



PHD

Organisational Responses to Legitimacy Challenges: Considering the Effectiveness of Environmental Reporting in News Media

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**Organisational Responses to Legitimacy Challenges:
Considering the Effectiveness of Environmental Reporting in News
Media**

Joseph James O'Neill

A thesis submitted for the degree of Doctor of Philosophy

University of Bath
School of Management

January 2015

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Table of Contents

Contents	ii
List of Appendices	viii
List of Tables	ix
List of Figures	xi
Acknowledgements	xii
Abstract	xiii
List of Abbreviations	xiv
Chapter 1 Introduction	1
1.1 Introduction	1
1.2 Background to the Study	2
1.3 Organisational Legitimacy Theory	2
1.3.1 Strategic Perspective	3
1.3.2 Institutional Perspective.....	4
1.4 Conceptual Model	5
1.5 Research Method	6
1.6 Contributions of the Study	7
1.6.1 Theoretical Contributions	7
1.6.2 Empirical Contributions	7
1.7 Outline of the Study	7
1.8 Conclusion	8
Chapter 2 Literature Review	9
2.1 Introduction	9
2.2 Systems Oriented Views	9
2.3 Pluralistic View of Society	10
2.4 Neo-Pluralistic View of Society	11
2.5 Political and Social Theories of Environmental Disclosure	12
2.6 Origins of Legitimacy Theory	16
2.7 Organisational Legitimacy Concept	18
2.8 Types of Organisational Legitimacy	19
2.8.1 Pragmatic Legitimacy	20
2.8.2 Cognitive Legitimacy	20
2.8.3 Moral (Normative Legitimacy)	20
2.9 Social Legitimacy	21
2.10 Social Legitimacy and Related Concepts	23
2.10.1 Social Legitimacy and Organisational Reputation	23
2.10.2 Social Legitimacy and Organisational Credibility	24
2.11 Features of Organisations Subject to Social Legitimacy Evaluation	25
2.12 Perspectives of Social Legitimacy	26
2.12.1 Strategic Perspective of Social Legitimacy	26
2.12.1.1 Social Contract	27
2.12.1.2 Organisational Congruence with the Social System	29
2.12.1.3 Incongruence with the Social System	29
2.12.1.4 Value Challenges	30
2.12.1.5 Symbolic Actions – Communication	31

2.12.1.6 Organisational Communication to Regain or Defend Social Legitimacy	32
2.12.1.7 Environmental Disclosures as Successful Legitimation Strategies	34
2.12.1.8 Individual Recipients of Organisations' Environmental Disclosures	34
2.12.1.9 Summary of Theoretical Gap in Strategic Perspective	38
2.12.2 Institutional Perspective of Social Legitimacy	39
2.12.2.1 Importance of Individuals in Legitimation/De-Legitimation	40
2.12.2.2 Organisations' Means of Operation	42
2.12.2.3 Media Information about Challenged Means of Operation	43
2.12.2.4 Individual Social Actors	45
2.12.2.5 Conditions Under which Individuals are Successfully Influenced by Media Information	46
2.12.2.6 Summary of Theoretical Gap in Institutional Perspective	46
2.13 Conclusion	47
Chapter 3 Conceptual Model and Hypotheses	50
3.1 Introduction	50
3.2 Environmental Disputes over Organisational Operations	50
3.3 Frames and Organisational Legitimacy	52
3.4 Definition of Frames in Disputes	54
3.4.1 Influence of Frames in Disputes on Peoples' Attitudes (Judgements)	54
3.4.1.2 Value Frames	55
3.4.2 Environmental Value Frames	55
3.5 Presence of Environmental Values Frames in Media Communications About a Dispute	56
3.6 Value Bases of Environmental Concern	57
3.6.1 Altruistic Value	58
3.6.2 Biospheric Value	58
3.6.3 Egoistic Value	58
3.7 Organisational Legitimacy as an Attitude	59
3.7.1 Individual Social Legitimacy Judgement	59
3.8 Environmental Disputes and Individual Ambivalence	60
3.9 Conceptual Model	62
3.9.1 Development of Hypotheses	63
3.9.1.1 Environmental Value Challenge of Organisational Operation	63
3.9.1.2 Hypothesis 1: Opposition Frame of Organisational Operation	63
3.9.1.3 Defence of Challenged Organisational Operation	65
3.9.1.4 Hypothesis 2: Support Frames of Organisational Operation	66
3.9.1.5 Individual Environmental Concern	68
3.9.1.6 Level of Individual Environmental Concern	69
3.9.1.7 Hypothesis 3: Interaction of Individual Environmental Concern and Opposition Frame	70
3.9.1.8 Hypothesis 4: Interaction of Individual Environmental Concern and Support Frames	71
3.9.1.9 Organisational Credibility in Defence of Challenged Operation	72
3.9.1.10 Hypothesis 5: Organisational Credibility in Disputed Issue	73
3.9.1.11 Legitimacy Judgement and Behaviour	77
3.9.1.12 Hypotheses 6 and 7: Environmental Value Frames and Behavioural Intent	78
3.10 Conclusion	80

Chapter 4 Methodology	82
4.1 Introduction	82
4.2 Philosophical Assumptions of the Research	83
4.2.1 Ontological Assumptions	84
4.2.1.1 Realist Position on Ontology	85
4.2.2 Epistemological Assumptions	85
4.2.2.1 Positivist Position on Epistemology	86
4.2.3 Assumptions of Human Nature	87
4.2.3.1 Determinism	88
4.2.4 Role of the Researcher	88
4.2.5 Philosophical Assumptions and Objective of the Study	89
4.2.6 Methodological Assumptions of the Study	91
4.2.6.1 Nomothetic Approach to Methodology	91
4.3 Quantitative Methods	91
4.3.1 Surveys	92
4.3.1.1 Mail Surveys	92
4.3.1.2 Face-to-face Interviews	92
4.3.1.3 Archival Research	92
4.3.2 Experiments	93
4.4 Appropriate Method for the Study	93
4.4.1 Internal Validity	93
4.4.1.1 Surveys	93
4.4.1.2 Experiments	93
4.4.2 External Validity	95
4.4.2.1 Statistical Generalization	95
4.4.2.2 Generalization	96
4.4.3 Disadvantages of Experiments	97
4.5 Experimental and Control Groups	98
4.5.1 Random Allocation of Participants to Groups	98
4.5.2 Pre-test and Post-test Measures	99
4.5.3 Experimental Design	99
4.5.4 Basic Design Control	100
4.6 Design of Experiment for the Study	101
4.6.1 Independent Variables	101
4.6.2 Operationalization of Independent Variables	103
4.6.3 Background to Experimental Scenario	104
4.6.4 Content Analysis of Material for Scenario	106
4.6.5 Operationalization of Company Credibility in Environmental Dispute	109
4.6.6 Importance of Value Bases of Environmental Concern to Individuals	110
4.7 Dependent Variables	111
4.7.1 Operationalization of Individual Social Legitimacy Judgement	111
4.7.2 Operationalization of Individual Intention of Oppose Organisational Means of Operation	112
4.8 Operationalization of Experimental Scenario	113
4.9 Manipulation Checks of Independent Variables	115
4.10 Control Variables	116
4.11 Experimental Material and Procedure	117
4.12 Demand Effects	119
4.13 Pilot Study	120

4.13.1 Pilot Study Results	121
4.14 Participants	121
4.14.1 Recruitment of Participants	121
4.14.2 Number of Participants Per Experimental Group	122
4.14.3 Random Assignment of Participants to Groups	122
4.15 Experimental Setting and Control	122
4.15.1 Experimental Setting	123
4.16 Ethical Considerations	123
4.16.1 Deception of Participants	124
4.16.2 Voluntary Participation	124
4.16.3 Informed Consent	125
4.16.4 No Harm to Participants	125
4.16.5 Confidentiality and Data Storage	126
4.17 Conclusion	126
Chapter 5 Data Analysis and Results	128
5.1 Introduction	128
5.2 Description of Sample	128
5.2.1 Demographic Characteristics	128
5.2.2 Academic Characteristics	130
5.2.3 Residence of Participants	130
5.2.4 Participants' Experience with Waste Collection Services.....	132
5.3 Manipulation Checks	133
5.3.1 Environmental Value Frame Manipulation Checks	133
5.3.1.1 Frame Position Manipulation Checks	134
5.3.1.2 Frame Value Manipulation Checks	136
5.3.1.2.1 Biospheric Value Frame Manipulation Check	136
5.3.1.2.2 Altruistic Value Frame Manipulation Check	137
5.3.1.2.3 Egoistic Value Frame Manipulation Check	137
5.3.2 Company Credibility Manipulation Checks	139
5.3.2.1 Principal Components Analysis of Company Credibility Scale	139
5.3.2.2 Company Trustworthiness Manipulation Check	141
5.3.2.3 Company Expertness Manipulation Check	142
5.3.3 Principal Components Analysis of Environmental Concern Scale	143
5.4 Dependent Measures	144
5.4.1 Individual Social Legitimacy Judgement	144
5.4.1.2 Principal Components Analysis of Social Legitimacy Judgement Scale	145
5.4.2 Principal Components of Intent of Oppose Company's Waste Plant	146
5.5 Covariates	147
5.5.1 Preliminary Checks of Covariates	149
5.6 Tests of Hypotheses	149
5.6.1 Test of Hypothesis One	151
5.6.2 Tests of Hypothesis Two	154
5.6.2.1 Test of Hypothesis 2a	154
5.6.2.2 Test of Hypothesis 2b	155
5.6.2.3. Test of Hypothesis 2c	157
5.6.3 Tests of Hypothesis Three	158
5.6.3.1 Test of Hypothesis 3a	158

5.6.3.2 Test of Hypothesis 3b	160
5.6.3.3 Test of Hypothesis 3c	162
5.6.3.4 Floodlight Analysis for H3	164
5.6.4 Tests of Hypothesis Four	164
5.6.4.1 Test of Hypothesis 4a	165
5.6.4.2 Test of Hypothesis 4b	166
5.6.4.3 Test of Hypothesis 4c	168
5.6.4.4 Floodlight Analysis for H4	170
5.6.5 Tests of Hypothesis Five	170
5.6.5.1 Test of Hypothesis 5a	170
5.6.5.2 Test of Hypothesis 5b	173
5.6.5.3 Test of Hypothesis 5c	176
5.6.6 Test of Hypothesis Six	179
5.6.7 Tests of Hypothesis Seven	180
5.6.7.1 Test of Hypothesis 7a	181
5.6.7.2 Test of Hypothesis 7b	182
5.6.7.3 Test of Hypothesis 7c	183
5.7 Conclusion	184
Chapter 6 Discussion of Results	185
6.1 Introduction	185
6.2 Results of Hypotheses	185
6.3 Contribution of Results to Literature	191
6.3.1 Theoretical Contributions	192
6.3.1.1 Influence of Different Environmental Disclosures and Disclosures in Defending Social Legitimacy	193
6.3.1.2 Method by which Organisations Defend Social Legitimacy	194
6.3.1.3 Information Attributes in News Media that Influence Individuals' Social Legitimacy Judgements	196
6.3.1.3.1 Organisational Credibility in Disputed Issue	196
6.3.1.3.2 Value Frames	197
6.3.1.3.3 Organisational Credibility and Value Frames	198
6.3.2 Empirical Contribution	198
6.3.2.1 Indirect Influence on Individual Intention to Oppose a Disputed Operation	199
6.3.2.2 Other Empirical Contributions	199
6.4 Summary	200
Chapter 7 Conclusion	202
7.1 Introduction	202
7.2 Background and Aim of the Study	202
7.3 Research Method	204
7.3.1 Scenario Employed	204
7.3.2 Experimental Design	205
7.3.3 Participants	205
7.4 Results	206
7.5 Contribution of Results	207
7.5.1 Theoretical Contributions	207
7.5.2 Empirical Contributions	208

