefore these results illuminate a complex reality where elements of all of the theorised strategies (Lindblom, 1993) are observed, but not as entirely conceptualised in the extant SEA literature where these strategies have been conceptualised as alternatives²³. The use of all four strategies by one organisation may be an underlying reason why Bebbington (2007, p233) notes “[o]ne of the limitations of legitimacy theory is that it may not always be clear which strategy is being pursued.” This also shows that we need to be more open to the complexities of reality where organisations may utilise more than one of the legitimising strategies to try and attain or maintain legitimacy. I now turn in the next section to providing the implication of these results before, in the subsequent section, reviewing how these relate to the second research aim.

6.7 Implications

In this chapter I aim to examine the role of the sustainability report and other management controls in the process of attaining legitimacy. Motivating this is the paradox that the sustainability report is the dominant focus of the SEA literature (Milne, 2007; Owen, 2008) and yet is viewed with a level of cynicism by practitioners (O'Dwyer, 2002), with those in my case organisation being no exception. In the above sections I analyse the case data to develop findings in relation to the three research questions centred on this aim. I now turn to outlining some of the implications of these findings.

In outlining the first implication of these findings I first turn to the comment of Deegan (2002, p298) that “[w]hile legitimacy theory might provide useful insights, it can still be considered to be an under-developed theory.” Through distinguishing between relevant publics and emergent concerned groups, these findings enable a development of a slightly more nuanced version of legitimacy theory. To illustrate this point I first return to the work of Callon (2007a, p158) as follows:

²³ It is often the case that the extant literature, for example Neu et al (1998), focuses only on three of these strategies, with the strategy of actual change being excluded. However, as the data from Kiwi demonstrates actual change can and may occur. This is not surprising given that within any given organisation there are likely to be people, who Ball (2007) refers to as workplace activists, that are passionate supporters of sustainability initiatives. This certainly was the case at Kiwi where a number of the actors, and specifically the Project Manager Operations and the Christchurch Production Planning Manager, devoted a large amount of their own time to initiatives with the aim of actual change. However, whether these actual changes amount to anything that may be considered as substantive is a point that I return to below.

“For these matters of concern to become political issues, it is necessary for the emergent concerned groups (be they orphan or affected) to clarify their analyses, make themselves heard and be listened to. But very often these groups are disturbing, or go unnoticed or are not taken seriously. To begin to exist they need to undertake collective investigations enabling them to explicate the matters of concern preoccupying them, so that they can then devise and propose research programmes with a view to suggesting lines of action. This type of dynamic does not stand to reason. The political which, in Barry’s (2001) terms, denotes the opening to disagreements, the unexpected and uncertainty, is often replaced by politics in which existing institutions ignore the questions that they are unable to address and reinforce existing framings. The logic of repetition thus prevails over that of the production of differences.”

In terms of this statement we can see that legitimacy presupposes organisations manoeuvring to translate their versions of framings. These translations, as I mention above, reinforce the identity of the relevant publics as those that consume the products or services of the organisation concerned. For matters of concerns to change these translations requires much work by the emergent concerned groups to put forward counter-programs that enrol the relevant publics and thus cannot be ignored by the organisation concerned. This finding is in line with Dowling & Pfeffer (1975, p125) statement that:

“Organizational legitimacy is the outcome of, on the one hand, the process of legitimation enacted by the focal organization, and on the other, the actions affecting relevant norms and values taken by other groups and organizations. Social norms and values are not immutable. Changing social norms and values constitute one motivation for organizational change and one source of pressure for organizational legitimation.”

That is, for the emergent concerned groups to achieve change within the organisation concerned they need to threaten the legitimacy of the organisation through changing the perceptions of their relevant publics. Thus for the emergent concerned group to enact change

within organisations they must first enrol the relevant publics into their problematisation of the specific matter of concern.

At Kiwi, during the time period under investigation, the major emergent concerned group to challenge their legitimacy was LOHAS. This group represented a challenge, real or perceived, to established patterns of consuming in the FMCG market and thereby was a potential threat to Kiwi's legitimacy through swaying existing consumer behaviour. The identification of LOHAS as this potential threat is described by the Corporate Affairs Manager in the following:

“So I suppose the recruitment of [the CFO] happened through LOHAS and [Consult]. [...] Yeah, so I introduced [...] [the CFO], I sort of went to him when he first arrived, sort of pounced on him and said I want to produce a triple bottom line report for New Zealand. Help me please because I don't know what I'm doing really when it comes to the financial pillars. So he and [the Project Manager Finance] went on a course. And so he said, right, well I'm going to give you somebody then. And so he and [the Project Manager Finance] decided that she could be my go-to person and they went on a course of what triple bottom line reporting really meant. And in that, and I don't know who they heard from or spoke to, but they realised at that point that there was a lot more to it. So both of them came and sat down and spent some time with me and said ‘how do I get more information, how do I understand this better, it's more than just finance, what should I do’? And I said, ‘well look, I'll introduce you to [the MD] from [Consult] and you have a conversation with him because he's so, he's got lots of research’. And that was it. And then the two of them worked, it became what it is. So [Consult's MD] and [CFO] then presented to our [...] senior management team at a quarterly review and [Consult's MD] had some really good streamlining video of world speakers, business people on this topic. And that's really what was the springboard for it.”

Thus we can see that it was through the identification of LOHAS that the CFO was enrolled and became spokesperson of the translation, as described in the previous chapter, of

the core value centred on sustainability. Further the identification of LOHAS enabled the realisation within the NZLT that a reframing was potentially required in order to adjust for the changing patterns of consuming. In terms of the strategies described in the previous section we can understand that through reframing Kiwi aimed to realign the perception around their products with this emergent concerned group and thereby enrol them into becoming part of the relevant publics. Hence we see, for example, Kiwi using powerful legitimising symbols such as the Olympics and sponsorship of athletes. But it is also important to realise that through the process of reframing real changes occurred within Kiwi. Through the reframing process a space was created within which initiatives sprung up; such as switching the sales rep fleet, switching to an energy supplier that utilises only renewable sources, and reducing the relative waste going to landfill from the production process. If these initiatives proved to be successful then they too would in turn be enrolled into the process of attaining legitimacy through such means as being referred to in interestment devices like the sustainability report with the objective of reinforcing the identities of the relevant publics. If the reframing process was successful the relevant publics would now contain the very LOHAS that previously, through being an emergent concerned group, created perceptions within Kiwi of a matter of concern that forced the reframing.

The example at Kiwi of this more nuanced understanding that separates emerging concerned groups and the relevant publics does suffer from what Bebbington (2007, p234) states as “[t]he disturbances, however, are not all the size and nature to generate highly visible or fast changes.” To see if this more nuanced understanding holds true I therefore turn to the often cited case of the Brent Spar which according to some commentators (see for example Mirvis, 2000) resulted in the transformation of Shell. In a note to the text Bebbington (2007, p237) provides a concise overview of the events as follows:

“In brief, in June 1995 Shell and Greenpeace were involved in a dispute over whether or not the Brent Spar (an oil storage platform) should be sunk in the North Sea. Despite the British Government giving approval to disposal at sea, the Greenpeace occupation of the Brent Spar, the media attention that followed the occupation and a consumer boycott of Shell led to the organization reversing its disposal decision. This high profile confrontation is often used as an illustration of how legally mandated courses of action (the dumping) may be reversed as a result of media pressure and exposure.”

In this overview it is clear to see that for Shell the emergent concerned group was Greenpeace and that the relevant publics were their consumers. From this more nuanced understanding of legitimacy theory we can add to Bebbington's (2007) overview. That is, Shell only had the incentive to take the action they did through the relevant publics being enrolled into the anti-program put forward by the emergent concerned group. Had the consumers not boycotted, thereby removing Shell's legitimacy, then, regardless of members of Greenpeace being chained to the Brent Spar and the amount of media coverage the ensued, Shell would have in all probability continued in their plans to sink the Brent Spar. After all in a separate incident in the same year, where media coverage did not result in a consumer boycott, they did not step in to stop the execution of the Ogoni tribal leader Ken Saro-Wiwa who was alleged to have destroyed pipelines belonging to Shell in the Niger Delta (Mirvis, 2000). Thus we see, in line with Latour's (1986) notion of power, that it is only through influencing the actions of the many, the relevant publics, that an emergent concerned group has the ability to threaten an organisations legitimacy.

This slightly more nuanced understanding of legitimacy theory, therefore, also results in a second, more practical implication in relation to the implicit change agenda (Bebbington, 2007) that is behind much of SEA research. That is, research from within the SEA literature shows great promise for assisting emergent concerned groups with the work required to prompt change. A notable example is that of shadow accounts (see for example Collison, Dey, Hannah & Stevenson, 2010; Dey, 2007a). With the more nuanced understanding of legitimacy theory in mind, for these shadow accounts to be effective requires that they be disseminated through means whereby the organisation concerned will become aware of it through their management controls, such as EAV as described above. Further awareness in itself is not sufficient to assist the efforts of the emergent concerned groups. Rather it must not only be disseminated in a way that the organisation becomes aware of it but also in a way that prompts the belief within the organisation that this dissemination of the shadow account may lead to the influencing of their relevant publics. This will then in turn act upon the organisation to expand or reduce organisational activity as required.

However even where a shadow account is linked to an organisation expanding or reducing their activities we need to understand that with different types of legitimising strategies available, as I outline in the section above, this may not lead to actual change. With Ball's (2007) notion of workplace activism in mind, future research may benefit from a focus on how to link these shadow accounts to an organisation's management controls to prompt

actual change. As way of example I return to Kiwi's EPM focused on waste minimisation. As I note above, two plants within Kiwi have achieved consistent result for this EPM above ninety nine percent. These results were only achieved through the considerable efforts of 'environmental champions', who can be considered to be workplace activists (Ball, 2007), at each site.

However these environmental champions would not have had an opportunity to make the changes if first a space had not been created through the implementation of the EPM and the signalling of its importance by the MD setting a target for all production plants of ninety nine percent. Hence potential practical benefits may arise from better understanding how shadow accounts and the like can prompt organisations to use their management controls, or implement new ones, that create space within which workplace activist can implement real changes. However, returning to a point made above, this example also brings with it a note of caution that I can illustrate with reference to Gray and Milne's (2002, p67) discussion of whether the steps taken and reported by some organisations amount to anything like sustainable development:

“None of these initiatives demonstrate any substantive moves towards sustainability. To do so would require companies to demonstrate that they were both reducing their total impact on the environment (a most unlikely outcome when they are seeking growth) and also reducing the disparities between the poor and the wealthy (again a most unlikely outcome for a successful capitalist organisation).”

Thus, at Kiwi, while these changes are real and beneficial they are still within the business as usual framework. Therefore the biggest challenge that faces us as researches is to understand how changes that align with notions of strong sustainability can be prompted. Given this outline of the implications that arise from the three research questions, I now turn in the next section to understanding whether this provides support to the second research aim.

6.8 Research aim two

In this section I evaluate the contribution that the implications make to the three research questions and in turn the second research aim that I cover in this chapter. The second research aim looks at whether focusing on MCS can extend our understanding of issues around sustainability. The second research aim combines with the first, which I evaluate in

the previous chapter, to reassess the value of conducting research at the intersection of sustainability and MCS. However, as was the case with the first research aim and as I outline in chapter three, this aim is too broad in and of itself. I therefore develop from this aim three research questions. These questions relate to the issue of how organisations attain and maintain legitimacy with their relevant publics. The questions broaden from the usual focus of legitimacy theory on reporting to encompass all management controls. Hence I first overview the findings in relation to these questions before examining whether the resulting implications provides evidence in support of the second research aim.

The first research question focuses on understanding the role of the sustainability report in the process of attaining legitimacy. Through the use of the data from the longitudinal case study of Kiwi I develop the understanding that the sustainability report is not intended to enrol potential counter-actors. Further the report is not intended to overcome potential anti-programs that may lead to trials of strength that challenges the organisation's legitimacy. Viewing both of Kiwi's sustainability reports through the lens of Latour's (1987) four tactics for making texts resist hostile attacks I illustrate that all four of these tactics were mobilised within each report. However these tactics were not deployed to the extent that the reports are able to include content that is controversial in nature. That is, the sustainability reports only included references to 'cold' overflows that could be reframed in the due course of organisational activity. Hence the sustainability report's role within the translation process of attaining legitimacy was to act as an interessement device. In this way the reports assisted Kiwi with the reaffirming of roles and identities of the relevant publics, who are the purchasers of Kiwi's products, in order to maintain their legitimacy.