7.6 Implications of Study Findings	209
7.7 Generalisability of the Results	210
7.8 Limitations	211
7.8.1 Experimental Scenario	211
7.8.2 Stimulus Material	212
7.8.3 Participants	212
7.9 Future Research	213
Bibliography	214
Appendices	228

List of Appendices

Appendix A – Pre-Test Questions – All Frame Manipulations	228
Appendix B – No Frame Stimulus Material	231
Appendix C – Environmental Values Opposition Frame Stimulus Material	232
Appendix D – Opposition + Biospheric Value Support Frames Stimulus Material and Post Stimulus Material Questions	234
Appendix E – Opposition + Altruistic Value Support Frames Stimulus Material	247
Appendix F – Opposition + Egoistic Value Support Frames Stimulus Material	251
Appendix G – Post-Test Questions – All Frame Manipulations	255
Appendix H – Content Analysis for Experimental Scenario	261
Appendix I – Experimental Protocol	264
Appendix J – Advertisements for Experiment	266
Appendix K – Data Screening, Normality and Outliers	271
Appendix L – Descriptive Statistics of Main Variables	273
Appendix M – Covariates – Preliminary Checks	274
Appendix N – Descriptive Statistics of Hypotheses	283

List of Tables

Table 4.1 Environmental Value Frame Manipulations	101
Table 4.2 Company Credibility Manipulations	102
Table 4.3 Individual Value Importance Manipulations	102
Table 5.1 Participants' Gender	128
Table 5.2 Participants' Country of Birth	129
Table 5.3 Participants' Age	129
Table 5.4 Participants' Year of Study and Degree Type	130
Table 5.5 Participants' Year of Study and Subject Area	130
Table 5.6 Participants' Attachment to BANES	131
Table 5.7 Participants Living in BANES	131
Table 5.8 Participants' Area of Residence in BANES	132
Table 5.9 Participants' Experience of Household Waste Collection	132
Table 5.10 Environmental Value Frame Manipulations	134
Table 5.11 Descriptive Statistics for Frame Positions	134
Table 5.12 ANOVA Summary – Frame Positions	135
Table 5.13 Descriptive Statistics for Biospheric Value in Frames	136
Table 5.14 Independent Samples Test Summary – Biospheric Value	136
Table 5.15 Descriptive Statistics for Altruistic Value in Frames	137
Table 5.16 Independent Samples Test Summary – Altruistic Value	137
Table 5.17 Descriptive Statistics for Egoistic Value in Frames	138
Table 5.18 Independent Samples Test Summary – Egoistic Value	138
Table 5.19 Company Credibility Manipulations	139
Table 5.20 Company Credibility Scale Items	140
Table 5.21 Descriptive Statistics for Company Trustworthiness	141
Table 5.22 Paired Samples Test Summary – Company Trustworthiness	142
Table 5.23 Descriptive Statistics for Company Expertness	142
Table 5.24 Paired Samples Test Summary – Company Expertness	142
Table 5.25 Environmental Concern Scale Items	143
Table 5.26 Social Legitimacy Judgement Scale Items	145
Table 5.27 Opposition to Waste Plant Scale Items	146
Table 5.28 Environmental Knowledge Scale Items	148
Table 5.29 Prior Opinion towards Waste Incineration	148
Table 5.30 Political Ideology Questions	148
Table 5.31 Summary of Hypotheses	150
Table 5.32 Tests of Between-Subjects Effects – H1	152
Table 5.33 Tests of Between-Subjects Effects – H2a	154
Table 5.34 Tests of Between-Subjects Effects – H2b	156
Table 5.35 Tests of Between-Subjects Effects – H2c	157
Table 5.36 Test of Between-Subjects Effects – H3a	159
Table 5.37 Test of Between-Subjects Effects – H3b	161
Table 5.38 Test of Between-Subjects Effects – H3c	163
Table 5.39 Test of Between-Subjects Effects – H4a	165
Table 5.40 Test of Between-Subjects Effects – H4b	167
Table 5.41 Test of Between-Subjects Effects – H4c	169
Table 5.42 Tests of Within-Subjects Effects – H5a	171
Table 5.43 Tests of Between-Subjects Effects – H5a	172
Table 5.44 Tests of Within-Subjects Effects – H5b	174
Table 5.45 Tests of Between-Subjects Effects – H5b	174

Table 5.46 Tests of Within-Subjects Effects – H5c	177
Table 5.47 Tests of Between-Subjects Effects – H5c	177
Table 6.1 Summary of Results from Test of H1	185
Table 6.2 Summary of Results from Tests of H2	186
Table 6.3 Summary of Results from Tests of H3 and H4	187
Table 6.4 Summary of Results from Tests of H5	189
Table 6.5 Summary of Results from Tests of H6 and H7	190

List of Figures

Figure 3.1 Conceptual Model	62
Figure 4.1 Subjective-Objective Dimension	84
Figure 4.2 Design of Experiment – Between and Within Subjects Variables	104
Figure 4.3 Proposed waste-to-energy plant to be built at Timsbury	115
Figure 5.1 Main Effect of Opposition Environmental Values Frame	153
Figure 5.2 Interaction of Environmental Value Frames and Company Credibility in Dispute	173
Figure 5.3 Interaction of Environmental Value Frames and Company Credibility in Dispute	176
Figure 5.4 Interaction of Environmental Value Frames and Company Credibility in Dispute	179
Figure 6.1 Contribution to Organisational Legitimacy Theory from Testing of Conceptual Model	192

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Abstract

Organisational legitimacy has been extensively employed in the explanation of companies' environmental disclosures. However, the effect of disclosures on legitimacy judgements of individuals who receive the disclosures has been subject to little research. This is surprising as legitimacy resides in the 'eye of the beholder'. Instead individuals are typically assigned to a role of 'passive consumers' of disclosures in social and environmental accounting (SEA) research. However, persuasion and political communication literatures indicate that individuals do not passively accept information that they receive (Petty et al. 2002). Many moderating factors characterise the cognitive process underlying their reactions to mass media information.

Drawing from these literatures, a conceptual model was developed. On the basis of this model, information attributes, new to SEA research – environmental value frames and company credibility together with level of individual environmental value importance of individual recipients, were predicted to effectively influence individual social legitimacy judgements and behaviour. These were tested by way of an experiment.

Results indicated that a value frame transmitted by environmental groups negatively affected individuals' social legitimacy judgements, but value frames transmitted by companies were not found to have an effect on individuals. However when the credibility of companies transmitting the frames was perceived as high, the effect of company frames was found to be significant.

Because the study concentrates on factors that produce a successful reaction in the 'beholders' of legitimacy, results add to the SEA research. Significantly, findings demonstrate elements of companies' environmental disclosures which successfully impact the legitimacy judgements and resultant behaviour of individuals. Further, current understanding, in the SEA field, of the role of news media, media frames and company credibility is advanced by the study. From a public policy perspective, study findings indicate that organisations can, via disclosures in local news media, potentially sustain operations that can damage the local environment of the communities in which they operate. This has implications for the power that communities hold in protecting their local environment and it questions the efficacy of the UK's Localism Act as a mechanism for affording such power.

List of Abbreviations

ACCA	Association of Certified Public Accountants
ANOVA	Analysis of Variance
ANCOVA	Analysis of Covariance
BANES	Bath and North East Somerset Council
BBC	British Broadcasting Corporation
BMW	Biodegradable Municipal Waste
CO	Carbon Monoxide
CSD	Corporate Social Disclosure
DEFRA	Department for Environment, Food and Rural Affairs
EA	Environment Agency
EK	Environmental Knowledge
FoE	Friends of the Earth
GHG	Greenhouse Gas
ICAEW	Institute of Chartered Accountants in England and Wales
LATS	Landfill Allowance Trading Scheme
MSW	Municipal Solid Waste
PEA	Political Economy of Accounting
PCA	Principal Component Analysis
RRS	Resource Recovery Solutions Ltd
EfW	Energy from Waste
SEA	Social and Environmental Accounting
SPSS	Statistical Package for the Social Sciences
UN	United Nations
UNEP	United Nations Environment Programme

Introduction

Chapter One

1.1 Introduction

For some time there have been rising social expectations about the role of companies in society. This has given rise to an increasing public awareness of the potential negative impacts of their operations on the natural environment (Owen and O'Dwyer 2008). As a result, large, publicly listed companies and their operations are subject to heightened public scrutiny and critique. Though such public pressure has been noted as far back as the twentieth century (Guthrie and Parker 1989, Hogner 1982), it was not until the mid-1990s that it has escalated into a mainstream issue (Gray et al. 1995).

From this time, companies have been facing increasing pressure from the public to repair or prevent damage to the physical environment as a result of their operations (Patten 1991). This pressure is evident in the calls from supranational bodies such as UN, and national governments. For example, the environment programme of the UN recently issued a report, which concluded that activities of the world's biggest 3,000 publicly-listed companies were responsible for a third of the cost of all global environmental damage in 2008 (UNEP and PRI 2011). More recently, in October 2013, the UK became the first country to require publicly listed companies to report their annual greenhouse gas (GHG) emissions. This reflects a trend whereby companies are increasingly expected to account for and pay for the damage that they cause to the natural environment.

As a response to this pressure, organisations have been voluntarily providing public disclosures about the environmental and social consequences of their operations¹. Such disclosures have long been investigated in social environmental accounting (SEA) research, and have been made by companies since the turn of the twentieth century (Guthrie and Parker 1989, Hogner 1982). Although disclosures with more of

¹ Environmental disclosure is defined as the provision, to a range of stakeholders, of information about performance of an entity with regard to its interaction with its physical environment, in a word, information about its environmental performance (c.f. Deegan and Unerman, 2006, p. 311).

an emphasis on social performance become a significant phenomenon in the 1970s (Cowen et al. 1987), from the mid-1990s, environmental disclosures became widespread practice of companies in many different countries (Deegan and Unerman 2006), including the UK (Gray et al. 1995). Indeed at this period, it became a significant disclosure activity for the first time in Europe (Owen and O'Dwyer 2008). Its substantial growth over the last decade has been observed by a number of prominent institutions such as the Institute of Chartered Accountants in England and Wales (ICAEW) and the accountancy firm: KPMG in its triennial surveys of disclosure (KPMG 2008, KPMG 2011, KPMG 2013).

It is common place now for large public companies, referred to as 'leading edge reporters' to include substantial amounts of information on their environmental performance, featuring "copious quantitative, as well as qualitative data" (Owen and O'Dwyer 2008, p. 384) in paper and web based reports and websites, (Deegan and Unerman 2006). A variety of disclosure media are used including: annual or corporate reports, press releases, advertisements, employee magazines, glossy corporate booklets/brochures, media statements and media articles (Tilt 1998, Zeghal and Ahmed 1990). These environmental disclosures are believed to influence social legitimacy judgement of organisations and their operations (Patten 1992, Patten 2002).

1.2 Background to the Study

Organisational legitimacy theory is the most widely employed theory in SEA research to account for these disclosures (Deegan 2007).

1.3 Organisational Legitimacy Theory

The concept of organisations' legitimacy originally has its origins in the works of Weber ([1922], 1978), but it was Parsons (1960) who was the first to explicitly link it with organisations. The particular dimension of legitimacy employed in the SEA context is social legitimacy judgement (Dowling and Pfeffer 1975, Suchman 1995). With a moral underpinning, it is based on social actors' perceptions that organisations' means of operation are consistent with social values and norms (Dowling and Pfeffer 1975). In an SEA context, this entails consistency with the environmental values widely held by society (Aerts and Cormier 2009, Bitektine 2011).

Consistency generates positive normative evaluations of organisations' operations in the eyes of evaluating actors, judging the operations as proper, appropriate and desirable (Suchman 1995, Chen and Roberts 2010, Zimmerman and Zeitz 2002). Two broad perspectives on social legitimacy demarcate the organisational legitimacy literature – institutional and strategic perspectives (Suchman 1995). Institutional perspective takes a collective view by focusing on how institutional structures as a whole (for example, capitalist economics structure or government) reflect the collective judgment of individual social actors who comprise the social system. The strategic perspective takes a lower level of analysis, and concentrates on the strategies used by organisations to gain social acceptance and resources from the social system. The strategic perspective is predominantly employed in the SEA literature to explain organisations' environmental disclosures.

1.3.1 Strategic Perspective

According to the SEA literature, organisations' social legitimacy is 'challenged' when some aspect of their operations become the subject of an environmental dispute. Typically this is triggered by allegations appearing in news media reports (Brown and Deegan 1998, Sethi 1978, Aerts and Cormier 2009). Widely contended in the literature is the notion that organisations respond by disclosing environmental performance information via corporate report media. This is assumed to 'deflect' the negative attention of society (the social system) to other more positive aspects of organisations' environmental performance (Deegan et al. 2000). These disclosures are assumed to defend the collective perception of organisations' social legitimacy in the face of challenges. In this vein, corporate report disclosures are seen as the 'symbolic gestures organisations use to influence their social legitimacy (Gray et al. 1995, Gray et al. 1996, Deegan and Rankin 1996). But whether environmental disclosures have the intended effect on individuals, 'beholders' of legitimacy, in the face of legitimacy challenges, has remained relatively unexplored in the SEA literature. This is because use of the strategic perspective has guided SEA research to focus on organisations' disclosures, rather than individual reactions to the disclosures (Milne and Patten 2002, O'Dwyer 2002, Deegan et al. 2002).

1.3.2 Institutional Perspective

Acknowledging that legitimacy resides in the eyes individuals, the institutional view of legitimacy theory would suggest that organisations' disclosures in news media rather than corporate reports affect individuals who comprise the social system. Organisations' disclosures in this media, it indicates, represent effective symbolic gestures in the face of challenges (Aerts and Cormier 2009, Bitektine 2011). When these disputes occur, individuals' interaction with news media information is believed to be important aspect of how the disputes affect social legitimacy of operations (Bitektine 2011, Brown and Deegan 1998, Lamertz and Baum 1998). This is because this media is more widely available to individual members of the public who rely on the news media information when social legitimacy challenged (Zeghal and Ahmed 1990, Sethi 1978, Brown and Deegan 1998, Aerts and Cormier 2009), rather than corporate report mediam, which suffers from "socially inaccessibility" (Zeghal and Ahmed 1990, p. 39). But institutional perspective assumes that effectiveness occurs because individuals are exposed to news media information (Ashforth and Gibbs 1990, Deephouse and Carter 2005, Bitektine 2011, Deephouse and Suchman 2008).

Such a view allocates individuals to a role of "passive consumers" of the media information (c.f. Ashforth and Gibbs 1990, p. 186). Thus this perspective of legitimacy omits individual agency or cognition (George et al. 2006). Drawing from the psychology literatures, individuals do not invariably accept information that they receive or are exposed to (Petty et al. 2002) – there are conditions under which information effectively influences individuals. But these conditions remain unaddressed in SEA reserach. In other words, when organisations' disclosures in news media affect individual members of the public, have not been the subject of SEA research.

Knowledge of these conditions, is important from a public policy perspective. This is because organisation's disclosures that successfully impact individual members of the public may ensure continued public support and tolerance of these operations. Thus disclosures may enable organisations to proceed with activities that negatively contribute to social welfare, and the ecosphere (Deegan 2002, Cooper and Sherer 1984, Unerman et al. 2007). In this respect, social progress and environmental protection could be hindered by 'effective' disclosures (Puxty 1991).

In these instances, disclosures may benefit the economic pursuits of organisations, at the expense of other groups in society. They may contribute to an unequal distribution of power among the social actors in society (Gray et al. 1987), by sustaining or extending organisations' control over natural resources, depriving other groups of their use. This would allow organisations to maintain particular means of operation and social structures which negatively impact other social actors and the natural environment. In the next section, organisational legitimacy theory and the theoretical gap are briefly outlined.

1.4 Conceptual Model

To address this gap with respect to individuals, their agency and cognition, a conceptual model based on organisational defences of challenges in news media was developed. Psychological research in political communication, marketing and persuasion literatures has concentrated on the influence of news media information, and information attributes, on individual judgements, in particular influence of information about social disputes on individual judgements (for example, Chong and Druckman 2007b, Nelson et al. 1997a, Brewer and Gross 2005, Brewer 2001, Chong and Druckman 2007a, Nelson et al. 1997b). This work illuminates conditions under which these judgements are influenced: the information attributes and personality characteristics that successfully influence individual judgements and behaviour (Petty et al. 2002).

Drawing from research in these literatures, a model was developed of the attributes of news media information, and an individual characteristic that influence the individual social legitimacy judgment of disputed organisational operations, and individual intention to oppose the operation (Eagly and Kulesa 1997, Verplanken 2002, Petty et al. 2002).

The model predicts that environmental value frames, company credibility in the disputed issue and a personality characteristic - level of individual biospheric, altruistic and egoistic value importance, influence individual social legitimacy judgement and behaviour with respect to a disputed organisational operation. Because the conceptual model focuses on the relationship between news media information and individual legitimacy judgements, it integrates and advances the disparate strategic and institutional perspectives of organisational legitimacy employed in SEA research. The research method employed to test the conceptual model will be introduced next.

1.5 Research Method

The model makes predictions about particular information attributes and personality characteristics that affect individual social legitimacy judgement and behaviour. To test such predictions, an experimental method was the most appropriate method (Aronson et al. 1998). Given the hypotheses of the conceptual model, a mixed between- and within-subjects experiment was used.

To operationalize the independent variables - environmental value frames and company credibility in the dispute, a fictional scenario was used, based on a real environmental dispute regarding controversial means of operation being employed by waste companies around the UK – the construction of waste plants employing new waste incineration technologies. The data collected was analysed using the SPSS statistical package. Given the design of the method, analysis of variance (ANOVA) statistical tests were conducted on the data.

Results from testing of the model indicated that an environmental values frame, in opposition to the waste plant, had a significant negative effect on individuals' social legitimacy judgement of the plant. But company environmental value frames did not mitigate this negative effect of the opposition frame on judgement – as was predicted. It was also found that company's credibility in the dispute moderated the effect of frames.

1.6 Contributions of the Study

Results of the study extend the institutional and strategic perspectives of organisational legitimacy theory employed in the SEA field, and also an empirical contribution to the SEA area.

1.6.1 Theoretical Contributions

Three distinct theoretical contributions are discerned from the results. First, results provide a more accurate view, than is currently held in the literature, about the influence of the different disclosures and disclosure media, when organisational operations are the subject of an environmental dispute. Related to this, results challenge current understanding of the method by which organisations successfully defend/protect a challenged operation. Thirdly, the findings provide some clarity to views in organisational legitimacy theory about company credibility and news media frame attributes, and their influence on social legitimacy.

1.6.2 Empirical Contributions

From an empirical perspective, this study adds to the paucity of organisational legitimacy studies that have employed the experimental method (Vanhamme and Grobten 2009, Elsbach 1994, Milne and Patten 2002, Kuruppu and Milne 2010, Cho et al. 2009). The study was novel in its examination of the effects of disclosure on the moral/normative dimension which underlies social legitimacy. This is significant as social legitimacy is the dimension of organisational legitimacy affected by environmental disputes (Patten 1992, Patten 2002). The study is also notable for its focus on the influence of disclosure on an important outcome of social legitimacy judgements: individual behavioural intention towards an organisational operation.

1.7 Outline of the Study

The thesis is divided into seven chapters. Chapter 2 starts with discussion of the organisation – society relationship, and pluralist/neo-pluralist views of society. The socio-political theories, which are based on these views, and have been applied to describe corporate environmental disclosure practices of organisations, are briefly introduced. Organisational legitimacy theory is situated within this group of theories, and the origins of the theory are discussed. The chapter proceeds with an explanation of organisational legitimacy literature in broad terms, and then reviews institutional

and strategic perspectives of the theory, in the context of corporate environmental disclosure, and the gap common to these disparate views of the theory is made clear. Next, to address this theoretical gap, the conceptual model and hypotheses of the study are developed and presented in Chapter 3. Following this, ontological, epistemological, human nature and methodological assumptions underlying the conceptual model and hypotheses are discussed in Chapter 4. In this chapter, the research method to test the hypotheses is justified and explained in detail. Development of experimental stimuli and measures employed for the constructs are also included in this chapter. Chapter 5 provides analysis of the data and tests of the hypotheses of the conceptual model. Results of the hypotheses are also discussed in this chapter. Discussion of the findings and their theoretical contributions to strategic and institutional perspective of legitimacy theory are explained in Chapter 6. Empirical contributions of the study are also discussed in this chapter. Finally, in Chapter 7, the study is summarised, limitations are outlined, and directions for future research are provided.