The second research question focuses on, given the findings of the previous question, what is the role of the other management controls in the process of attaining legitimacy. I find that the role of other management controls in the process of attaining legitimacy differs in relation to whether they link to a 'cold' or a 'hot' overflow. Where the management control relates to a 'cold' overflow its role was much the same as that of the sustainability report. That is, it acts as an interessement device, aiming at reaffirming roles and identities in order to prevent defection from the network assembled by Kiwi which could lead to challenges of their legitimacy. If the management control relates to a 'hot' overflow then it has a role of firstly identifying the potential for emergent concerned groups and related matters of concern that may challenge the organisations legitimacy. Through this identification process it prompts the relevant actor(s) to expand or reduce organisational activity as appropriate. The initiatives that result are aimed at either cooling the overflow or continuing the enrolment of

the relevant publics by problematizing the matter of concern in a way that avoids their defection from the network.

The third question focuses on, given the role of other management controls in the process of attaining legitimacy, which of Lindblom's (1993) four strategies are they deploying. I find that the legitimising strategies that the resulting initiatives deploy fall into all four of Lindblom (1993) classifications. That is, these initiatives aim to educate and inform the relevant publics, associate the organisation with a powerful legitimising device, change the perceptions of the relevant publics, or create actual change within the organisation that can then be relayed to the relevant publics.

It is clear from the above findings and resulting implications that there is strong support for the second research aim. That is, through expanding the focus from reporting to the broader MCS, there is support for this providing extension to our extant understandings of issues related to sustainability. To start with the above analysis provides a more nuanced understanding of legitimacy theory. I achieve this initially through distinguishing between relevant publics, who in the case of Kiwi were the customers and consumers of their products, and emergent concerned groups. The organisation in question seeks to attain or maintain legitimacy with their relevant publics and overcome any anti-programs put in place by the emergent concerned groups. In this context the role of management controls differs in relation to 'hot' and 'cold' overflows. The role with regard to the latter is as an interestment device, while with the former it is to identify its existence and thereby prompt the expansion or reduction of organisation activity as appropriate.

Bebbington (2007, p230) notes that "[d]isturbances that are likely to result in change are not systematically addressed in the SEAR literature beyond a broadly shared assumption that various social and environmental crisis should constitute a disturbance.". In this chapter I concentrate on legitimacy theory, which is only one of the categories from the typology that Bebbington (2007) develops. The nuanced understanding of legitimacy theory that I develop in this chapter provides evidence as to the conditions under which these types of disturbances are likely to result in actual change within an organisation. As was the case in Kiwi with LOHAS and also as I outline in the case of the Brent Spar, for these types of disturbances to cause actual change within an organisation requires substantial effort of an emergent concerned group. However this substantial effort is not sufficient but rather for change to be prompted also requires a resulting challenge, real or perceived, to the organisation's legitimacy with its relevant public. Hence with LOHAS, Kiwi perceived a challenge to their consumer's consumption patterns and Shell legitimacy was challenged through an actual

boycott of their petrol pumps. Thus it was only through the need to reframe in order to attain or maintain legitimacy that real change will occur within an organisation. This adds new perspective to the following statement of Bebbington (2007, p235):

“It may be that the effects of other levers for change beyond accounting (such as consumer preferences, legal/regulatory frameworks or in response to political movements) are the most important levers in the pursuit of SD. Changes in these arenas may feed into organizational change over a timeframe that does not generate immediately visible change and as a result examining changes in accounting/reporting activities may be mis-specified.”

In relation to this statement and in the context of legitimacy theory, the lever for change at Kiwi, and quite likely other commercial organisations, is changes in consumer preferences. Customers and consumers are the relevant publics for Kiwi and the changes observed during the period of data collection were as a result of them being, or having the potential to be, enrolled into the anti-programs of an emergent concerned group. Thus, if we utilise accounting in a broader sense that includes management controls then we can see that its role is multiple in that it may be used to resist change, in line with three of Lindblom's (1993) strategies, or to assist change through prompting an increase or decrease in organisational activity.

Therefore, we must still apply caution to linking changes in consumer behaviour with actual change within an organisation. We need to be aware of the findings from the last research question indicating that organisations have the choice of deploying any combination of Lindblom's (1993) strategies, which may or may not include actual change. Referring back to the perceived threat that LOHAS posed to Kiwi's legitimacy, we see that this created real change within Kiwi, however, under different circumstances it may not have. As I explain above, Kiwi aimed to realign the perception around their products with this emergent concerned group and thereby enrol them into becoming part of the relevant publics. It is conceivable that this may have been achieved without any actual change. However, the identification of LOHAS enabled the enrolment of the CFO as spokesperson for the translation of the core value centred on sustainability. The addition of a powerful (Latour, 1986) spokesperson created space in which individuals within Kiwi could make real changes. For instance, it allowed the environmental champions at the Christchurch and Putaruru plants

to strive to implement new waste reduction initiatives. Further it allowed the Procurement / Logistics Manager to put forward a successful proposition to change to a new energy supplier that only used renewable sources of supply.

I note that management controls were also responsible for the creation of the space within which these actual changes occurred. For instance, in the previous chapter, I outline how the need to develop a performative understanding for the core value on sustainability allowed for experimentation that would have otherwise been constrained by Kiwi's boundary systems. Some of the initiatives that resulted from this experimentation allowed actual changes to be implemented. Further in this chapter I outline how through the use of the EAV management control organisation activity was reduced or expanded. Again through the expansion of organisational activities some actual changes were implemented at Kiwi. The challenge for researchers in this area is how to better understand the links between emergent concerned groups, relevant publics, management controls, and the creation of space within which real change can occur through the efforts of workplace activists (Ball, 2007). As I mention above the extant SEA literature holds much promise for assisting with this investigation with shadow accounts (see for example Collison et al., 2010; Dey, 2007a) in particular providing a potentially useful way forward.

Prior to closing this section, and proceeding to the concluding section, I need again to highlight that caution is needed in relation to the types of changes that are seen. Referring to Maunders and Burritt (1991), Cooper (1992), and Birkin (1996); Bebbington (2007, p233) notes "[t]hese and other authors suggest that in order for 'disaster' to be averted some underlying change in individual, company and societal rationales have to take place [...]". Bebbington (2007, p233) continues through noting that "[...] it would appear that underlying attitudinal change is not happening, or at least if it is happening researchers have yet to uncover it." The above analysis does provide evidence to support that the changes seen at Kiwi were within a business as usual remit with the dominance of a Friedman (1962) style economic perspective still prevailing within the organisation. After all Latour (1998) reminds us that while these types of issues are labelled as ecological they do fall within the remit of the usual focus of industry on efficiency of production being 'good' and waste being 'bad'.

However the above research does highlight that management controls create space as a result of identifying matters of concern and related emergent concerned groups that had the potential to threaten Kiwi's legitimacy. This space allows individuals within Kiwi with outlooks that differ from the dominant Friedman (1962) perspective, the workplace activists (Ball, 2007), to take actions that normally would have been constrained by the organisation's

boundary systems. As I mention above, this allowed the ‘environmental champions’ at Christchurch and Putaruru to act in areas previously not focused on. Most notably, however, it also allowed other key actors to take action and in doing so become what Ball (2007) calls ‘workplace activists’. A prime example of this at Kiwi is that of the Project Manager Operations who prior to being given the space explains her efforts as follows:

“So I had what I call my moon light list and that was just, whenever I saw stuff out there, books I was reading, media, whatever [...] I’d just start writing down good bits that applied here and I probably [...] some were pretty farfetched and that intention was if I just ever got to a point [...] you know, I do get to times in between projects or where actually I feel like I need to escape from [...] my project for an hour, I’d look at my moon light list and do a little bit on that or in fairness it’s probably what kept me here an extra hour or two some nights during the week was ‘right I want to get on my moon light list’.”

Subsequent to the creation of space within which to act the Project Manager Operations took more of a leadership role in which she acted as the person organising, directing and trying to coordinate various, but not all, initiatives across the organisation. As she explains:

“[...] in terms of my doing [...] there’s been a little bit of front end customer focusing stuff but probably the part where because of the role I sit in my biggest influence has been around some of that operational improvement stuff [...] whether it be water use, it’s probably [...] what I am focusing on at the moment or [...] internal, you know, site recycling, probably the biggest parts I’ve been involved in this year.”

Further, even though not officially written into her role the amount of time that she spent on these efforts, as opposed to her official responsibilities, “[...] at one stage it was probably fifty percent to be fair at the moment it’s probably about thirty five, a good third”. Thus the opening of space in which to act allowed the Project Manager Operations to move a personal belief into being an active part of her daily work life. However as she explains:

“I guess [...] for me [...] when was it, probably about mid March, late March [...] April, sometime around there, I [...] actually moved out of the role I was in [...] cause moved out of operations and over to the sales, commercial side of the business, so [...] to be honest [...] the whole sustainability thing probably from my perspective, I haven’t been as involved as I was in my previous role just from a pure time availability.”

Thus this former workplace activist became no longer involved in the sustainability efforts within the organisation in order to pursue career development opportunities. Hence furthering our understanding of how to open up space within which these workplace activists can act would be complemented by future research that focused on how to keep these activists engaged and thereby actively involved in the networks striving to translate sustainability focused initiatives. Thus it appears that the above discussion provides much support for the second aim. I now therefore in the next section conclude this chapter.

6.9 Chapter conclusion

In this chapter I provide evidence in support of the second research aim on whether a focus on MCS can extend our understanding of issues around sustainability. I achieve this through extending our understanding of legitimacy theory by distinguishing between emergent concerned groups and the relevant publics. Through putting together anti-programs that are perceived to have the potential to enrol the relevant publics of the organisation, emergent concerned groups can threaten the legitimacy of an organisation. Further, organisations utilise various management controls to identify potential overflows and their role varies with regard to whether they are dealing with ‘hot’ or ‘cold’ overflows. Where the overflow in question is ‘hot’ the role of the management control is to act on the actors within the organisation to prompt an expansion or reduction of organisation activities. However, where the overflow in question is ‘cold’ the role of the management control is to act as an interessement devices in order to reaffirm the identities of the relevant publics and thereby prevent their defection to the anti-programs of any potential emergent concerned groups. The sustainability report falls into the category of management controls that are used as interessement devices that are enrolled in order to reaffirm the identities of the relevant publics. Further, I find that organisations may utilise a complex mix of some or all of

Lindblom's (1993) four strategies including prompting actual change. The data from Kiwi suggests that the management controls open up a space within which to act and allows for workplace activist to move personal belief into organisational action. This finding starts to address Bebbington's (1997, p369) concerns that:

“[...] at an individual and personal level there is recognition of the demands for substantial change to the structure of society which the environmental agenda presents. Gray et al. (1995b) note that this leads to a situation where the “distinction between personal values ‘inside’ and ‘outside’ the organization becomes blurred” (p. 228). How personal recognition of this sort is translated into structural change is by no means clear. However, the seeds for change are present and this of itself would appear to be emancipatory and may offer a potential way forward.”

This, therefore, suggests that further research in this area may be of value. However, as I note above, the changes currently observed tend to be within the business as usual mode. Hence, further research needs to assess how best to move the types of changes observed from within business as usual to those that offer more substantial change in line with the notion of sustainable development.