1.8 Conclusion

This chapter provided a brief outline of the thesis, the background to the research was outlined, the theoretical perspective of the research - organisational legitimacy theory was introduced, and an outline of the gap in this theory was given. An overview of the conceptual model and the research method employed to test the hypotheses of the model was also presented. Contributions of the research were summarised. In the next chapter, organisational legitimacy theory will be explained in more detail, and the theoretical gap will be explained in detail.

Chapter Two

Literature Review

2.1 Introduction

This chapter makes clear the gap with respect to individuals, their agency and cognition, in the organisational legitimacy theory perspectives employed in SEA research. Firstly in Section 2.2, the systems orientated view of organisations and society is outlined. The role of organisations' environmental disclosure practices in the relationship between organisations and society is explained in Sections 2.3 and 2.4. Next, in Section – 2.5, political and social theoretic perspectives (political economy of accounting (PEA), stakeholder and organisational legitimacy theories, used to consider these disclosures of organisations will be outlined. The remainder of the chapter concentrates on the focal theory of this study: organisational legitimacy theory.

In Section 2.6, origins of legitimacy theory, its development and evolution in the study of organisations is discussed. Following this, in Section 2.7, the main types of organisational legitimacy are outlined and social legitimacy, which is the particular type of legitimacy appropriate to environmental disclosures, is discussed. In Sections 2.8 and 2.9, the social legitimacy concept is defined, and is clarified by highlighting differences between it and other closely related organisational concepts. Subsequently, in Sections 2.12.1 and 2.12.2 the two dominant perspectives of social legitimacy: *strategic* and *institutional* are discussed respectively, and the gap in both perspectives of social legitimacy is made clear.

2.2 Systems Oriented Views

Theories employed to account for environmental disclosure are all based on a systems-oriented view of the relationship between the organisation and society [including the ecosphere] (Gray et al. 1987, Gray et al. 1995, Chen and Roberts 2010), the organisation is seen as part of this broader system and is influenced by the society in which it operates, and, in turn, the organisation also influences society (Deegan 2007, Chen and Roberts 2010). As Gray (1996, p.15) notes, societies, organisations and ecology are all systems and they interact, a belief that accounting (disclosures) does not have implications for social or ecological systems, “does not

make it so”. This permits a focus on the role of organisations’ [environmental] disclosure in their relationship with the State, individuals and groups [and the ecosphere] (Gray et al. 1996, p. 45). Because the organisation is part of this broader system, it interacts with it, in particular ways. In order to understand the role of environmental disclosure in this, “we must have some conception of the world in which that activity [organisations’ disclosures]... does take place” (Gray et al. 1996, p. 15). First, the pluralistic view of society - the conception of the world in which organisations’ financial disclosures are assumed to occur will be explained.

2.3 Pluralistic View of Society

The interaction between groups and individuals occurs in an essentially pluralistic world (Gray et al. 1996), essentially there is diversity in the interests and goals of individuals and groups. Burrell and Morgan (1979, p. 202) convey this pluralist view of society as:

Organisations and their environment are viewed principally as arenas of conflict between individuals and groups whose activities are orientated towards the achievement of their own personal goals, values and interests.

Understanding the distribution of power between the various conflicting individuals and groups, in this pluralist world, is a crucial variable for understanding structural arrangements or social order (Burrell and Morgan 1979, Gray et al. 1987, Cooper and Sherer 1984). According to Cooper and Sherer (1984, p. 218) the concept of power refers to “the ability of a group to influence the allocation of resources”, or to influence other people in society (Gray, 1996). A pluralist view maintains that this power, is equally distributed among all individuals – no single individual or group can dominate. In this sense, power may be seen as a medium through which the conflicts of interest between groups and individuals are settled, individuals and groups draw upon their various sources of power in order to achieve whatever objectives they value (Burrell and Morgan 1979, p. 203). Because all individuals and groups are equal, no one individual or group can consistently influence society to further their particular interest and goals (Gray et al. 1996).

According to this view, individuals are free to act (are liberal), and are assumed to act in their own self-interests (private interests), such as their economic interests, and this is assumed to result in maximum economic efficiency (Gray et al. 1996). Accounting (disclosures) can be situated within this view, as information necessary for individuals to act in their self-interest to maximise their own personal returns and when individuals pursue their self-interests, this is assumed to maximise economic wellbeing of society. Cooper and Sherer (1984, p. 218) indicate that this pluralist view reflects a “permits an unproblematic view of the social value of accounting reports [disclosures]”

But the concentration of this view on only private interests implies the acceptance of the existing social order, in that the social value of financial disclosures is equated with the value they provide to shareholders and managers. To understand environmental disclosure practice, accounting cannot be analysed based on this view. Other views are needed so that disclosures of organisations to be considered, not just in their economic, but also in their social and political contexts (Ryan et al. 2002)

In pursuing economic gains, and maximum returns, organisations [and other groups] can engender environmental degradation, exploitation and inequality (Gray et al., 1996). Fundamentally, the pluralist view of society (as applied to the economic capitalism and the role of accounting), ignores the moral consequences of the private pursuit of economic goals. In this respect, accounting and disclosure, based in this view of the world, ignores all non-financial (social and environmental) consequences - environmental degradation, exploitation, inequality etc., that result from the economic profit-maximising activities of organisations.

2.4 Neo-Pluralist View of Society

Instead of a pluralist view, a neo-pluralist conception of society, allows us to understand environmental disclosure practice (Gray et al. 1996, Gray et al. 1995). This view is similar to the pluralist view that there is a diversity of interests among individuals and groups, but it is different with respect to power, recognising that it is not evenly distributed among individuals and groups, in other words, individuals are not equal (Gray et al. 1996, p. 33). It maintains that most people in the world are controlled by a small ‘elite’ (i.e., organisations) – an elite that can use disclosures to sustain their position of dominance in order to support their own [private, economics]

interests (Cooper and Sherer 1984, Deegan and Unerman 2006, Gray et al. 1996). According to this view, because organisations are engaged in furthering their own private interests, invariably their actions have negative consequences on less powerful individuals and groups in society, and the ecosphere.

These views of the world – pluralist view and neo-pluralist view, represent different views of the role of organisations' environmental disclosures in the relationship between organisations, society and the ecosphere. The socio-political theories employed to describe environmental disclosures of organisations are based on these pluralist and neo-pluralist views (Cooper and Sherer 1984, Lowe and Tinker 1977), which contain different assumptions about power and influence, and they are discussed next.

2.5 Political and Social Theories of Environmental Disclosure

As already mentioned, these broad views about society, environmental disclosures and power are the basis upon which political economy of accounting (PEA), stakeholder and organisational legitimacy theories are constructed. The flows of information that is regarded as accounting and corporate social disclosure (CSD) “reflect and construct the society of which they are part”, and different forms of information that is disclosed reflect different distributions of influence (Gray et al. 1996, pp. 33-34). Essentially, an uneven distribution of information [amount of environmental compared to financial disclosures] can be taken as reflecting an uneven distribution of power (Gray et al. 1996).

PEA theory (Cooper and Sherer 1984) is seen as the foundational, theory for explaining organisations' social and environmental disclosures, and provides the broad overarching framework within which the other theoretical perspectives for describing this phenomenon: stakeholder and organisational legitimacy theories can be placed (Gray et al. 1987, Deegan and Unerman 2006). Gray (1995 p. 52) conveys the relationship between these three ‘overlapping’ theoretical perspective as:

“two (overlapping) perspectives [stakeholder and legitimacy theories] on the issue which are set within a framework of assumptions about “political economy”.

The “political economy” itself has been defined by Gray (1996, p. 47) as “the social, political and economic framework within which human life takes place”. The perspective is underscored with the view that “the economic domain cannot be studied in isolation from the political, social and institutional framework within which the economic takes place” (Gray et al. 1995, p. 52). Economic performance is not the sole aspect of organisations’ existence, their social and environmental performance, need to be considered in communion with the economic. By considering these non-economics aspects of organisations’ performance, organisations’ disclosures about broader (societal, including environmental) issues can be analysed (Deegan 2002).

There are two perspectives of political economy theory – a ‘bourgeois’ or ‘Marxian’ perspective (Gray et al. 1996), the ‘bourgeois’ perspective assumes a pluralistic world, whereas the ‘Marxian’ perspective assumes a neo-pluralistic world (Gray et al. 1996, Deegan and Unerman 2006).

‘Marxian’ or ‘classical’ political economy theory views society as comprised of conflicts, and structural inequalities, the world is considered to be entirely neo-pluralistic (Gray et al. 1995, Deegan 2002). It places economy “places sectional (class) interests, structural inequity, conflict and the role of the State at the heart of its analysis.” (Gray, et al., 1995, p. 53). When applied to accounting, political economy “would treat value as essentially contested, with accounting reports [disclosures] operating in specific interests (e g. of elites or classes).” (Cooper and Sherer 1984, p. 218). The way these reports might operate include legitimization of organisational interests to the disadvantage of others or the ecosphere (Cooper and Sherer 1984, Burchell et al. 1980). “Social welfare as likely to be improved if accounting practices are recognised as being consistently partial, that the strategic outcomes of accounting practices consistently (if not invariably) favour specific interests in society and disadvantage others” (Cooper and Sherer 1984, p. 208).

According to Guthrie and Parker (1990, p. 166), CSR (inclusive of environmental disclosure) may be seen as tools organisations use to mediate and sustain these structural conflicts.

The political economy perspective perceives accounting reports as social, political, and economic documents. They serve as a tool for constructing, sustaining, and legitimising

economic and political arrangements, institutions, and ideological themes which contribute to the corporation's private interests.

Organisations will concentrate on the successful negotiation of these relationships; they will be responsive to the demands of these stakeholder groups and will be prone to disregard the concerns of those groups without power (Deegan 2007, p. 132).

'Bourgeois' political economy focuses on groups functioning in an essentially pluralistic world, and the focus is on "relationships between the[se] interest groups of pluralism" (Gray et al. 1995, p. 53). With bourgeois political economy focus is entirely on the negotiation in a pluralist society, not on the inequalities in society and the role of accounting in sustaining these inequalities – the 'Marxian' view (Deegan and Unerman 2006). The conflicting interest of these groups may be mediated, modified, and transformed, and there is a central focus on mediation of these structural conflicts (Gray et al. 1995, p. 53). This negotiation or mediation between groups, for example, i.e., negotiation between an organisation and environmental pressure groups (Gray et al. 1987).

As Parker (2005, p. 847) indicates, these two approaches to PEA are therefore vastly different, although they share a common recognition that accounting disclosures are economic, social and political tools for constructing, and sustaining ideologies and their related economic and institutional arrangements that serve the disclosing organisation's private interests. They can be employed to transmit the disclosing organisation's social, political and economic interpretations to a pluralistic audience (Guthrie and Parker, 1990) (bourgeois perspective). On one hand they may reveal underlying rationales for environmental disclosure and even non-disclosure (Guthrie and Parker, 1989). On the other hand, they may highlight 'structural inequalities' and therefore point to the need for change in the balance of power relationships between organisations, their interested parties and communities.