I note, however, that in developing this understanding of how change can be better enacted I utilise a different conceptualisation of change than Bebbington (2007) uses. Bebbington (2007) bases her theorisation of change; as do Gray, Walters, Bebbington and Thompson (1995b) and Larrinaga-Gonzalez, Carrasco-Fenech, Caro-Gonzalez, Correa-Ruiz, and Paez-Sandubete (2001); on the model provided by Laughlin (1991) and notes “Laughlin (1991) suggests that organizations are inertial or change resistant and before any possibilities for change exist there needs to be a jolt or disturbance” (p227). In contrast, in utilising ANT the conceptualisation is of continuous change where “[w]hen as a result of unusual circumstances, it is made to stay the same, this is what requires an explanation” (Latour, 1986, p268). Thus we see that overflows are considered the norm with framing being a constant struggle that requires considerable effort to be maintained (Callon, 1998, p253). This conceptualisation allows for the possibility of change being created from disturbances that we as a community of researchers have the potential to assist in creating through the likes of

shadow accounts. In this way SEA research has the potential to move beyond Owen's (2008) chronicles of wasted time.

In terms of other areas of future research, Deegan (2002) notes that legitimacy theory overlaps with other theories that other researchers utilise to explain and predict organisational action in relation to the social and environmental issues they face. These other theories include, but are not limited to, a genuine desire to do good (Holliday, 2001), political cost (Lemon & Cahan, 1997; Milne, 2002) and economic based (Al-Tuwaijri, Christensen & Hughes II, 2004; Bartolomeo et al., 2000). One critique of the SEA literature is that the use of such diverse and often disparate theories has resulted in a body of knowledge that is less than coherent (Gray et al., 1995a; Parker, 2005). A re-examination of these diverse theories utilising the theoretical lens of ANT with its requirement not to privilege one type of management control (specifically the sustainability report) over another may have benefits not only in extending our extant knowledge but also may assist with bringing coherence to the extant knowledge.

Also in dealing with legitimacy theory I ignore other potential triggers of organisational change such as legislative disturbances and internal legitimacy, which are possible areas for future research. Further the overflows that I observed at Kiwi were not particularly 'hot' in nature, in comparison for instance with the Brent Spar incident to Shell. Thus our extant knowledge has much to gain from observations of an organisation dealing with such an overflow. An extension of this would be, as Bebbington (2007, p231) notes, "[...] observing an absence of change despite a powerful disturbance would also be instructive."

As with all research, that which I present within this chapter has its share of limitations. Most notably through focusing on legitimacy theory I have had to exclude knowledge that may have been gained from the case organisation that was not directly in relation to the area of legitimacy theory. However, I note that the case organisation and data collected there has the potential to offer much beyond legitimacy theory that would also have lent support to the second research aim. For example Ball and Milne (2005) note that the biggest deficit seen currently in an organisations MCS is ecological literacy. As I note previously, the utilisation of the carbon footprint at Kiwi allows us to understand that not only did this improve the ecological literacy of the actor involved but also yielded to this actor understanding that was surprising and unexpected. However upon exiting the research site, due to trials of strength such as the 2008-9 economic recession, whether the actor had an opportunity to act on these surprising and unexpected understandings hung in the balance.

Hence while the data points to management controls such as the carbon footprint assisting with improving ecological literacy, I did not investigate how this improved ecological literacy could be transformed into real change. Another example of an area that I do not address is the role of assurance over reports in terms of legitimacy (O'Dwyer, Owen & Unerman, 2011) due to this not occurring within the case site during the period of time under investigation. However, as always, future research can be performed to overcome any of the limitations of this thesis.

In closing this chapter I return to the differentiation between relevant publics and emerging concerned groups. In order to start this discussion I note that similarities exist between this research and that of Christensen and Skaerbaek (2007). Specifically, they utilise the concepts of framing and overflowing in relation to the introduction of a new environmental reporting requirements, in the context of the public sector. The reports that Christensen and Skaerbaek's (2007) examine were originally justified into existence to provide better accountability to the public at large. However, Christensen and Skaerbaek (2007) find in practice the reports were aimed at the central agencies that the public sector organisations answered to. Thus for these public sector organisations the relevant publics were the central agencies with whom they aimed to maintain legitimacy in order to continue in their business as usual mode. This, therefore, demonstrates that the relevant publics and emergent concerned groups differ between different types of organisations. For Christensen and Skaerbaek's (2007) public sector organisations the relevant publics were the central agencies, in comparison to the commercial organisation of Kiwi for whom the relevant publics were their customers and consumers. With the potential that for other types of organisations the relevant publics will differ I specifically note that for Koala the relevant publics may be investors. This is in line with Milne & Patten (2002) and Neu et al (1998) who note that the relevant publics of environmental disclosures in annual reports include financial stakeholders and regulators. This is again a matter for future empirical investigation. Here, however, in this research the specific aim is to see whether the focus on MCS has the potential to contribute to the extant knowledge of issues around sustainability. Having found support for this aim I now turn in the next chapter to providing a conclusion to this thesis.

CHAPTER SEVEN – DISCUSSION AND CONCLUSION

7.1 Introduction

The starting point for this thesis is noting that Berry et al (2009) highlight that very little research examines the intersection between management control systems (MCS) and sustainability. The potential reason for this lack of research may be the incompatibility of traditional MCS, which focus on profit through growth, and sustainability with its acknowledgement of a world of limited resources (Ball & Milne, 2005). Thus the aim of this thesis is to reassess the benefits of conducting research at the intersection between MCS and sustainability.

I provide, in chapter two, a performative understanding (Latour, 1986) of management control and MCS that I utilise throughout this thesis. This performative understanding links with the definition of MCS as the mechanisms actors use to enable the achievement of their goals and those of the wider network to which they belong and includes a mixture of both formal and informal processes and procedures (Bisbe & Otley, 2004; Kober et al., 2007; Langfield-Smith, 1997). Further, I develop an understanding of sustainability in chapter three that I utilise throughout the thesis. In developing the understanding of sustainability I outline how it is a dichotomous state, we are either sustainable or we are not, with sustainable development (SD) being the process through which to achieve this state (Bebbington & Gray, 2001; Gray, 2010; Milne et al., 2006). With these understandings in place; in chapter three I develop, motivate and outline the following two research aims and related question:

1. Investigate whether the context of sustainability is useful in furthering our extant understandings of MCS.
 - 1.1 How are core values within the belief systems developed?
 - 1.2 How is this process influenced by and how does it act upon other management controls?
2. Investigate whether focusing on MCS can extend our extant understandings of issues around sustainability.
 - 2.1 What is the role of the sustainability report in the process of attaining legitimacy?
 - 2.2 In relation to question 2.1 what is the role of other management controls in the process of attaining legitimacy?

2.3 If other management controls play a role in the process of attaining legitimacy then which of Lindblom's (1993) four strategies are being used?

In order to provide data in relation to these research aims and questions I conduct a longitudinal case study. I set this up as a critical case study (Flyvbjerg, 2001) where I utilise the theoretical lens of ANT as a means of observing, organising, and analysing data; in order to reflect the situated practices (Garfinkel, 2002) of actors upon theories of MCS and sustainability. Thus the aim of this chapter is to review the findings, contributions, limitations of this thesis and provide guidance on potential areas for future research.

I structure the rest of the chapter as follows. In the next section I provide an overview of the findings of the first group of research questions that relate to the first research aim. I base this discussion largely on the analysis I undertake in chapter five. I then proceed, in section three, to providing an overview of the findings of the second group of research questions that relate to the second research aim. I base this discussion on the analysis I perform in chapter six. In section four I outline the contributions that the findings that I present in the previous two sections make to our extant understandings. I then, in section five, overview how these findings contribute to addressing the two research aims. In this section, therefore, I assess whether there are potential benefits to performing future research at the intersection between MCS and sustainability. With the overview of the thesis complete I then provide a discussion of limitations, in section six; areas for future research, in section seven; and conclude the thesis, in section eight.

7.2 The process of developing a core value

The first research aim of this thesis investigates whether the context of sustainability is useful in furthering our understandings of MCS. As I outline in chapter three, the state of sustainability requires a radical rethink of the underlying beliefs that persist within the organisations that operate in our current capitalist economies (Ball & Milne, 2005). Thus, I develop two research questions that focus on organisation belief systems given their relation to sustainability. In order to answer these questions I focus on the translation process at the case organisation, Kiwi, as they develop a new core value²⁴ centred on sustainability.

The first research question specifically examines the process through which a core value develops. At Kiwi this involved two translation processes. The first was a short

²⁴ As I outline in section four of chapter three, belief systems primarily consist of core values.

translation that develops an ostensive, or descriptive, understanding of the core value. At Kiwi this core value was that sustainability is an important issue that society faces and one in which Kiwi wanted to be seen as an 'emerging leader'. The development of an ostensive understanding creates the required space within which a second, long translation can occur. This long translation aims to develop a performative understanding for the core value. That is, the ostensive understanding prompts actors to experiment in order to understand what must be done in order to realise in practice the core value or in other words the performative understanding. At Kiwi this required the investigation of a multiform problematization (Callon, 2009, p543) in order to understand what sustainability is, what it is to be an emerging leader in sustainability issues and who would judge Kiwi as such. Thus we see that the process of developing a core value requires, as with Feldman and Pentland's (2003, p102-103) analogy of music, both ostensive and performative elements.

The second research question examines the participation of other management controls in the process of developing the core value. At Kiwi, during the second long translation, management controls were enrolled into the efforts of understanding the multiform problematization. Thus we see that in the process of developing a core value other management controls develop, are transformed by the new core value, or act upon and change the core value. With this overview of the findings in relation to the first group of research questions complete, I now turn, in the next section to providing an overview of the findings in relation to the second group of research questions.

7.3 The process of attaining legitimacy

The second research aim of this thesis investigates whether focusing on MCS can further our understandings of issues around sustainability. As I outline in chapter three the organisations that operate within our economies are reliant on drawing resources from the ecology and in doing so are implicated in the sustainability issues that currently face this generation and those yet to come. Therefore, growing awareness implicating any given organisation in issues around sustainability may threaten its continued existence. Hence, I develop three research questions that investigate management control and MCS in relation to legitimacy theory.

Typically research that investigates legitimacy theory focuses on reporting (Milne, 2007; Owen, 2008). Thus the first research question examines the role of the sustainability report in respect to attaining or maintaining legitimacy. Using the tactics that Latour (1987) outlines to strengthen texts against hostile attacks we see that Kiwi's sustainability reports

include many strategies to persuade the reader to support the material that they contain. However, due to the public release of the document it only contains references to cold overflows. That is, it does not include anything controversial in nature and therefore it was not designed to be used to enrol counter-actors or prevent anti-programs. Rather it is a device used to assist with interessement and thereby used to reaffirm the identities of those already enrolled into the translation.

The use of the theoretical lens of ANT to research the process of attaining or maintaining legitimacy requires that all actors are given equal opportunity to act with none, such as discourse, given a priori privilege (Reckwitz, 2002). Hence the second research question examines the role of other management controls in the process of attaining or maintaining legitimacy. In reviewing the practices observed at Kiwi we can see that the role of any specific management control relates to the type of overflow that it deals with. If the use of the management control is in relation to a 'cold' overflow then its role, as is the case with the sustainability report, is as interessement device. That is, the management control use is to reaffirm the identities of actors already enrolled into giving the organisation legitimacy. In contrast, where the management control is in relation to a 'hot' overflow then its role is firstly to identify the presence of any emergent concerned groups that have the potential to challenge the legitimacy of the organisation. Through the identification of the emergent concerned groups the management control signals the need to expand or reduce organisational activity as appropriate. The resulting initiatives aim to enrol the relevant publics into maintaining the organisations legitimacy.

The third and final research question examines which of Lindblom's (1993) four strategies the management controls are being used to deploy. With reference to the practices that I observed at Kiwi, we can see that different management controls were used to deploy different strategies. Hence, this highlights a complex reality where organisations are likely to try and deploy all the strategies in varying ways. With the overview of the findings in place I now turn in the next section to providing an overview of the contributions this thesis makes to the extant literature.

7.4 Contributions

The findings of this thesis, as I overview in the previous two sections, contribute to the extant literature in a number of ways. I highlight these contributions in the appropriate places throughout chapters five and six. Hence it is the aim of this section to only provide a

high level overview of these contributions prior to proceeding in the next section to assessing how well I address the two research aims of this thesis.

To start with, the findings in relation to the first group of research questions contribute to our extant understandings of MCS. While previous research highlights the importance of the belief systems within the MCS, there has been no research that specifically examines the development of core values and its implications for the other types of management controls. Further, while Mundy (2010, p501) notes that “[...] these definitions are stated in broad, value-laden terms, because the purpose of a belief system is to inspire organisational search and discovery without prescribing the precise nature of the activities”, very little is known as to how this is achieved in practice. Hence this research makes a contribution through providing insight into the process through which core values develop and the role of other management controls in this process. Specifically, the findings above highlight the importance within this process of both ostensive and performative understandings of the core value. Further they show how the ostensive understanding creates a space within which the performative understanding can develop. It is the actors within the organisations striving to develop a performative understanding that creates a need for search and discovery.

The findings in relation to the second group of research questions contribute to our extant understandings of legitimacy theory. To illustrate how I first turn to Owen’s (2008, p247-248) statement about research that utilises legitimacy theory as follows:

“Much of this work has been “desk-based”, attempting to infer motives by relating corporate disclosure to external factors. [...] While researchers have generally indicated that their empirical findings are supported by legitimacy based explanations, some have reported mixed findings (Campbell, Craven & Shrives, 2003) or, indeed, largely negative ones (O’Dwyer, 2002). Notwithstanding the volume of empirical studies employing legitimacy theory as an explanatory tool, Mobus (2005) argues that the theory remains underdeveloped and using it to make specific predictions is difficult. Additionally, with the exception of O’Dwyer’s (2002) investigation of the perceptions of Irish managers as to the efficacy of disclosure as a legitimising strategy and Milne and Patten’s (2002) experimental study of the effect of specific legitimising disclosures on investors’

decisions, little attention appears to have been paid as to how (or whether) the legitimisation process itself works or what its effects might be. All too often we are simply offered plausible interpretations of managerial motivations for disclosure with no attention paid as to how such disclosure may, or may not, promote transparency and accountability towards non- capital provider stakeholder groups. There is a substantial issue at stake here as legitimising disclosures can often be positively misleading (Deegan & Rankin, 1996).”

Thus we see that the research that I perform in this thesis goes beyond that which could be labelled as ‘desk based’ and in doing so develops an initial understanding of how the legitimacy process itself works. Thereby, this research contributes to the extant literature through providing a slightly more nuanced understanding of legitimacy theory. That is, through the analysis we see a distinction emerge between relevant publics and emergent concerned groups. This allows for the differentiation of the roles of management controls into those that deal with ‘cold’ overflows, such as the sustainability report, and those that deal with ‘hot’ overflows. In doing so we can see this as an explanation for the paradox of practitioner’s cynicism towards their reports (O’Dwyer, 2002) and the dominance of reporting in the extant literature (Milne, 2007; Owen, 2008).

With the overview of contributions in place I now turn, in the next section, to providing an overview of how these address the research aims of this thesis.

7.5 Addressing the research aims

The aim of this section is to overview the support for the two research aims of this thesis and in doing so reassess the potential for research at the intersection of MCS and sustainability. The first research aim is to investigate whether the context of sustainability is useful in furthering our extant understandings of MCS. In section four of chapter five I assess the level of support for the first research aim on the basis of the research that I perform in that chapter. This assessment outlines how sustainability provides a good context, largely due to it having an underlying requirement for change (Bebbington, 2007) in combination with its contested and ambiguous nature (Ball & Milne, 2005), to further our extant understandings with regard to MCS.

The second research aim is to investigate whether focusing on MCS can extend our extant understandings of issues around sustainability. As with the first research aim, I assess

the level of support for the second research aim in section eight of chapter six on the basis of the research that I perform in that chapter. This assessment outlines how a broader MCS focus can further our extant understandings of issues around sustainability. In this specific case a broader MCS focus allows a slightly more nuanced understanding of legitimacy theory to develop. Thus, it would seem that our extant understandings of other issues around sustainability may also be extended through research with a broader MCS focus.

Taken collectively, the assessments of both research aims offer support for the conducting of research at the intersection of MCS and sustainability. However, the research in this thesis offers support beyond that which is part of the assessment of the two research aims for conducting future research at this intersection. The starting point for this is to note that, due to being the centres of industry and modern life, there is an often heard call for the involvement of organisations in providing solutions to issues that relate to sustainability. As Gray (2010, p57) suggests “[i]f this is the level at which power and influence is operated, the level to which governments seem increasingly willing to defer, and the source (we are encouraged to believe) of all that is essential and good in a developed economy’s life, then that power must be matched with responsibility.” Yet in contrast, in practice, with reference to the multitude of cases such as Banaba Island (Hindmarsh, 2002) which I refer to in chapter three, we see that organisations are implicated in the worst types of actions in relation to sustainability. It appears, therefore, that there is much evidence to support the need to constrain these types of actions. Thus Gray (2010) calls for the minimum requirement being that organisations provide a narrative of how they have undertaken this responsibility.

The research within this thesis demonstrates that there is potentially substantial benefit in adding to the minimum called for by Gray (2010) to include requirements for sustainability focused management controls such as the ecological footprint, carbon footprint and the like. For a specific example I turn to the carbon footprint project at Kiwi. A major concern of Ball and Milne’s (2005) is the lack of ecological literacy within our organisations. As I outline in section two of chapter five, the calculation of the carbon footprint provided Kiwi with some surprising results. Further as I outline in section four of chapter five this in turn changed the ecological outlook of the Project Manager Finance as she improved her literacy in order to understand how to calculate Kiwi’s carbon footprint. It would therefore seem that there could be substantive benefits from legislating the use of these management controls that have a sustainability focus. As was the case at Kiwi, the potential from this is in getting organisations to better understand their impact on the ecology, which can be quite surprising for the actors involved. It is only through this understanding being in place that a

space can be created for actions to occur that will actually be in line with the notion of SD. This therefore is in line with “[...] how we evaluate environmental accounting interventions, rejecting notions of ‘success’ or ‘failure’, in favour of the criticality of people in organizations who are social movement adherents staying engaged and avoiding reaching premature completion in relation to a wider agenda” (Ball, 2007, p769, emphasis in original).

Further, this also suggests that these types of management controls, through forcing the preparer to better understand the subject matter, have the potential to increase ecological literacy and prompt desirable actions. This is in line with previous research (see for example Gosselin, 1997) that finds that a large proportion of the benefits from the use of new management controls derive from it forcing the organisation to better understand aspects of their own processes, with a smaller proportion of benefits coming from their continued use. These findings lend weight to calls for greater legislation (Gray & Milne, 2002; Owen et al., 2001), but suggests that this goes beyond the usual call for mandatory reporting to the requirement of the use of management controls that provide a focus on sustainability.

In this regards, these findings, which are beyond the scope of the research aims and questions that I examine in this thesis, adds extra support to conducting research at the intersection of MCS and sustainability. In contrast to the incompatibility between traditional management controls and sustainability (Ball & Milne, 2005) the findings in relation to Kiwi’s carbon footprint specifically raises the possibility that management controls and MCS may provide the means for prompting a change in the business as usual mentality. That is, it may prompt what Latour (1998, p233) refers to as “[...] a collective experimentation on the possible associations between things and people without any of these entities being used, from now on, as a simple means by the others.” This is in line with Miller’s (1998, p187) suggestion as follows:

“But it was only when these concerns were articulated in the language of cost accounting, when they were made visible and calculable in monetary terms, that they could become central to the government of economic life within the factory. The redefinition of the boundaries of accounting is an ongoing process, rather than a fixed accomplishment.”

With the summary of how I address the research aims in place I now turn, in the next section, to providing an overview of the limitations of this research.

7.6 Limitations

As with all research this thesis has its share of limitations and I have made comment on these throughout the thesis as appropriate rather than waiting to this final chapter to do so. Hence, in this section I aim to provide an overview of the major limitations of this research, focusing primarily on the limitations I have already made mention of during the course of the thesis. Therefore, I start this overview with reference to the limitations of the research I conduct, as I outline in section five of chapter five, in respect to the first research aim and respective questions. These include those inherent to the use of Simon's (1995) levers of control (LOC) and the potential for my results to be context specific. However, I sufficiently address these in chapter five and conclude that they do not affect the findings of this research.

The main limitation that I wish to overview, in respect to the research I conduct in chapter five, is that the second, long translation was still ongoing upon my exiting of the field. Combining the contested and ambiguous (Ball & Milne, 2005) nature of sustainability with its incompatibility with conventional capitalist organisations, such as Kiwi, suggests that this translation may stretch into the foreseeable future without resolution. Hence, while sustainability provides a good context, for the reasons that I discuss in some length in chapter five, to conduct this research, it also provides a setting where the second, long translation is seemingly without end. However, whether the second translation reaches a black boxed state is irrelevant in terms of the findings that this research puts forward. That is, regardless of the outcome of the second translation the findings that I put forward remain constant as they are not reliant on this outcome.

One specific limitation that I do not mention in chapter five is with regard to how the analysis of the second, long translation may appear to concentrate on short term organisation performance. That is, with regard to the trials of strength that threatens the translation I note that key amongst them is the economic recession that places the focus of Kiwi strongly back on short term economic profitability. In so doing I do not provide analysis in relation to the potential for sustainability concerns to affect Kiwi's long term performance. However, on closer inspection it is possible to discern that the narrative I provide centres on the tension between sustainability concerns (long term organisation, economic, society and ecological performance) and economic profitability (short term organisation performance). Hence in this respect the inherent limitation of this research is that I am unable to comment on how this tension will play out over time.

I now turn to the overview of the limitations of the research I conduct, as I outline in section nine of chapter six, in respect to the second research aim and respective questions. The major limitation in this area of research is that the focus on legitimacy theory requires that I exclude knowledge that may have been gained from a broader focus. That is, through approaching the case organisation with narrowly defined research questions I naturally excluded data that was not directly related to the area of legitimacy theory. However, as I demonstrate in the section above, the case study of Kiwi provided a quality research site where if I had the time and research access I may have derived a broader array of findings that greatly extended our extant knowledge.

In relation to this I return to Constanza's (1989, p2) statement, which I first refer to in section two of chapter four, that "[t]here is probably not one right approach or paradigm, because, like the blind men and the elephant, the subject is too big and complex to touch it all with one limited set of perceptual tools." This implies that through the specific use of a case study method and the theoretical lens of ANT I narrow the possible understandings that I derive from this research. However, I have made these specific choices precisely as they provide the best means for approaching the research aims and questions of this thesis. Thus, as with all limitations, this can be overcome through future research, some areas of which I now turn to providing an overview of in the next section.

7.7 Future research

The very aim of this research has been to reassess the potential for future research at the intersection of MCS and sustainability. From the evidence that I present throughout this thesis it is clear that this is an underexplored area that requires attention in the future. It is therefore the intention of this section to focus on specific examples, from amongst the many, of where future research may be beneficial. In doing so I first note that all the limitations, which I present in the previous section, offer areas of future research. Thus this section primarily focuses on future research that goes beyond addressing these limitations.

As with the limitations of this thesis, I highlight the areas of future research in the appropriate parts of this thesis. Hence in relation to the research I conduct in chapter five I note that we may extend our extant knowledge by conducting future research focusing on belief systems. Specifically this may include research that follows the second translation through to the black boxing of the performative understanding. Also, future research may wish to focus on how and when the informal core value is included in the organisation's formal belief systems.

In respect to the areas of future research that relate to chapter six I note that researchers utilise other theories to explain and predict organisational action in relation to the social and environmental issues they face. These other theories include, but are not limited to, a genuine desire to do good (Holliday, 2001), political cost (Lemon & Cahan, 1997; Milne, 2002) and economic based (Al-Tuwaijri et al., 2004; Bartolomeo et al., 2000). Hence we may extend our extant understandings of these theories through performing similar research to that in this thesis with research questions that focus on any one of these different theories.

In returning to the findings with regard to the third research question that I investigate in chapter six, we see that in practice Kiwi put in place a complex mix of all four of Lindblom's (1993) strategies. This highlights that the reality of practice may be very complex and that as researchers we should be aiming to draw out this complexity rather than reduce it to simpler metrics (Boedker, 2010, p613). With this in mind I question whether these theories, including legitimacy theory, are really alternatives and theories in their own right. Rather there is potential that each of these 'theories' are in fact alternative lenses through which specific actions of socio-technical agencements (STAs) can be better understood. Thus, the possibility is that each of these 'theories', including legitimacy theory, are in fact just one part of a much larger understanding, or theory, that enables us to explain and predict the actions of STAs. This question is beyond the scope of this thesis and clearly a matter for future research.