Disclosures have the capacity to transmit social, political, and economic meanings for a pluralistic set of report recipients." (Deegan 2002, p. 292). It is in bourgeois context of political stakeholder theory can, perhaps, be seen more clearly as it is concerned with this "mediation, modification and transformation" between organisations on one hand, and different individuals and groups on the other, but from different points of

view (Gray et al. 1995, p. 53). Stakeholder and organisational legitimacy theories can be understood as theories within these PEA perspectives (Gray et al. 1996).

Stakeholder theory Ullmann (1985) and Roberts (1992) reflects the 'bourgeois' PEA view of the world (society is pluralistic). It provides a view that for advancement of organisations' interests and their continued survival support of the stakeholders is necessary, in particular, those stakeholders that control resources vital for the organisation's operations, and their consent must be sought and the operations of the organisation modified to secure that approval (Gray et al. 1995, Deegan 2002)

Social disclosure [including environmental disclosure] is thus seen as part of the dialogue, or as a tool for mediating the relationship between the company and its stakeholders and CSR has been a relatively successful medium for negotiating these relationships (Roberts 1992, Gray et al. 1995). Corporate disclosure is a tool for managing or manipulating stakeholder groups so that their consent and acceptance will be gained (Gray et al. 1996).

The strategic perspective of organisational legitimacy theory, provides a similar theoretical lens to stakeholder theory, and reflects 'bourgeois' PEA, taking a pluralistic view of society. The strategic perspective of the theory is concerned with the actual dialogue [the environmental disclosures] which organisations use to negotiate [mediate and transform] their relationship with the wider social system (this includes manipulation of the system). It offers a less refined perspective, as it does not explicitly focus on demands and expectations of different pluralistic groups, but on society in general (Gray et al. 1996, Deegan and Unerman 2006). Because it does not focus on groups within society, the strategic perspective is not concerned with the inequalities within society (Puxty 1991).

The institutional perspective of organisational legitimacy theory, does concentrate on these inequalities, as Gray (1996, p. 46) notes it "adds conflict and dissention to the picture", and is concerned with "structural inequality" – (the structures and institutional arrangements of the social system) the inequalities between various groups that comprise the social system, so holding the view that certain groups, such as organisations (via their environmental disclosure) can negatively influence others in society (and the ecosphere), and will sustain such inequalities in advancing their

economic interests. This institutional view reflects, 'Marxian' PEA, taking a neo-pluralistic view of the world.

The foregoing sections discussed the systems oriented view of the relationship between organisations and society for understanding organisations' environmental disclosures. The particular views of the world – pluralist and neo-pluralist, power, were discussed and the role of organisational disclosures within this as a basis for understanding environmental disclosure practices of organisations. This view is the foundation of the set of socio-political theories – political economy of accounting, stakeholder and organisational legitimacy theories, employed to describe this phenomenon. In the next sections, origins of legitimacy theory, its development in the study of organisations (and their disclosures) will be discussed, and the strategic and institutional perspectives of the theory will be explained in more detail.

2.6 Origins of Legitimacy Theory

Weber ([1922], 1978) is credited as one of the earliest social theorists to introduce legitimacy as a conception of social action and normative order, and his work firmly established legitimacy as basis of sociological theory (Deephouse and Suchman 2008). Essentially it stems from a basic proposition that there are typical modes of social action because people's actions (adherence to social rules) are governed by their belief in the existence of in a legitimate order, in other words they act in response to what they perceive as 'valid' orders. This occurs if they believe the action is orientated toward "determinable maxims," and is regarded by the actor as "in some way obligatory or exemplary" for them (Weber 1978, p. 31), these can include actors' values and norms. Because people have these beliefs, their adherence to social rules invariably contains a "minimum of voluntary compliance", in other words, actors have an interest in abiding by these orders (Weber 1978, p. 212).

According to Weber, there are a number of ways to ensure legitimacy of these orders, for example, by ensuring orders are based on actors' ethical norms and values, which he referred to as "value rational" – and explained as a belief in legitimacy of an order as the expression of an actors' ultimate values, such as ethical values ([1922], Weber 1978, p. 33).

The legitimate domination (authority) by particular persons and their staffs over actors stems from a belief of social actors that these persons and staffs have a valid claim to legitimacy. Domination stems from the likelihood that their commands will be obeyed by a given group of 'subordinate' actors, because these actors believe in the right of the persons and staffs to issue legitimate orders. Hence these persons and staffs have legitimate domination – they can exercise of influence or power over other actors.

Subordinate actors believe that the particular persons can exercise authority over them for a number of reasons. Because, firstly, they believe in 'legality of enacted rules' and that individuals appointed under such rules, can issue commands, this is termed 'rational authority'. Secondly, they believe in custom, in the sanctity of traditions and the validity of those persons exercising authority under these traditions, this is termed 'traditional authority'. Or, lastly, they believe in charisma of individuals, and the commands which these individuals issue, this is termed 'charismatic authority'.

Parsons (1960) applied Weber's notion of legitimacy in his concept of organisations and how they make 'legitimate' claims for scarce resources. He viewed an organisation as a "subvalue system" of a higher-order or "superordinate system" (1960, p. 20). Essentially, the organisation pursues goals valued by the superordinate system, and this legitimises the organisation. To attain legitimacy the value system of an organisation must reflect the more generalised values of the superordinate system. He defined values as broad directions of orientation of the members of a system, (Parsons 1960, p. 197). These values determine what institutions or organisations can and cannot do, they regulate their actions.

An organisation can be viewed by the primacy of its goal, and the focus of the value system is on the legitimation of this goal in terms of the functional significance of its attainment for the system. Values or system goals are implemented by its functional patterns of operation. Values define a broad direction of action, and for members of the social system, legitimation is their appraisal of action in terms of shared or common values in the context of the involvement of the action in the social system (1960, p. 175). The organisation is concerned with commitment of society's resources (factors of production) for the attainment of legitimated (valued) goals - creation of wealth.

This conception of legitimacy, with its focus on organisational consistency, with social values, was later taken up and further developed by many organisation scholars, including Dowling and Pfeffer (1975), Pfeffer and Salancik (1978) and Meyer and Rowan (1977). With their focus on organisational institutionalisation, Meyer and Rowan (1977) were the first to draw on the relationship between the organisation and the larger social system, by highlighting the ways in which organisations obtain legitimacy and support. Specifically by adopting practices and means of operation which reflect collective judgement of social actors (the social system). In other words practices that mirror public opinion, common knowledge, normative rules and laws of society. Dowling and Pfeffer (1975) concentrated on a more strategic approach - on the ways in which organisations “instrumentally manipulate and deploy evocative symbols” (Suchman 1995, p. 572) in order to obtain resources, vital for their operations, from the social system. It concentrates on the ways management manipulates the social construction of legitimacy (Ashforth and Gibbs 1990), so that they can secure resources.

Following on from this early work by organisation scholars, the 1990s can be seen as a pivotal time in the development of legitimacy theory in organisational studies. Suchman (1995) published a paper which synthesised the work of prior organisational research on legitimacy – explicitly highlighting the two views or perspectives of the theory in the study of organisations - an institutional or a strategic view of legitimacy. Building on this work, to which he collectively referred to as organizational legitimacy, he added clarity to a vague and fragmented concept (Deephouse and Suchman 2008). With the publication of Suchman’s paper marked the development of organisational legitimacy theory (Deephouse and Suchman 2008) as it is conceived in contemporary organisational literature. In the next section, organisational legitimacy will be defined and its main perspectives introduced.

2.7 Organisational Legitimacy Concept

The legitimacy concept, as it has been employed by organisation scholars, developed in a similar fashion to its evolution in the wider social sciences. In these sciences, it emerged slowly and in a disjointed fashion across several different literatures (Deephouse and Suchman 2008), which has given rise to an “inherent vagueness” regarding the meaning of the concept (Hybels 1995, p. 241). Hybels (1995, p. 241) observes, legitimacy is a “profoundly malleable conceptual tool”, and this lack of

preciseness has rendered it to be a term widely exploited by social scientists (Hybels 1995, p. 241). This exhibiting “plasticity” of the concept has extended into its “institutionalist” usages (Deephouse and Suchman 2008, p. 49), where it has been widely subsumed into theory of organisational institutionalism (Bitektine 2011), suffering from the same problem of vagueness as the other social science literature.

Because of this, conceptualisation of organisational legitimacy suffers along the same lines, having a “plethora of definitions”, not all of which are fully compatible with one another (Deephouse and Suchman 2008, p. 50). As Suchman (1995, p. 572) notes, the literature on legitimacy provides “fragile conceptual moorings”, adding that “many researchers employ the term legitimacy, but few define it.” (Suchman 1995, p. 572). But some integrative studies on organisational legitimacy emerged, and have provided some broad-based generally accepted definitions of the organisational legitimacy concept (Suchman 1995, Bitektine 2011). Bitektine (2011, p. 152) provides the most general definition of the organisational legitimacy concept:

... legitimacy can be understood as actors’ perceptions of the organization, as a judgment with respect to the organization, or as the behavioral consequences of perception and judgment, manifested in actors’ actions—“acceptance,” “endorsement,” and so forth.

Suchman (1995, p. 574) provides a somewhat narrower definition, noting that legitimacy is a judgement along the dimensions of what is desirable, proper, or appropriate. This definition is the most widely employed in the literature:

“Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions.”

Given these broad based definitions of the concept, the main types of organisational legitimacy will be discussed next.

2.8 Types of Organisational Legitimacy

Over the years, various legitimacy researchers have explicated the ‘typologies’ or ‘dimensions’ of the organisational legitimacy concept (Suchman 1995, Deephouse and Suchman 2008, Bitektine 2011, Tost 2011). According to Suchman, three main

types or forms of legitimacy judgement abound in the organisational legitimacy literature (1995, p. 571), *pragmatic* legitimacy, *moral*² (normative) and *cognitive* legitimacy. Suchman (1995, p. 577) points out that all three types are similar in that they all involve a perception or assumption that organisational activities are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions. However, he indicates that the distinguishing feature between the three is that they are all based on a different “behavioral dynamic” (Suchman 1995, p. 577).

2.8.1 Pragmatic Legitimacy

Pragmatic legitimacy is a judgement based on the ‘self-interested calculations’ of “an organisation’s most immediate audiences.” (Suchman 1995, p. 578), it is also termed “exchange legitimacy”, and is an evaluation on the extent to which the “organization represents its constituents’ self-interests or provides them with favorable exchanges” (Bitektine 2011, p. 158). In other words it is based on their ‘cost-benefit’ appraisals. The organisation is perceived as legitimate because its continued existence has a value to its constituents, than if it were not in existence, it is responsive to their overall interests (Tost 2011).

2.8.2 Cognitive Legitimacy

Cognitive legitimacy is based on cultural understanding or comprehensibility of an organisation, essentially it is “taken for grantedness” (Bitektine 2011, p. 154). Organisations are legitimate when they are understandable, when they are perceived as “necessary” or “inevitable” (Suchman 1995). They are cognitively legitimate to the extent that they belong to a certain known organisational form, based on a set of recognisable organisational characteristics such as visible structural properties of organizations, other features (technical, procedural, etc.) (Bitektine 2011, Meyer and Rowan 1977, Suchman 1995). In a sense, these forms and features represent cultural models that provide meaningful and rational accounts of the organisation and its activities.

Legitimacy dynamics are based on cognition rather than interests (pragmatic). Evaluation stops when the organisation is classified as a member of some already

² Moral legitimacy is also referred to as “social”, “socio-political” or “normative” legitimacy.

known and already culturally available category of organizational forms (Bitektine 2011). Thus, when assessed as cognitively legitimate, organisations eschew further evaluation and scrutiny by their constituents, because their form and features are familiar, comprehensible, inevitable (Meyer and Rowan 1977, Suchman 1995, Bitektine 2011).

2.8.3 Moral (Normative) Legitimacy

With moral or normative legitimacy the organisation is evaluated against prevailing social values and norms, and social actors render a judgement as to whether the organisation and its activities are socially acceptable and right (given the existing values), and hence supported, tolerated, or if unacceptable, sanctioned. This is essentially a normative approval of organisations and their activities (Chen and Roberts 2010, Suchman 1995). This type of legitimacy differs from cognitive legitimacy, in that evaluation is continuous, whereby the organisation is susceptible to scrutiny and questioning in order to ascertain if it is beneficial to society at large (Bitektine 2011, Suchman 1995). It differs from pragmatic in that it is not an evaluation of whether the organisation provides a value to constituents, but whether the organisation and its activities are right and appropriate, whether they provide a benefit to society. Social legitimacy is the type of organisational legitimacy that is assumed to be influenced by organisations' environmental disclosures (Patten 1991, Patten 2002b), and is discussed in more detail next.

2.9 Social Legitimacy

Deepphouse and Suchman (2008) note confusion abounds in the literature over the "normative legitimacy" dimension. It is often included as part of 'sociopolitical' legitimacy to denote organisational conformance with laws and norms and values (Aldrich and Fiol 1994). Bitektine (2011) notes this dimension, as being two distinct types of legitimacy 'regulative' legitimacy (conformance with laws and rules) and 'normative legitimacy' (conformance with social norms and values), and distinguishes between the two "*normative* and *regulative* subtypes of legitimacy (p. 158). Suchman (1995, p. 577) also focuses on normative legitimacy, and even employs the term moral legitimacy to distinguish it from regulative legitimacy:

In other literatures ... the term normative refers to all cultural regulatory processes, not just those involving a conscious assessment of right and wrong. The term moral legitimacy avoids this ambiguity.

Dowling and Pfeffer (1975, p. 124)'s conception of 'social legitimacy' reflects this normative or moral legitimacy. They explicitly point out the difference between this type of legitimacy and regulative legitimacy:

... legitimacy is also not defined solely by what is legal or illegal. Though in a democratic polity laws are likely to be correlated with societal norms and values, their correlations are less than perfect.

As they further indicate, just because an organisational behaviour is legal, does not mean that it is legitimate (Dowling and Pfeffer 1975).

Deepphouse and Suchman (2008) further convey the nature of normative legitimacy:

“the shared value premises that structure collective assessments of the good and the bad, that which is to be desired and that which is to be shunned, right and wrong (Suchman,1997)”, as cited in (Deepphouse and Suchman 2008, p. 53). Norms are at the heart of normative legitimacy. Norms extend from values, and congruence with such norms essentially captures the normative aspect of the legitimacy concept as it was originally conceived by institutional sociologists (Weber 1978, Parsons 1960). Essentially normative (moral) legitimacy reflects congruence with values and norms (Suchman 1995), rather than laws and regulations.

It is this normative basis for organisational legitimacy – that is the focus of this study as it is the type of organisational legitimacy affected when conformance of organisations and their activities with widely held environmental values is questioned (Patten 2002a, Patten 1992). It will be referred to as social legitimacy, as this was the original term used for it by Dowling and Pfeffer (1975) and is the term employed in social and environmental accounting (SEA) literature.

2.10 Social Legitimacy and Related Concepts

Deepphouse and Suchman (2008, p. 62) note the legitimacy literature continues to “confuse and conflate” social legitimacy with other social evaluations of organisations, such as credibility and reputation. In this section, these related concepts will be discussed and distinctions between each them and social legitimacy, will be made clear, in order to demarcate the social legitimacy concept.

2.10.1 Social Legitimacy and Organisational Reputation

The organisational social legitimacy and organisational reputation concepts have long been closely associated, even to the extent of being used interchangeably by management scholars (Elsbach 1994). Social legitimacy can be distinguished from reputation along a number of dimensions – reputation is differentiating, enduring, and economic (Elsbach 2003, Bitektine 2011, Deepphouse and Carter 2005).

Reputation focuses on comparisons that social actors make among organisations (Deepphouse and Carter 2005, p. 329), essentially it has a focus on the differences between organisations. Essentially it is dependent on the “relative standing” to other organisations on a given dimension (Deepphouse and Carter 2005, p. 331). It tends to entail ranking of each organisation on the various distinctions, such as it being a tough competitor, a bad place to work, or a socially responsible retailer (Deepphouse and Suchman 2008). Social legitimacy is not based on the relative differences among organisations, it is concerned with the conformity of organisations to social norms and expectations, once in congruence, they are socially legitimate (Deepphouse and Suchman 2008, Deepphouse and Carter 2005).

Reputation is based on making predictions from past performance, emphasising specific performance attributes of the organisation that can be inferred from the past: Is it a vigorous competitor? Is it well managed? (Bitektine 2011, p. 160). On the other hand, social legitimacy is about organisations attaining an acceptable level of normative approval. This also extends to a periodic difference, social legitimacy is a “relatively short-lived”, specific evaluation of an organisation (Elsbach 2003, p. 301), whereas organizational reputation tends to be more enduring (Elsbach 2003).

Lastly reputation is economic, social actors, not fully knowledgeable of all the information, use it to determine future preferences, therefore, favourable reputation is often a strategic resource used for competitive advantage, where as social legitimacy is inherently political, in that it generates a take-for-granted right to act and issue order within a particular domain of activity (Deephouse and Suchman 2008).

2.10.2 Social Legitimacy and Organisational Credibility

Credibility is linked to trust which is a central component of both legitimacy and reputation (Deephouse and Suchman 2008). Thus, audiences perceive a socially legitimate organisation not only as more worthy, but also as more meaningful, more predictable, and more trustworthy (Suchman 1995, p. 575). Trustworthiness is the perception that an organisation displays competence, benevolence, and integrity in its behaviours and beliefs (Mayer et al. 1995). To evaluate trustworthiness, constituents will look to the culture and control systems of the organisation to gauge its trustworthiness (Elsbach 2003).

If an organisation is perceived as having a culture and set of control systems that limit its actions through values, standards, and principles of behaviour, then it will be viewed as having an image of trustworthiness (Elsbach 2003, p. 303). It is dependent on the presence of perceived industry or organisational structures and procedures that delimit organizational action.” (Elsbach 2003). Social legitimacy is different to perceived control systems to delimit ‘illegitimate’ behaviour; it is based on perceived conformance to social values and norms.

Besides such structures and procedures, scholars, convey the notion that organisations can be judged as credible by building up a record of legitimate behaviour (Ashforth and Gibbs 1990, Suchman 1995). Ashforth and Gibbs convey this notion of a reputation for behaving legitimately; in essence, there can be a reputation for acting in a manner considered right and appropriate. Suchman (1995, p. 594) also refers to this reputation for legitimacy, as “past accomplishments”

“organizations may seek to buttress the legitimacy they have already acquired. In particular, organizations can enhance their security by converting legitimacy from episodic to continual forms” (Suchman 1995, p. 595).

Organisations can do this by displaying “evidence of ongoing performance” with respect to the interests of constituents, i.e., evidence that means of operation are in conformity with social norms and values (social legitimacy) (Ashforth and Gibbs 1990, p. 183). This evidence entails periodic assurances of "business-as-usual and other "warm signals." (Ashforth and Gibbs 1990, p. 183). Essentially using subtle legitimation techniques, to “develop a defensive stockpile of supportive beliefs, attitudes, and accounts.” (Suchman 1995, p. 595). This is a type of reputation which is essentially similar to other dimensions of reputation. It reflects an enduring evaluation of organisations, whereas social legitimacy is short lived (Elsbach 2003), as Suchman notes, it is “episodic”. Having defined social legitimacy and distinguishing it from closely related organisational concepts, next, the features of organisations that are subject to social legitimacy judgement is discussed next.

2.11 Features of Organisations Subject to Social Legitimacy Evaluation

In general, there are three features or dimensions of organisations that are evaluated along this dimension of legitimacy: evaluation of the organisation’s outputs and consequences, evaluations of organisation’s procedures and means of operation, and evaluations of the organisations’ categories and structures (Suchman 1995, Bitektine 2011, Deephouse and Suchman 2008). Other scholars simply refer to “means and ends” (method of operation and output) as organisational features relevant to social legitimacy evaluations (Ashforth and Gibbs 1990, p. 177). This is also conveyed by Dowling and Pfeffer (1975, p. 126):

“Organizational legitimacy is determined by the method of operation and output as well as by the goals or domain of activity of the organization.”

Frequently social legitimacy evaluations rest on whether the organisation is using “appropriate means” of operation (Zimmerman and Zeitz 2002, p. 416).

In synthesising this discussion of social legitimacy, it is type of social judgement of an organisation’s means of operation that is affected when its consistency with common environmental values and norms comes into question. It is defined as judgement of an organisation’s means of operation as legitimate when it has outcomes that are perceived to be in conformity with social [environmental] values and norms

(Tost 2011). This consistency results in an organisation's operations being judged as appropriate, proper and desirable (c.f. Tost 2011, Bitektine 2011, Zimmerman and Zeitz 2002, Suchman 1995).

Behavioural consequences of this judgement are manifested in acceptance, endorsement etc. of these operations (Bitektine 2011). Social actors are viewed, collectively, as comprising the social system which makes a shared or general judgement about the social legitimacy (appropriate, proper, desirable) of the organisation's means of operation (Suchman 1995, Bitektine 2011).

Given this definition of social legitimacy, the two different perspectives of the concept will be discussed, and the gap common to both of them made clear.