The research that I conduct in this thesis suggests that one of the most significant areas for future research at the intersection between MCS and sustainability is how to open up space within organisations for so called 'workplace activists' to remain actively engaged in prompting change that aligns with conceptions of SD and sustainability (Ball, 2007). In relation to the discussion of Bebbington (2001) we can see that in this thesis I try to focus on a broader, strong conception of sustainability. However, the actors within Kiwi had varying degrees of understanding in relation to this conception with the majority falling into what could be conceived as weak understandings. Hence, it is for the actors that have broader, strong conceptions of sustainability that these spaces need to be opened, in order to allow them the opportunity to operate as workplace activists. Thus, further research into the relation between sustainability focused management controls, the opening of activist space, and what conditions allow for these activists to step forward that has the potential to significantly extend our extant understandings. With the overview of some areas for future research in place I now, in the next section, provide a conclusion to this chapter and thesis.

7.8 Conclusion

In this chapter I overview the findings of this thesis, outline some of the limitations of this research, and highlight areas which have the potential for future research. Specifically I find that the process of developing a core value involves two translations to establish both an ostensive and performative understanding. Further I find that the role of a management control in the process of attaining and maintaining legitimacy differs in respect to whether it is in relation to a ‘hot’ overflow or ‘cold’ overflow. That is, in relation to a ‘hot’ overflow the management control first identifies the existence of the overflow and then prompts the expansion or reduction of organisation activity as appropriate. In contrast for ‘cold’ overflows the management control, including the sustainability report, acts as an interessement device to reaffirm the identities of those already enrolled into supporting the problemitization as put forward by the organisation concerned.

These findings come with the usual share of limitations, as I outline in section six above. However, collectively they do suggest that there is much merit in future research being conducted at the intersection of MCS and sustainability. I indicate some of the potential areas for future research in section seven above. Whether this future research will assist in diverting the potential catastrophe associated with sustainability concerns only time will tell. However, regardless of the outcome, this research suggests that we as academics have a part to play in creating a better world for future generations to inherit.

APPENDIX ONE - INTERVIEW AND OBSERVATION SCHEDULE

Corporate Presentations:

<u>Date:</u>	<u>Actor:</u>	<u>Event</u>	<u>Duration:</u>
2008:			
4 June	GM Corporate Affairs	World Environment Day Business Symposium	30 Minutes
13 October	Project Manager Finance	Undergraduate class, University of Auckland	1 Hour
28 November	Former CFO	2 nd New Zealand Management Accounting Conference	1 Hour

Interviews/Meetings:

<u>Date:</u>	<u>Actor(s):</u>	<u>Duration:</u>
2008:		
13 October	Project Manager Finance – initial scoping meeting	30 Minutes
2009:		
6 March	GM Corporate Affairs and Project Manager Finance	1 Hour
6 March	Project Manager Operations and Project Manager Finance	1 Hour 30 Minutes
9 March	CFO and Project Manager Finance	1 Hour 30 Minutes
9 March	Corporate Affairs Manager	1 Hour 30 Minutes
27 May	Corporate Affairs - Internal Communication Officer	1 Hour
27 May	GM People & Performance	30 Minutes
29 May	New CFO	1 Hour
29 May	Former Integrated Management Systems Manager and Management Systems Manager	Current Integrated 1 Hour
29 May	Managing Director	1 Hour
29 May	Project Manager Operations	1 Hour
3 June	Procurement / logistics Manager	30 Minutes
3 June	Corporate Affairs Manager	1 Hour
3 June	Project Manager Finance	1 Hour 30 Minutes
12 August	Corporate Affairs Manager	1 Hour
13 October	Corporate Affairs Manager	1 Hour 30 Minutes
16 October	Procurement / logistics Manager	1 Hour
18 November	Christchurch Production Planning Manager – 1 st interview	1 Hour
18 November	Christchurch Production Planning Manager – 2 nd interview	1 Hour
18 November	Christchurch Manufacturing Manager	30 Minutes
18 November	Christchurch Production Planning Manager – 3 rd interview	30 Minutes
24 November	Former Director of Sustainability Value Chain Initiative ²⁵	1 Hour
2010:		
22 November	Sustainability Initiative Lead ²⁶	1 Hour 30 Minutes

²⁵ Position held working at corporate headquarters of Eagle in the United States of America

²⁶ Position held working at corporate headquarters of Eagle in Sydney, Australia

Observations:

<u>Date:</u>	<u>Place/Event:</u>	<u>Duration:</u>
2009:		
6 March	Kiwi Head Office	30 Minutes
9 March	Kiwi Head Office	30 Minutes
29 May	Kiwi Head Office	1 Hour 30 Minutes
3 June	Kiwi Head Office	30 Minutes
11 August	Sales Rep Route Ride	4 Hour 30 Minutes
12 August	Production Tour at the Auckland Production Plant	1 Hour
17 September	'Sustainability September' Lunch Time Seminars: Presentation made by representative of WWF	1 Hour
18 September	'Sustainability September' Lunch Time Seminars Presentation made by current Integrated Systems Manager	1 Hour
18 September	Informal (unrecorded) meeting with current Integrated Systems Manager Quality Assurance Office	45 Minutes
4 November	Delivery Driver Route Ride	2 Hour 45 Minutes
18 November	Christchurch Production Plant and Distribution Centre Focus on production	30 Minutes
18 November	Christchurch Production Plant Daily Production Meeting	45 Minutes
18 November	Christchurch Production Plant and Distribution Centre Focus on recycling	15 Minutes
18 November	Christchurch dry waste recycling services provider tour with discussions with their CFO	1 Hour
18 November	Christchurch Production Plant Office	30 Minutes
18 November	Christchurch Manufacturing Manager's Office	45 Minutes
18 November	Christchurch Production Plant Office Focus on Christchurch Quality Systems Co-ordinator	30 Minutes
18 November	Christchurch Production Plant Office, Sales Office, and Distribution Centre	45 Minutes

APPENDIX TWO – SCHEDULE OF ARTEFACTS

	Internal only	Publically available	Viewed only	Copy retained
Documents:				
Annual business plans	2		2	
Annual business plans presentations	1		1	
Audit - environmental	2			2
Budgets	2		2	
Carbon footprint related	3		3	
Delivery notes	5		5	
EAV reports	2		2	
General information	1	5		6
KPIs for individual actors	3		1	2
Meeting related	1		1	
National EPM data spreadsheets	1			1
Planning documents	1			1
Presentations	8		4	4
Policies		14		14
Relates to ChCh EPMs	11			11
Relates to belief systems	1			1
Reports	2	7	2	7
Sales related	3	1	4	
Scorecards	2		2	
Sponsored event information		1	1	
Sustainability report – Kiwi		2		2
Sustainability report – Koala		4		4
Sustainability report – extended Eagle network		30		30
Total:	51	64	30	85
General artefacts:				
Branded bags	2			2
ChCh packaging award	1		1	
Kiwi branded event recycling bin		1	1	
Live Positively / Koala branded food court recycling bin		1	1	
LOHAS branded product from Japan – extended Eagle network		1		1
Numbered seal	1		1	
Total:	4	3	4	3

	Internal only	Publically available	Viewed only	Copy retained
Media:				
Books		5	3	2
DvDs		3	3	
Internal magazine	10			10
Intranet	1		1	
Newspaper/Journal article		12		12
Revenue management IT system	1		1	
Video	1	1		2
Websites – Eagle		2	1	1
Websites – Kiwi		2		2
Website – Koala		1		1
Website – related		30	29	1
Total:	13	56	38	31
Notes:				
Corporate presentations	3			3
Interview	23			23
Observations	18			18
Phone conversations	2			2
Total:	46			46

REFERENCES

- Abernethy, M.A., & Brownell, P. (1999). The role of budgets in organizations facing strategic change: An exploratory study. *Accounting, Organizations and Society* 24, 189-204.
- Abernethy, M.A., & Chua, W.F. (1996). A field study of control system "redesign": The impact of institutional processes on strategic choice. *Contemporary Accounting Research* 13, 569-606.
- Adams, C.A. (2002). Internal organisational factors influencing corporate social and ethical reporting: Beyond current theorising. *Accounting, Auditing & Accountability Journal* 15, 223-250.
- Adams, C.A. (2008). A commentary on: corporate social responsibility reporting and reputation risk management. *Accounting, Auditing & Accountability Journal* 21, 365-370.
- Adams, C.A., & Larrinaga-González, C. (2007). Engaging with organisations in pursuit of improved sustainability accounting and performance. *Accounting, Auditing & Accountability Journal* 20, 333-355.
- Adler, P.A., & Adler, P. (1987). *Membership roles in field research*. Newbury Park, California: Sage Publications.
- Ahrens, T., & Chapman, C.S. (2004). Accounting for Flexibility and Efficiency: A Field Study of Management Control Systems in a Restaurant Chain. *Contemporary Accounting Research* 21, 271-301.
- Ahrens, T., & Chapman, C.S. (2006). Doing qualitative field research in management accounting: Positioning data to contribute to theory. *Accounting, Organizations and Society* 31, 819-841.
- Ahrens, T., & Chapman, C.S. (2007). Management accounting as practice. *Accounting, Organizations and Society* 32, 1-27.
- Akroyd, C., & Maguire, W. (2011). The Roles of Management Control in a Product Development Setting. *Qualitative Research in Accounting & Management* 8.
- Al-Tuwaijri, S.A., Christensen, T.E., & Hughes II, K.E. (2004). The relations among environmental disclosure, environmental performance, and economic performance: a simultaneous equations approach. *Accounting, Organizations and Society* 29, 447-471.
- Alcouffe, S., Berland, N., & Levant, Y. (2008). Actor-networks and the diffusion of management accounting innovations: A comparative study. *Management Accounting Research* 19, 1-17.
- Antheaume, N. (2007). Full cost accounting: Adam Smith meets Rachel Carson? In J. Unerman, J. Bebbington, & B. O'Dwyer, *Sustainability accounting and accountability*. London: Routledge, pp. 211-225.
- Anthony, R.N. (1965). *Planning and control systems; a framework for analysis*. Boston.
- Arrow, K., Bolin, B., Costanza, R., Dasgupta, P., Folke, C., Holling, C.S., Jansson, B.-O., Simon, L., Måxler, K.-G.r., Perrings, C., & Pimentel, D. (1995). Economic Growth, Carrying Capacity, and the Environment. *Science* 268, 520-521.
- Ball, A. (2007). Environmental accounting as workplace activism. *Critical Perspectives on Accounting* 18, 759-778.
- Ball, A., & Milne, M.J. (2005). Sustainability and management control. In A.J. Berry, J. Broadbent, & D. Otley, *Management control : theories, issues, and performance*. Houndmills, Basingstoke, Hampshire New York: Palgrave Macmillan, pp. 314-337.
- Barry, A. (2001). *Political machines : governing a technological society*. New Brunswick, NJ: Athlone Press.
- Barry, J. (2002). Sustainability. In J. Barry, & E.G. Frankland, *International encyclopedia of environmental politics*. London, New York: Routledge, p. 438.
- Bartolomeo, M., Bennett, M., Bouma, J.J., Heydkamp, P., James, P., & Wolters, T. (2000). Environmental management accounting in Europe: current practice and future potential. *European Accounting Review* 9, 31-52.
- Baxter, J., & Chua, W.F. (2003). Alternative management accounting research - Whence and whither. *Accounting, Organizations and Society* 28, 97-126.

- Baxter, J., & Chua, W.F. (2006). Reframing management accounting practice: a diversity of perspectives. In A. Bhimani, *Contemporary issues in management accounting*. Oxford: Oxford University Press, pp. 42-68.
- Baxter, T., Bebbington, J., & Cutteridge, D. (2004). Sustainability assessment model: modelling economic, resource, environmental and social flows of a project. In A. Henriques, & J. Richardson, *Triple Bottom Line : Does It All Add Up?* London: Earthscan, pp. 113-120.
- Bebbington, J. (1997). Engagement, education and sustainability A review essay on environmental accounting. *Accounting, Auditing & Accountability Journal* 10, 365-381.
- Bebbington, J. (2001). Sustainable development: a review of the international development, business and accounting literature. *Accounting Forum* 25, 128-157.
- Bebbington, J. (2007). Changing organizational attitudes and culture through sustainability accounting. In J. Unerman, J. Bebbington, & B. O'Dwyer, *Sustainability accounting and accountability*. London: Routledge, pp. 226-242.
- Bebbington, J. (2009). Measuring sustainable development performance: Possibilities and issues. *Accounting Forum* 33, 189-193.
- Bebbington, J., & Gray, R. (2001). An Account of Sustainability: Failure, Success and a Reconceptualization. *Critical Perspectives on Accounting* 12, 557-588.
- Bebbington, J., Gray, R.H., Hibbitt, C., & Kirk, E. (2001). *Full cost accounting: An agenda for action*. London: Association of Chartered Certified Accountants.
- Bebbington, J., Larrinaga-Gonzalez, C., & Moneva-Abadia, J.M. (2008a). Corporate social reporting and reputation risk management. *Accounting, Auditing & Accountability Journal* 21, 337-361.
- Bebbington, J., Larrinaga-Gonzalez, C., & Moneva-Abadia, J.M. (2008b). Legitimizing reputation/the reputation of legitimacy theory. *Accounting, Auditing & Accountability Journal* 21, 371-374.
- Bebbington, J., & Thomson, I. (1996). *Business conceptions of sustainability and the implications for accountancy*. London: Association of Chartered Certified Accountants.
- Berry, A.J., Coad, A.F., Harris, E.P., Otley, D.T., & Stringer, C. (2009). Emerging themes in management control: A review of recent literature. *The British Accounting Review* 41, 2-20.
- Birkin, F. (1996). The ecological accountant: From the cogito to thinking like a mountain. *Critical Perspectives on Accounting* 7, 231-257.
- Birkin, F., Edwards, P., & Woodward, D. (2005). Accounting's contribution to a conscious cultural evolution: an end to sustainable development. *Critical Perspectives on Accounting* 16, 185-208.
- Bisbe, J., & Otley, D. (2004). The effects of the interactive use of management control systems on product innovation. *Accounting, Organizations and Society* 29, 709-737.
- Boedker, C. (2010). Ostensive versus performative approaches for theorising accounting-strategy research. *Accounting, Auditing & Accountability Journal* 23, 595-625.
- Briers, M., & Chua, W.F. (2001). The role of actor-networks and boundary objects in management accounting change: A field study of an implementation of activity-based costing. *Accounting, Organizations and Society* 26, 237-269.
- Bruining, H., Bonnet, M., & Wright, M. (2004). Management control systems and strategy change in buyouts. *Management Accounting Research* 15, 155-177.
- Buhr, N. (1998). Environmental performance, legislation and annual report disclosure: the case of acid rain and Falconbridge. *Accounting, Auditing & Accountability Journal* 11, 163-190.
- Buhr, N. (2001). Corporate silence: environmental disclosure and the north american free trade agreement. *Critical Perspectives on Accounting* 12, 405-421.
- Burnett, R.D., & Hansen, D.R. (2008). Ecoefficiency: Defining a role for environmental cost management. *Accounting, Organizations and Society* 33, 551-581.
- Burritt, R.L. (2004). Environmental management accounting: roadblocks on the way to the green and pleasant land. *Business Strategy and the Environment* 13, 13-32.

- Burritt, R.L., Hahn, T., & Schaltegger, S. (2002). Towards a comprehensive framework for environmental management accounting - links between business actors and environmental management accounting tools. *Australian Accounting Review* 12, 39-50.
- Burritt, R.L., & Saka, C. (2006). Environmental management accounting applications and eco-efficiency: case studies from Japan. *Journal of Cleaner Production* 14, 1262-1275.
- Byrch, C., Kearins, K., Milne, M.J., & Morgan, R. (2007). Sustainable "what"? A cognitive approach to understanding sustainable development. *Qualitative Research in Accounting and Management* 4, 26-52.
- Cairns, J. (2001). Sustainability, Exceptionalism, and Exemptionalism. *Ecosystem Health* 7, 147-154.
- Çaliskan, K., & Callon, M. (2009). Economization, part 1: shifting attention from the economy towards processes of economization. *Economy and Society* 38, 369-398.
- Çaliskan, K., & Callon, M. (2010). Economization, part 2: a research programme for the study of markets. *Economy and Society* 39, 1-32.
- Callon, M. (1986a). The sociology of an Actor-Network: The case of the electric vehicle. In M. Callon, J. Law, & R. Arie, *Mapping the dynamics of science and technology : sociology of science in the real world* Basingstoke: Macmillan, pp. 19-34.
- Callon, M. (1986b). Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay. In J. Law, *Power, action and belief: a new sociology of knowledge?* London: Routledge, pp. 196-233.
- Callon, M. (1991). Techno-economic networks and irreversibility. In J. Law, *A Sociology of monsters : essays on power, technology, and domination*. London: Routledge, pp. 132-161.
- Callon, M. (1998). An essay on framing and overflowing: economic externalities revisited by sociology. In M. Callon, *The Laws of the markets* Oxford: Blackwell Publishers, pp. 244-269.
- Callon, M. (1999). Actor-network theory-the market test. In J. Law, & J. Hassard, *Actor network theory and after* Oxford: Blackwell Publishers
- Callon, M. (2004). Europe wrestling with technology. *Economy & Society* 33, 121-134.
- Callon, M. (2007a). An Essay on the Growing Contribution of Economic Markets to the Proliferation of the Social. *Theory, Culture & Society* 24, 139-163.
- Callon, M. (2007b). What does it mean to say that economics is performative? In D.A. MacKenzie, F. Muniesa, & L. Siu, *Do economists make markets? : on the performativity of economics*. Princeton: Princeton University Press, pp. 311-357.
- Callon, M. (2009). Civilizing markets: Carbon trading between in vitro and in vivo experiments. *Accounting, Organizations and Society* 34, 535-548.
- Callon, M. (2010). Performativity, misfires and politics. *Journal of Cultural Economy* 3, 163 - 169.
- Callon, M., & Latour, B. (1981). Unscrewing the big leviathan: How actors macrostructure reality and how sociologists help them do so. In K. Knorr-Cetina, & A.V. Cicourel, *Advances in social theory and methodology : toward an integration of micro- and macro-sociologies* Boston: Routledge & Kegan Paul, pp. 277-303.
- Campbell, D., Craven, B., & Shrives, P. (2003). Voluntary social reporting in three FTSE sectors: a comment on perception and legitimacy. *Accounting, Auditing & Accountability Journal* 16, 558-581.
- Chenhall, R. (2003). Management control systems design within its organizational context: Findings from contingency-based research and directions for the future. *Accounting, Organizations and Society* 28, 127-168.
- Cho, C.H., & Patten, D.M. (2007). The role of environmental disclosures as tools of legitimacy: A research note. *Accounting, Organizations and Society* 32, 639-647.
- Christensen, M., & Skærbæk, P. (2007). Framing and overflowing of public sector accountability innovations: A comparative study of reporting practices. *Accounting, Auditing & Accountability Journal* 20, pp. 101 - 132.
- Christensen, M., & Skaerbaek, P. (2010). Consultancy outputs and the purification of accounting technologies. *Accounting, Organizations and Society* 35, 524-545.

- Christiansen, J.K., & Varnes, C.J. (2007). Making Decisions on Innovation: Meetings or Networks? *Creativity and Innovation Management* 16, 282-298.
- Chua, W.F. (1995). Experts, networks and inscriptions in the fabrication of accounting images: A story of the representation of three public hospitals. *Accounting, Organizations and Society* 20, 111-145.
- Chua, W.F. (2007). Accounting, measuring, reporting and strategizing - Re-using verbs: A review essay. *Accounting, Organizations and Society* 32, 487-494.
- Chua, W.F., & Mahama, H. (2007). The Effect of Network Ties on Accounting Controls in a Supply Alliance: Field Study Evidence*. *Contemporary Accounting Research* 24, 47-86.
- Collier, P.M. (2005). Entrepreneurial control and the construction of a relevant accounting. *Management Accounting Research* 16, 321-339.
- Collison, D., Dey, C., Hannah, G., & Stevenson, L. (2010). Anglo-American capitalism: the role and potential role of social accounting. *Accounting, Auditing & Accountability Journal* 23, 956-981.
- Cooper, C. (1992). The Non and Nom of Accounting for (M)other Nature. *Accounting, Auditing & Accountability Journal* 5, 16-39.
- Cooper, C., Taylor, P., Smith, N., & Catchpole, L. (2005). A discussion of the political potential of Social Accounting. *Critical Perspectives on Accounting* 16, 951-974.
- Cormier, D., & Gordon, I.M. (2001). An examination of social and environmental reporting strategies. *Accounting, Auditing & Accountability Journal* 14, 587-617.
- Costanza, R. (1989). What is ecological economics? *Ecological Economics* 1, 1-7.
- Costanza, R., D'Arge, R., De Groot, R., Farber, S., Grasso, M., Hannon, B., Limburg, K., Naeem, S., O'Neill, R.V., Paruelo, J., Raskin, R.G., Sutton, P., & Van Den Belt, M. (1997). The value of the world's ecosystem services and natural capital. *Nature* 387, 253-260.
- Crotty, M. (1998). *The foundations of social research : meaning and perspective in the research process*. St Leonards, NSW Allen & Unwin London: Sage.
- Cuganesan, S., & Lee, R. (2006). Intra-organisational influences in procurement networks controls: The impacts of information technology. *Management Accounting Research* 17, 141.
- Czarniawska, B. (2001). Is it possible to be a constructionist consultant? *Management Learning* 32, 253-266.
- Czarniawska, B. (2004). On Time, Space, and Action Nets. *Organization* 11, 773-791.
- Daly, H.E. (1992). Allocation, distribution, and scale: towards an economics that is efficient, just, and sustainable. *Ecological Economics* 6, 185-193.
- Davila, T. (2000). An empirical study on the drivers of management control systems' design in new product development. *Accounting, Organizations and Society* 25, 383-409.
- Davila, T. (2005). An exploratory study on the emergence of management control systems: formalizing human resources in small growing firms. *Accounting, Organizations and Society* 30, 223-248.
- de Villiers, C., & van Staden, C.J. (2006). Can less environmental disclosure have a legitimising effect? Evidence from Africa. *Accounting, Organizations and Society* 31, 763-781.
- Dechow, N., & Mouritsen, J. (2005). Enterprise resource planning systems, management control and the quest for integration. *Accounting, Organizations and Society* 30, 691-733.
- Deegan, C. (2002). The legitimising effect of social and environmental disclosures -- a theoretical foundation. *Accounting, Auditing & Accountability Journal* 15, 282-311.
- Deegan, C. (2007). Organizational legitimacy as a motive for sustainability reporting. In J. Unerman, J. Bebbington, & B. O'Dwyer, *Sustainability accounting and accountability*. London: Routledge, pp. 127-149.
- Deegan, C., & Blomquist, C. (2006). Stakeholder influence on corporate reporting: An exploration of the interaction between WWF-Australia and the Australian minerals industry. *Accounting, Organizations and Society* 31, 343-372.