2.12 Perspectives of Social Legitimacy

As already mentioned, organisational legitimacy can be demarcated by two major layers or perspectives: *strategic* and *institutional* (Suchman 1995, Deephouse and Suchman 2008, Gray et al. 1996). Institutional perspective takes a collective view by focusing on how institutional structures as a whole (for example, capitalist economic structure or the government) reflect the sum of judgements of individual social actors comprising the social system. The strategic perspective of legitimacy³ takes a lower level of analysis, and concentrates on the strategies used by organisations in order to gain social acceptance and resources from social actors that comprise the social system.

2.12.1 Strategic Perspective of Social Legitimacy

The strategic perspective frequently depicts social legitimacy as an operational resource (Suchman 1995). Legitimacy often has been conceptualised as simply one of many resources that organisations must obtain from their environments (Hybels 1995, p. 243). But social legitimacy itself has no material form (Hybels 1995, p. 243). It exists only as a symbolic representation of the collective judgement (by social actors) of an institution, as evidenced to both observers and participants perhaps by the flow of resources to the institution (Hybels 1995, p. 243).

³ Strategic legitimacy is also referred to as managerial legitimacy (O'Donovan, 2002), instrumental legitimacy (Tilling and Tilt, 2010) or organisational legitimacy (Chen and Roberts, 2010).

Given this resource based view, scholars frequently depict legitimacy, not as a collective judgement, but as a distinct resource. As Zimmerman and Zeitz (2002, p. 414) indicate:

... legitimacy is a resource for organisations, a resource at least as important as other resources, such as capital, technology, personnel, customer goodwill, and networks.

... one necessary for acquisition of other resources and for survival other resources, such as top managers, quality employees, financial resources, technology, and government support

According to the strategic perspective, organisations are concerned with allocation of societal resources⁴ (factors of production), which if allocated to them, is taken as evidence that they are collectively judged to be socially legitimate (Tilling and Tilt 2010). Given the vital nature of these resources to organisations' operations, social legitimacy is considered to be a resource on which an organisation is dependent for survival (Deegan 2002, Dowling and Pfeffer 1975). As such this resource allocation is the result of an organisation's successful competition for resources (Pfeffer and Salancik 1978).

Organisations' use of these resources must be accepted as legitimate by the larger social system, if not, they might be otherwise allocated. Thus, organisations' operations are legitimate to the extent that their means of operation are consistent or congruent with the socially constructed system of norms, values, beliefs, and definitions.

2.12.1.1 Social Contract

This dependence of the organisation on the social system (for supplying it with vital resources) is conveyed by the notion of a social contract (Mathews 1997, Mathews 1993). This is described by Mathews (1993, p. 26) who states:

The social contract would exist between corporations (usually limited companies) and individual members of society. Society (as a collection of individuals) provides corporations with their legal standing and attributes and the authority to own and use natural resources and to

⁴ From a judgement perspective, resources and their provision are the behavioural consequences of social actors' judgements; consequences include: providing labour, finance, custom and other resources to an organisation.

hire employees. Organisations draw on community resources and output both goods and services and waste products to the general environment. The organisation has no inherent rights to these benefits, and in order to allow their existence, society would expect the benefits to exceed the costs to society.

It is a view that “organisations exist at society’s will and therefore are beholden (to some degree) to society’s wishes” (Gray et al. 1996, p. 57). These wishes, entail the expectations [values and norms] society has with respect to how an organisation shall act and constitute the contract (Deegan 2007). Because their existence depends on these expectations, organisations may be conceived as social creations and it has been argued that their existence is contingent on the willingness of society to continue to allow them to operate (Reich, 1998).

Explicit and implicit terms exist with respect to this social contract, and while the main aim of a business is to make profits, it is also characterised by a normative element. Society expects business to act in a socially responsible manner, and this in this sense the organisation can be seen to have a moral obligation (Shocker and Sethi, 1973). This obligation entails the intangible terms of the contract between business and society (O'Donovan 2002), an implicit agreement between an organisation and society

In this sense, legitimacy theory posits that organisations aim to ensure that they behave, or at least appear to behave, within the boundaries and norms of the societies in which they operate (Deegan et al. 2002). Sometimes, this implicit agreement is referred to as the “community license to operate” (Deegan et al. 2002, p. 319).

As legitimacy is considered to be a resource on which the organisation’s ongoing operations are dependent (Parsons 1960), failure to behave in accordance with the social contract is construed as being detrimental to the operations of the organisation. Community expectations are not considered stable, but rather, change across time thereby requiring organisations to be responsive to the environment in which they operate (Deegan et al. 2002, p. 319).

So an organisation is constantly seeking to maintain its compliance with the social contract (Deegan 2007). In this vein, managers of organisations will employ

strategies that display to society “that the organisation is attempting to comply with society’s expectations (as incorporated within the social contract)” (Deegan et al. 2002, pp. 318-319). Organisations seek to create the perception that they are in compliance with this social contract, that their means of operation are congruent with the expectations (values and norms) of the social system (society).

2.12.1.2 Organisational Congruence with the Social System

Dowling and Pfeffer (1975, p. 122) provide the most widely accepted definition of this organisational aim of congruence:

Organizations seek to establish congruence between the social values associated with or implied by their activities and the norms of acceptable behavior in the larger social system of which they are a part.

Thus, organisations are legitimate to the extent that their activities are congruent with the goals of the superordinate system” (Dowling and Pfeffer 1975, p. 123). Crucially, the strategic view maintains that legitimacy is a “resource” that the organisation can impact or manipulate. Consistent with resource dependence view outlined above, legitimacy theory would suggest that whenever organisational managers consider that the supply of the particular resource is vital to organisational survival it prompts them to pursue strategies to ensure the continued supply of the resource. For social actors to give such resources is their belief or feeling that the organisation is indeed appropriate, proper and desirable (Zimmerman and Zeitz 2002)

Once congruence has been established, [through an organisation’s strategies], the organisation is said to have acquired the *condition* of social legitimacy (Lindblom 1994). The more critical and scarce the resources required by the organisation, the more important they are to its survival, and as indicated earlier, the allocation of resources to organisations provides evidence that they are perceived by society as socially legitimate.

2.12.1.3 Incongruence with the Social System (“Legitimacy Gap”)

Dependence on resources from the broader social system, means that an organisation is continually striving to remain socially legitimate, by maintaining congruence or

consistency with the system's values and norms (Brown and Deegan 1998). These values and norms include widely held environmental values. To the extent that perceived inconsistency or incongruence exists between the environmental values implied by the organisation's means of operation (use of resources), and the social system, the organisation and its means of operation are not deemed to be socially legitimate (Dowling and Pfeffer 1975, Gray et al. 1995, Deegan 2007). This perceived departure from widely held environmental values is referred to as a *legitimacy gap*⁵ (Sethi 1978, O'Donovan 2002, Sethi 1979, Lindblom 1994). Deegan (2007, p. 134), or "delegitimation" (Suchman 1995). A legitimacy gap is defined as a difference "between how society believes an organisation should act and how it is perceived that the organisation has acted" (Deegan 2007, p. 135). When managers perceive that there is a gap, they perceive the legitimacy of their organisation and means of operation, to be lost or "challenged" (Brown and Deegan 1998), presenting a threat that the social system will not supply resources needed for the continuation of their operation. A legitimacy gap arises from two sources (Sethi 1978), either society's expectations [environmental values] change over time, or a particular means of operation is highlighted to the public as not in conformance with widely held environmental values (Sethi 1978, Brown and Deegan 1998). This second source, occurs via 'value challenges' when a specific means of operation of an organisation is perceived by the public to be inconsistent with widely held environmental values (Brown and Deegan 1998, Patten 1991, Patten 2002b, Deegan et al. 2002).

2.12.1.4 Value Challenges

Value challenges negatively link particular organisational means of operation to environmental issues (Brown and Deegan 1998), and typically occur when means of operation involve politically sensitive technologies (such as nuclear energy), or involve newly developed technologies, whose cause and effects are of yet unsubstantiated (such as new incineration technologies) (Ashforth and Gibbs 1990, Allen and Caillouet 1994) Because these issues are typically conveyed by pressure groups, such as environmental groups via information in the news media, it is assumed that the widely disseminated information negatively impacts public

⁵ This is the process by which the legitimacy of an organisational means of operation changes over time, it is referred to as "delegitimation" by many scholars (Suchman, 1995),

perception regarding the consistency of such organisational operations with environmental values (Brown and Deegan 1998).

In this sense, media presents a hostile environment with respect to organisations, and pressure groups regularly make allegations about particular means of operations, and these regularly appear in news media (Sethi 1978). Because of this hostile environment, organisations face potential or actual “delegitimation” over their means of operation, on an *ad hoc* basis. As such these are “fragmented [environmental] issues” (Aerts and Cormier 2009, p. 2) which challenge their social legitimacy; they are instances when operations are portrayed as inconsistent with widely held environmental values. In this way, it is through this mass media information, that such social legitimacy challenges are assumed to arise (Deegan et al. 2002).

Regardless of the actual allegation, the media’s wide reach to members of the public on these issues poses a challenge, and the publicity alerts managers, and their organisations embark on a process of closing the legitimacy gap or *legitimation*⁶ targeted primarily at different groups, including the public, as they perceive it to be able to confer and withdraw social legitimacy (O’Donovan 2002).

Organisations care about the public (Hybels 1995, Elsbach 2003), as it controls resources crucial to an organisation’s establishment, growth and survival such as through purchasing goods, supplying labour, writing and/or otherwise influencing legislation etc. (Hybels 1995). The goal of organisation’s strategy, in its response to these fragmented environmental issues, is to *regain* social legitimacy if it is already lost (if the legitimacy challenge has been successful) or to *defend* social legitimacy during a challenge (Suchman 1995, Ashforth and Gibbs 1990).

2.12.1.5 Symbolic Actions - Communication

In response, an organisation can “symbolically manage” challenged operations so that they appear “consistent with social values and expectations” (Ashforth and Gibbs 1990, p. 180), or they can actually change the operations to make them consistent. Ashforth and Gibbs (p. 178) proposed these two approaches – “substantive” and “symbolic”, impression management representing the symbolic gestures. They describe symbolic management as an organisational preference to “portray – or

⁶ Legitimation is the process by which the legitimacy of an organisation changes over time (Deephouse and Suchman, 2008).

symbolically manage” practices so that they “appear consistent with social values and expectations” rather than actually change the practices (Ashforth and Gibbs 1990, p. 180). Essentially symbolic management entails a transformation of the meaning of practices (Ashforth and Gibbs 1990). Further, Suchman (1995, p. 576) notes that managers favour the “flexibility and economy of symbolism”, whereas constituents prefer more substantive responses,.

Symbolic gestures referred to as ‘strategies of legitimation’, necessarily entail the act of communication (Deegan 2007).

2.12.1.6 Organisational Communication to Regain or Defend Social Legitimacy

A number of communication strategies are outlined by Dowling and Pfeffer (1975), which are believed to be means by which an organisations can regain the social legitimacy of a particular means of operation, or defend it during a challenge (because it has become negatively associated with a particular environmental issue).