- Deegan, C., & Rankin, M. (1996). Do Australian companies report environmental news objectively? An analysis of environmental disclosures by firms prosecuted successfully by the Environmental Protection Authority. *Accounting, Auditing & Accountability Journal* 9, 50-67.
- Deegan, C., & Rankin, M. (1997). The materiality of environmental information to users of annual reports. *Accounting, Auditing & Accountability Journal* 10, 562-583.
- Deegan, C., Rankin, M., & Tobin, J. (2002). An examination of the corporate social and environmental disclosures of BHP from 1983-1997: A test of legitimacy theory. *Accounting, Auditing & Accountability Journal* 15, 312-343.
- Deegan, C., Rankin, M., & Voght, P. (2000). Firms' disclosure reactions to major social incidents: Australian evidence. *Accounting Forum* 24, 101-130.
- Deegan, C., & Soltys, S. (2007). Social accounting research: An Australasian perspective. *Accounting Forum* 31, 73-89.
- Dey, C. (2007a). Developing silent and shadow accounts. In J. Unerman, B. O'Dwyer, & J. Bebbington, *Sustainability accounting and accountability*. London: Routledge, pp. 307-326.
- Dey, C. (2007b). Social accounting at Traidcraft plc. *Accounting, Auditing & Accountability Journal* 20, 423-445.
- Diamond, J.M. (2005). *Collapse : how societies choose to fail or succeed*. New York: Viking.
- Dixon, J.A., & Fallon, L.A. (1989). The concept of sustainability: Origins, extensions, and usefulness for policy. *Society & Natural Resources: An International Journal* 2, 73 - 84.
- Dowling, J., & Pfeffer, J. (1975). Organizational Legitimacy: Social Values and Organizational Behavior. *The Pacific Sociological Review* 18, 122-136.
- Dryzek, J.S. (1997). *The politics of the earth : environmental discourses*. Oxford New York: Oxford University Press.
- Epstein, M.J., & Wisner, P.S. (2001). Using a balanced scorecard to implement sustainability. *Environmental Quality Management* 11, 1-10.
- Epstein, M.J., & Wisner, P.S. (2005). Managing and Controlling Environmental Performance: Evidence from Mexico. *Advances in Management Accounting* 14, 115-137.
- Everett, J., & Neu, D. (2000). Ecological modernization and the limits of environmental accounting? *Accounting Forum* 24, 5-29.
- Feldman, M.S., & Pentland, B.T. (2003). Reconceptualizing Organizational Routines as a Source of Flexibility and Change. *Administrative Science Quarterly* 48, 94-118.
- Ferreira, A., & Otley, D. (2005). The design and use of management control systems: an extended framework for analysis. *Social Science Research Network*, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=682984.
- Ferreira, A., & Otley, D. (2009). The design and use of performance management systems: An extended framework for analysis. *Management Accounting Research* 20, 263-282.
- Fiala, N. (2008). Measuring sustainability: Why the ecological footprint is bad economics and bad environmental science. *Ecological Economics* 67, 519-525.
- Flyvbjerg, B. (2001). *Making social science matter : why social inquiry fails and how it can succeed again*. Cambridge, UK ; New York Cambridge University Press.
- Frame, B., & Cavanagh, J. (2009). Experiences of sustainability assessment: An awkward adolescence. *Accounting Forum* 33, 195-208.
- Friedman, M. (1962). *Capitalism and freedom*. Chicago: University of Chicago Press.
- Gale, R. (2006). Environmental costs at a Canadian paper mill: a case study of Environmental Management Accounting (EMA). *Journal of Cleaner Production* 14, 1237-1251.
- Garfinkel, H. (2002). *Ethnomethodology's Program: Working out Durheim's Aphorism*. Lanham: Rowman & Littlefield Publishers Inc.
- Gendron, Y., & Barrett, M. (2004). Professionalization in Action: Accountants' Attempt at Building a Network of Support for the WebTrust Seal of Assurance. *Contemporary Accounting Research* 21, 563-602.
- Giddens, A. (1990). *The consequences of modernity* Cambridge: Polity in association with Blackwell.

- Glaser, B.G., & Strauss, A.L. (1967). *The discovery of grounded theory; strategies for qualitative research* Chicago: Aldine Publishing.
- Gosselin, M. (1997). The effect of strategy and organizational structure on the adoption and implementation of activity-based costing. *Accounting, Organizations and Society* 22, 105-122.
- Granlund, M., & Taipaleenmaki, J. (2005). Management control and controllership in new economy firms - a life cycle perspective. *Management Accounting Research* 16, 21-57.
- Gray, R. (1992). Accounting and Environmentalism: An Exploration of the Challenge of Gently Accounting for Accountability, Transparency and Sustainability. *Accounting, Organizations and Society* 17, 399-425.
- Gray, R. (2002). The social accounting project and Accounting Organizations and Society: Privileging engagement, imaginings, new accountings and pragmatism over critique? *Accounting, Organizations and Society* 27, 687-708.
- Gray, R. (2010). Is accounting for sustainability actually accounting for sustainability...and how would we know? An exploration of narratives of organisations and the planet. *Accounting, Organizations and Society* 35, 47-62.
- Gray, R., Dey, C., Owen, D., Evans, R., & Zadek, S. (1997). Struggling with the praxis of social accounting: Stakeholders, accountability, audits and procedures. *Accounting, Auditing & Accountability Journal* 10, 325-364.
- Gray, R., Kouhy, R., & Lavers, S. (1995a). Corporate social and environmental reporting: A review of the literature and a longitudinal study of UK disclosure. *Accounting, Auditing & Accountability Journal* 8, 47-77.
- Gray, R., & Milne, M.J. (2002). Sustainability Reporting: Who's Kidding Whom? *Chartered Accountants Journal* 81, 66-70.
- Gray, R., & Milne, M.J. (2004). Towards reporting on the triple bottom line: mirages, methods, and myths. In A. Henriques, & J. Richardson, *Triple Bottom Line : Does It All Add Up?* London: Earthscan, pp. 70-80.
- Gray, R., Walters, D., Bebbington, J., & Thompson, I. (1995b). The Greening of Enterprise: An Exploration of the (NON) Role of Environmental Accounting and Environmental Accountants in Organizational Change. *Critical Perspectives on Accounting* 6, 211-239.
- Gray, R.H., Owen, D., & Adams, C. (1996). *Accounting & accountability : changes and challenges in corporate social and environmental reporting* London : New York Prentice Hall.
- Gray, R.H., Owen, D., & Maunders, K.T. (1987). *Corporate social reporting : accounting and accountability*. Englewood Cliffs ; London: Prentice-Hall International.
- Guthrie, J., & Parker, L.D. (1989). Corporate Social Reporting: A Rebuttal of Legitimacy Theory. *Accounting & Business Research* 19, 343-352.
- Hansen, A. (2011). Relating performative and ostensive management accounting research: Reflections on case study methodology. *Qualitative Research in Accounting & Management* 8, 108-138.
- Henri, J.-F., & Journeault, M. (2010). Eco-control: The influence of management control systems on environmental and economic performance. *Accounting, Organizations and Society* 35, 63-80.
- Hindmarsh, G. (2002). *One minority people : a report on the Banabans, formerly of Banaba (Ocean Island), who were relocated to Rabi Island in Fiji*. Apia, Western Samoa: UNESCO.
- Holliday, C. (2001). Sustainable growth, the DuPont way. *Harvard Business Review* 79, 129.
- Hopwood, A.G. (2009). Accounting and the environment. *Accounting, Organizations and Society* 34, 433-439.
- Hopwood, A.G., Unerman, J., & Fries, J. (2010). *Accounting for sustainability : practical insights*. London ; Washington, DC :: Earthscan.
- Johnson, H.T., & Kaplan, R.S. (1987). *Relevance lost : the rise and fall of management accounting*. Boston, Mass.: Harvard Business School Press.

- Jones, T.C., & Dugdale, D. (2002). The ABC bandwagon and the juggernaut of modernity. *Accounting, Organizations and Society* 27, 121-163.
- Justesen, L., & Mouritsen, J. (2011). Effects of actor-network theory in accounting research. *Accounting, Auditing & Accountability Journal* 24, 161 - 193.
- Kant, I. (1956). *Critique of practical reason*. New York: Liberal Arts Press.
- Kaplan, R.S., & Norton, D.P. (1996). *The balanced scorecard : translating strategy into action* Boston, MA: Harvard Business School Press.
- Kober, R., Ng, J., & Paul, B.J. (2007). The interrelationship between management control mechanisms and strategy. *Management Accounting Research* 18, 425-452.
- Langfield-Smith, K. (1997). Management control systems and strategy: A critical review. *Accounting, Organizations and Society* 22, 207-232.
- Larrinaga-Gonzalez, C., & Bebbington, J. (2001). Accounting change or institutional appropriation?--A case study of the implementation of environmental accounting. *Critical Perspectives on Accounting* 12, 269-292.
- Larrinaga-Gonzalez, C., Carrasco-Fenech, F., Caro-Gonzalez, F.J., Correa-Ruiz, C., & Paez-Sandubete, J.M. (2001). The role of environmental accounting in organizational change: An exploration of Spanish companies. *Accounting, Auditing & Accountability Journal* 14, 213-239.
- Latour, B. (1986). The power of associations. In J. Law, *Power, action and belief: a new sociology of knowledge?* London: Routledge, pp. 264-280.
- Latour, B. (1987). *Science in action: how to follow scientists and engineers through society*. Cambridge, Mass.: Harvard University Press.
- Latour, B. (1991). Technology is society made durable. In J. Law, *A Sociology of monsters : essays on power, technology, and domination*. London: Routledge, pp. 103-131.
- Latour, B. (1998). To modernise or Ecologise? That is the question. In B. Braun, & N. Castree, *Remaking reality : nature at the millenium*. London ; New York Routledge, pp. 220-241.
- Latour, B. (1999a). On recalling ANT. In J. Law, & J. Hassard, *Actor network theory and after* Oxford: Blackwell Publishers
- Latour, B. (1999b). *Pandora's hope : essays on the reality of science studies* Cambridge, Mass: Harvard University Press.
- Latour, B. (2005). *Reassembling the social: an introduction to actor-network-theory*. Oxford: Clarendon.
- Latour, B., & Woolgar, S. (1986). *Laboratory life : the construction of scientific facts*. Princeton, N.J.: Princeton University Press.
- Laughlin, R. (1991). Environmental Disturbances and Organizational Transitions and Transformations: Some Alternative Models. *Organization Studies* 12, 209-232.
- Law, J. (1986). On the methods of long distance control: vessels, navigation, and the Portuguese route to india. In J. Law, *Power, action and belief: a new sociology of knowledge?* London: Routledge, pp. 234-263.
- Law, J. (1992). Notes on the theory of the actor-network: Ordering, strategy, and heterogeneity. *Systemic Practice and Action Research* 5, 379-393.
- Law, J. (1999). After ANT: complexity, naming, and topology. In J. Law, & J. Hassard, *Actor network theory and after* Oxford: Blackwell Publishers
- Lemon, A.J., & Cahan, S.F. (1997). Environmental Legislation and Environmental Disclosures: Some Evidence From New Zealand. *Asian Review of Accounting* 5, 78 - 105.
- Leopold, A. (1966). *A Sand County almanac*. New York: Oxford University Press.
- Lindblom, C.K. (1993). The implications of organizational legitimacy for corporate social performance and disclosure. *Critical Perspectives on Accounting Conference*. New York.
- Llewellyn, S. (1992). The role of case study methods in management accounting research: A comment. *The British Accounting Review* 24, 17-31.
- MacKenzie, D. (2009). Making things the same: Gases, emission rights and the politics of carbon markets. *Accounting, Organizations and Society* 34, 440-455.

- Maunder, K.T., & Burritt, R.L. (1991). Accounting and Ecological Crisis. *Accounting, Auditing & Accountability Journal* 4, 9-26.
- Mennicken, A. (2008). Connecting worlds: The translation of international auditing standards into post-Soviet audit practice. *Accounting, Organizations and Society* 33, 384-414.
- Merchant, K.A. (1985). *Control in business organizations*. Boston: Pitman.
- Miller, P. (1990). On the interrelations between accounting and the state. *Accounting, Organizations and Society* 15, 315-338.
- Miller, P. (1991). Accounting Innovation Beyond the Enterprise: Problematizing Investment Decisions and Programming Economic Growth in the U.K. in the 1960s. *Accounting, Organizations and Society* 16, 733-762.
- Miller, P. (1998). The margins of accounting. In M. Callon, *The Laws of the markets* Oxford: Blackwell Publishers.
- Milne, M.J. (1996). On sustainability; The environment and management accounting. *Management Accounting Research* 7, 135-161.
- Milne, M.J. (2002). Positive accounting theory, political costs And social disclosure analyses: a critical look. *Critical Perspectives on Accounting* 13, 369-395.
- Milne, M.J. (2007). Downsizing Reg (Me and You)! Addressing the 'real' sustainability agenda at work and home. In M.R. Mathews, R. Gray, & J. Guthrie, *Social accounting, mega accounting and beyond : a festschrift in honour of M.R. Mathews* St. Andrews Centre for Social and Environmental Accounting Research, pp. 50-66.
- Milne, M.J., & Gray, R. (2007). Future prospects for corporate sustainability reporting. In J. Unerman, J. Bebbington, & B. O'Dwyer, *Sustainability accounting and accountability*. London: Routledge, pp. 184-207.
- Milne, M.J., Kearins, K., & Walton, S. (2006). Creating Adventures in Wonderland: The Journey Metaphor and Environmental Sustainability. *Organization* 13, 801-839.
- Milne, M.J., Owen, D., & Tilt, C.A. (2001). Corporate environmental reporting: Are New Zealand companies being left behind? *University of Auckland Business Review* 3, 24-36.
- Milne, M.J., & Patten, D.M. (2002). Securing organizational legitimacy: An experimental decision case examining the impact of environmental disclosures. *Accounting, Auditing & Accountability Journal* 15, 372-405.
- Milne, M.J., Tregidga, H., & Walton, S. (2003). The triple bottom line: benchmarking New Zealand's early reporters. *University of Auckland Business Review* 5, 1-14.
- Milne, M.J., Tregidga, H., & Walton, S. (2009). Words not actions! The ideological role of sustainable development reporting. *Accounting, Auditing & Accountability Journal* 22, 1211-1257.
- Ministry for the Environment. (2009a). On Tap? Attitudes, behaviours, and perceptions of household water use – informing demand management. Wellington, p. 54.
- Ministry for the Environment. (2009b). Our Rivers: Trends in water quality. Wellington, p. 2.
- Ministry for the Environment. (2009c). Our Water: Groundwater quality. Wellington, p. 1.
- Mintzberg, H. (1978). Patterns in strategy formation. *Management Science* 24, 934-948.
- Mirvis, P.H. (2000). Transformation at shell: Commerce and citizenship. *Business and Society Review* 105, 63-84.
- Mobus, J.L. (2005). Mandatory environmental disclosures in a legitimacy theory context. *Accounting, Auditing & Accountability Journal* 18, 492-517.
- Mouritsen, J. (2006). Problematizing intellectual capital research: ostensive versus performative IC. *Accounting, Auditing & Accountability Journal* 19, 820-841.
- Mouritsen, J., & Flagstad, K. (2005). The making of knowledge society: intellectual capital and paradoxes of managing knowledge. In B. Czarniawska, & T. Hernes, *Actor-network theory and organizing*. Copenhagen: Copenhagen Business School Press.
- Mouritsen, J., Hansen, A., & Hansen, C. (2009). Short and long translations: Management accounting calculations and innovation management. *Accounting, Organizations and Society* 34, 738-754.

- Mouritsen, J., Hansen, A., & Hansen, C.Ø. (2001a). Inter-organizational controls and organizational competencies: episodes around target cost management/functional analysis and open book accounting. *Management Accounting Research* 12, 221-244.
- Mouritsen, J., Larsen, H.T., & Bukh, P.N.D. (2001b). Intellectual capital and the 'capable firm': narrating, visualising and numbering for managing knowledge. *Accounting, Organizations and Society* 26, 735-762.
- Mouritsen, J., Mahama, H., & Chua, W.F. (2010). Actor-network theory and the study of inter-organisational network relations. In H. Hakansson, K. Kraus, & J. Lind, *Accounting in networks*. New York : London: Routledge, pp. 292-313.
- Mundy, J. (2010). Creating dynamic tensions through a balanced use of management control systems. *Accounting, Organizations and Society* 35, 499-523.
- Neu, D., & Gomez, E.O. (2006). The ethics of World Bank lending. *Accounting Forum* 30, 1-19.
- Neu, D., & Taylor, A. (1996). Accounting and the politics of divestment. *Critical Perspectives on Accounting* 7, 437-460.
- Neu, D., Warsame, H., & Pedwell, K. (1998). Managing public impressions: Environmental disclosures in annual reports. *Accounting, Organizations and Society* 23, 265-282.
- Nixon, W.A.J., & Burns, J. (2005). Management control in the 21st century. *Management Accounting Research* 16, 260-268.
- O'Donovan, G. (2002). Environmental disclosures in the annual report: Extending the applicability and predictive power of legitimacy theory. *Accounting, Auditing & Accountability Journal* 15, 344-371.
- O'Dwyer, B. (2002). Managerial perceptions of corporate social disclosure: An Irish story. *Accounting, Auditing & Accountability Journal* 15, 406-436.
- O'Dwyer, B. (2003). Conceptions of corporate social responsibility: The nature of managerial capture. *Accounting, Auditing & Accountability Journal* 16, 523-557.
- O'Dwyer, B. (2005). The construction of a social account: a case study in an overseas aid agency. *Accounting, Organizations and Society* 30, 279-296.
- O'Dwyer, B., Owen, D., & Unerman, J. (2011). Seeking legitimacy for new assurance forms: The case of assurance on sustainability reporting. *Accounting, Organizations and Society* 36, 31-52.
- Otley, D. (1999). Performance management: A framework for management control systems research. *Management Accounting Research* 10, 363-382.
- Otley, D. (2005). Performance management: a framework for analysis. In A.J. Berry, J. Broadbent, & D. Otley, *Management control : theories, issues, and performance*. Houndmills, Basingstoke, Hampshire New York: Palgrave Macmillan.
- Otley, D., Broadbent, J., & Berry, A. (1995). Research in Management Control: An Overview of its Development. *British Journal of Management* 6, S31-S44.
- Owen, D. (2008). Chronicles of wasted time?: A personal reflection on the current state of, and future prospects for, social and environmental accounting research. *Accounting, Auditing & Accountability Journal* 21, 240-267.
- Owen, D.L., Swift, T., & Hunt, K. (2001). Questioning the Role of Stakeholder Engagement in Social and Ethical Accounting, Auditing and Reporting. *Accounting Forum* 25, 264-282.
- Owen, D.L., Swift, T.A., Humphrey, C., & Bowerman, M. (2000). The new social audits: accountability, managerial capture or the agenda of social champions? *European Accounting Review* 9, 81-98.
- Parker, L.D. (2005). Social and environmental accountability research: A view from the commentary box. *Accounting, Auditing & Accountability Journal* 18, 842-860.
- Patten, D.M. (1992). Intra-Industry Environmental Disclosures in Response to the Alaskan Oil Spill: A Note on Legitimacy Theory. *Accounting, Organizations and Society* 17, 471-475.
- Peterson, L.C., & Conners, N. (2007). The 11th hour United States of America: Warner Independent Pictures, Appian Way, Tree Media Group,, p. 124 min.

- Preston, A.M., Cooper, D.J., & Coombs, R.W. (1992). Fabricating budgets: A study of the production of management budgeting in the national health service. *Accounting, Organizations and Society* 17, 561-593.
- Puxty, A.G. (1986). Social accounting as immanent legitimation: a critique of a technicist ideology. *Advances in public interest accounting* 1, 95-111.
- Quattrone, P., & Hopper, T. (2005). A 'time-space odyssey': management control systems in two multinational organisations. *Accounting, Organizations and Society* 30, 735-764.
- Rahaman, A.S., Lawrence, S., & Roper, J. (2004). Social and environmental reporting at the VRA: institutionalised legitimacy or legitimation crisis? *Critical Perspectives on Accounting* 15, 35-56.
- Reckwitz, A. (2002). Toward a Theory of Social Practices. *European Journal of Social Theory* 5, 243-263.
- Roberts, J., & Scapens, R. (1985). Accounting Systems and Systems of Accountability -- Understanding Accounting Practices in Their Organisational Contexts. *Accounting, Organizations and Society* 10, 443-456.
- Robson, K. (1992). Accounting Numbers as "Inscription": Action at a Distance and the Development of Accounting. *Accounting, Organizations and Society* 17, 685-708.
- Robson, K. (1994). Inflation accounting and action at a distance: The sandilands episode. *Accounting, Organizations and Society* 19, 45-82.
- Ryan, B., Scapens, R.W., & Theobald, M. (2002). *Research method and methodology in finance and accounting*. London: Thomson.
- Scapens, R.W. (1990). Researching management accounting practice: The role of case study methods. *The British Accounting Review* 22, 259-281.
- Scapens, R.W. (2004). Doing Case Study Research. In C. Humphrey, & B. Lee, *The Real Life Guide to Accounting Research: A Behind-The-Scenes View of Using Qualitative Research Methods* Oxford: Elsevier, pp. 257-279.
- Simons, R. (1995). *Levers of control : how managers use innovative control systems to drive strategic renewal*. Boston, Mass.: Harvard Business School Press.
- Simons, R. (2000). *Performance measurement & control systems for implementing strategy*. Upper Saddle River, N.J.: Prentice Hall.
- Skærbæk, P. (2009). Public sector auditor identities in making efficiency auditable: The National Audit Office of Denmark as independent auditor and modernizer. *Accounting, Organizations and Society* 34, 971-987.
- Skærbæk, P., & Tryggestad, K. (2010). The role of accounting devices in performing corporate strategy. *Accounting, Organizations and Society* 35, 108-124.
- Small, B., & Jollands, N. (2006). Technology and Ecological Economics: Promethean Technology, Pandorian Potential. *Ecological Economics* 56, 343-358.
- Star, S.L., & Griesemer, J.R. (1989). Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39. *Social Studies of Science* 19, 387-420.
- The Press. (2008). Waste recovery plant kind to environment. Christchurch, p. 2.
- Thomson, I. (2007). Mapping the terrain of sustainability accounting. In J. Unerman, J. Bebbington, & B. O'Dwyer, *Sustainability accounting and accountability*. London: Routledge, pp. 19-36.
- Thomson, I., & Bebbington, J. (2005). Social and environmental reporting in the UK: a pedagogic evaluation. *Critical Perspectives on Accounting* 16, 507-533.
- Tinker, T., & Gray, R. (2003). Beyond a critique of pure reason: From policy to politics to praxis in environmental and social research. *Accounting, Auditing & Accountability Journal* 16, 727-761.
- Tinker, T., Lehman, C., & Neimark, M. (1991). Falling down the hole in the middle of the road: political quietism in corporate special reporting. *Accounting, Auditing & Accountability Journal* 4, 28-54.

- Tuomela, T.-S. (2005). The interplay of different levers of control: A case study of introducing a new performance measurement system. *Management Accounting Research* 16, 293-320.
- Unerman, J. (2008). Strategic reputation risk management and corporate social responsibility reporting. *Accounting, Auditing & Accountability Journal* 21, 362-364.
- Unerman, J., & Bennett, M. (2004). Increased stakeholder dialogue and the internet: towards greater corporate accountability or reinforcing capitalist hegemony? *Accounting, Organizations and Society* 29, 685-707.
- Vaivio, J. (1999). Exploring a 'non-financial' management accounting change. *Management Accounting Research* 10, 409-437.
- Verburg, P., Hamill, K., Unwin, M., & Abell, J. (2010). Lake water quality in New Zealand 2010: Status and trends. In National Institute of Water & Atmospheric Research Ltd. Hamilton, p. 48.
- Wackernagel, M., & Rees, W.E. (1996). *Our ecological footprint : reducing human impact on the Earth*. Gabriola Island, B.C.: New Society Publishers.
- Weinberg, A.S. (1998). Distinguishing among green businesses: Growth, green, and anomie. *Society & Natural Resources: An International Journal* 11, 241 - 250.
- Widener, S.K. (2007). An empirical analysis of the levers of control framework. *Accounting, Organizations and Society* 32, 757-788.
- World Commission on Environment and Development. (1987). *Our common future* Oxford: Oxford University Press.
- WWF - World Wide Fund for Nature. (2010). Living Planet Report 2010: Biodiversity, biocapacity and development. Gland, Switzerland.
- Xing, Y., Horner, R.M.W., El-Haram, M.A., & Bebbington, J. (2009). A framework model for assessing sustainability impacts of urban development. *Accounting Forum* 33, 209-224.