According to Dowling and Pfeffer (1975, p. 127)

1. The organization can adapt its output, goals, and methods of operation to conform to prevailing definitions of legitimacy.
2. The organization can attempt, through communication, to alter the definition of social legitimacy so that it conforms to the organization's present practices, output, and values.
3. The organization can attempt, again through communication, to become identified with symbols, values, or institutions which have a strong base of social legitimacy.

The communication strategies proposed by Lindbom (1994) closely resemble those by Dowling and Pfeffer.

1. Seek to educate and inform its ‘relevant publics’ about (actual) changes in the organization’s performance and activities which bring the activities and performance more into line with society’s values and expectations;
2. seek to change the perceptions that ‘relevant publics’ have of the organization’s performance and activities – but not change the organization’s actual behaviour;

3. seek to manipulate perception by deflecting attention from the issue of concern onto other related issues through an appeal to, for example, emotive symbols; or
4. seek to change external expectations of its performance.

These strategies are based on the belief that organisations' legitimacy strategies, once communicated to external parties (society), have the desired effect on legitimacy (Deegan 2002, Deegan 2007, de Villiers and van Staden 2006). In other words, they are assumed to regain lost legitimacy subsequent to a challenge, or to defend it against the challenge. Without communication, organisations can remain illegitimate (de Villiers and van Staden 2006). In the event of a value challenge it is assumed that organisations commonly employ Lindblom's (1994) third strategy (see above) - that they manipulate perceptions by deflecting attention from negative media publicity of a particular issue through a focus on other positive aspects of their performance. Although organisations provide environmental disclosures in an array of disclosure media, such as company brochures, leaflets, corporate reports and news media articles (Elsbach and Sutton 1992, Elsbach 1994, Deegan 2002, Tilt 2004), it is believed that this strategy is represented by their environmental disclosures in one disclosure medium: the annual or corporate report (Milne and Patten 2002).

It is maintained that the positively toned general environmental performance information, typically contained in annual reports, successfully 'deflects'⁷ society's (collective) attention from media information of a challenged means of operation, causing society to only perceive positive aspects of a company's performance⁸ - and presumably, judge the organisations as socially legitimate, and so continue to supply resources to it (Milne and Patten 2002, Kuruppu and Milne 2010). This strategy is succinctly conveyed by Deegan et al., (2000, p. 114):

... the organization may seek to manipulate perception by deflecting attention from the issue of concern to other related issues through appeal to, for example, emotive issues. ... Firms that are under scrutiny are likely to emphasize positive attributes of their operations, but will down-play any negative aspects.

⁷ This is sometimes referred to as "off-set" in the literature, but terms describe the same tactic.

⁸ There is an implicit assumption here, that if the public's focus is restricted to only positive aspects of performance, then they will judge the organisation as appropriate, desirable and acceptable.

As already mentioned, this particular strategy is assumed to successfully manipulate legitimacy when such challenges occur, - repairing it if it has been lost or defending it during the challenge (Lindblom 1994). Of the vast array of disclosure media used by organisations, information in the annual report is the assumed to be effective in this way (Gray et al. 1995, Deegan 2007).

2.12.1.7 Environmental Disclosures as Successful Legitimation Strategies

Organisations' are assumed to make environmental disclosures in annual reports for these purposes (Deegan and Gordon 1996, Gray et al. 1995, Patten 1992, Guthrie and Parker 1989, Hogner 1982, Pfeffer and Salancik 1978). Underlying this view, is the assumption of the strategic perspective, that these environmental disclosures represent symbolic legitimation strategies, and that organisations have control over their social legitimacy via with these disclosures, (Ashforth and Gibbs 1990, Dowling and Pfeffer 1975, Lindblom 1994), and so the annual report is assumed to be a highly powerful medium of social influence.

Because of the assumption that these disclosures *do* influence or manipulate social legitimacy (Ashforth and Gibbs 1990), the main focus of the strategic perspective is on the means used by organisations to exercise this influence, on the environmental disclosures that they make in annual or corporate reports.

2.12.1.8 Individual Recipients of Organisations' Environmental Disclosures

However, because of this assumption that the means (environmental disclosures) indeed produce the desired effects (social legitimacy) (Ashforth and Gibbs 1990), this has prompted many scholars to ask if environmental disclosures actually 'legitimise' do they work in reducing legitimacy gaps or defending social legitimacy in the event of these value challenges (O'Dwyer 2002, Deegan 2007).

This has long been noted as an important area of research which has received relatively scant attention (Deegan 2002, O'Dwyer 2002). As Deegan (2007, p. 137) states:

“There is a lack of guidance about the relative effectiveness of legitimation strategies with regard to either gaining, maintaining, or regaining legitimacy”

Further, Milne and Patten (2002, p. 382) convey the importance of this research:

... organizational legitimacy is a state or condition that is conferred upon the organization by groups or individuals external to it. It is not something that necessarily arises from organizations pursuing strategies of legitimation, for those strategies may fail ...

Because of this, it is held that focus has only been on part of the organisational legitimacy story (Milne and Patten 2002), in that there has not been much focus on the individuals at the receiving end of organisations' environmental disclosures. But a focus on individuals is important as social legitimacy is conferred on organisations by individuals external to it and securing legitimacy is frequently problematic (Clarke and Ogden, 2000); hence, legitimation strategies may fail (Milne and Patten, 2001; Ashforth and Gibbs, 1990). Because of this emerging consideration, some scholars have explored the effects on individuals of what organisations are disclosing. These studies have been concerned with examining if different elements of disclosures, in annual reports, or press releases, or web sites, have any effect on individual perceptions and decisions related to legitimacy (Elsbach 1994, Cho 2009, Vanhamme and Grobbsen 2009, Milne and Patten 2002, Kuruppu and Milne 2010, Cho et al. 2009).

Vanhamme and Grobbsen (2009) examined the effects of the length of a company's corporate social reporting (CSR) involvement on legitimacy perception, in the context of a legitimacy challenge – media accusation of a cosmetics company using animal testing in products. They found that legitimacy perception was significantly greater for companies with a long history (10 years) of involvement in CSR than for a short CSR history (0 years).

Kuruppu and Milne (2010) tested the effect on perceived legitimacy, of assurance of positive company environmental information, as part of a sustainable development report, in the context of a legitimacy challenge – negative news media stories about accidental dolphin deaths caused by a fishing company. They found that assurance of positive environmental information had no effect on perceived company legitimacy.

Elsbach (1994), focused on specific concerns about food safety. In the study, participants perceived controversial events in the California Cattle industry to be

“moderately negative” (Elsbach 1994, p. 73). Impression management tactics, including acknowledging forms of accounts and contents of accounts that refer to institutionalized practices were found to be effective in increasing perceptions of organisational legitimacy (Elsbach 1994). The largest increase in perceived company legitimacy resulted from accounts combining these particular features.

Milne and Patten (2002) examined the general environmental concerns of participants, and how they affected investment allocation decisions. In the long term setting, the company with higher mandatory Superfund disclosures (company’s hazardous waste remediation exposure and cost) was perceived as less legitimate, however, when off-setting voluntary positive environmental disclosures were present, legitimacy was perceived to be higher.

Cho et al, (2009) also examined participants’ concern about social and environmental responsibility issues, in general, and consideration of such issues in their decision making. Study participants were found to have concern and consideration of these issues (Cho et al. 2009, p. 941). Richer presentation media (multimedia visual media) of social and environmental responsibility web site disclosures was found to increase participants’ perceptions of company legitimacy.

But these studies reflect the predominant focus of the strategic perspective, in that they are concerned with what organisations are disclosing in annual reports and related media, and not “upon whom the actual or intended recipients might be, and what they are or are not expected to be doing with the information” (Milne and Patten 2002, p. 382). Because of this focus, individuals, the recipients of this information, are assigned a passive role. Drawing from Ashforth and Gibbs (1990) an implication of the strategic perspective is that individuals are “passive consumers” of organisations’ disclosures.

By ignoring individuals recipients, the strategic perspective does not take into account which of the many different disclosure media used by organisations, is successful at influencing individuals, when particular means of operation are challenged (Zeghal and Ahmed 1990) (Deegan et al. 2002), in other words which media produces the intended reactions in individual members of the public.

Zeghal and Ahmed (1990) indicate that when a particular means of operation is challenged, organisations' disclosures in the annual report as a disclosure medium may not be appropriate to a mass audience, suffering from a degree of "social inaccessibility" (Zeghal and Ahmed 1990, p. 39). This view is supported by Aerts and Cormier (2009), who contend that the news media is likely more effective disclosure media when operations are challenged. They contend that news media vehicles, because of their larger reach to members of the public, and frequency "are much better suited for public relations and for responding to specific groups", indeed Brown and Deegan (1998), drawing from agenda setting theory, indicated that individual members of the public rely on information disseminated via the news media, in instances when the social legitimacy of particular operation is challenged. Tilt (2004) indicates that news media articles are one of the disclosure media used by organisations. Organisations' responses (known as defenses) to challenged means of operation appear in this disclosure media (Aerts and Cormier 2009, Beelitz and Merkl-Davies 2012, Allen and Caillouet 1994). Given the visibility and accessibility of the medium to members of the public (in contrast to the corporate report), the impact on organisations' news media defences on individuals is a key and important aspect the effectiveness of organisations' disclosures.

In sum, prior research suggests that individual members of the public, are more likely to receive organisations' environmental disclosures in news media which encapsulate their defenses of challenged means of operation, rather than the annual report disclosures, when a particular means of operation is challenged (Zeghal and Ahmed 1990).

But the influence of these defenses in news media articles on the social legitimacy judgements of individual members of the public has not been the subject of SEA research. Of the few studies that have examined the influence of environmental disclosures (Milne and Patten 2002, Elsbach 1994, Vanhamme and Grobbsen 2009, Kuruppu and Milne 2010, Cho et al. 2009), none have concentrated on defenses in news media, or on social legitimacy judgements of individuals and behavioural consequences. Therefore, it has not been investigated whether these defenses act as a successful legitimation strategy, if they produce the desired effects. To this end, an important part of the legitimacy story has been overlooked - the conditions under

which defences in news media are successful in influencing social legitimacy judgements of individual members of the public, and their behaviour towards these means of operation, i.e., they support, tolerate, or oppose it (Ashforth and Gibbs 1990). These conditions entail the information attributes of defences, and the individual characteristics that successfully influence social legitimacy judgements and behaviour (Pollock and Rindova 2003).

2.12.1.9 Summary of Theoretical Gap in Strategic Perspective

In summary, the strategic perspective focuses on symbolic strategies (environmental disclosures) employed by organisations to influence social legitimacy (Gray et al. 1995, Gray et al. 1996, Deegan and Rankin 1996). Particular means of operation become challenged on an *ad hoc* basis, by environmental pressure groups, making allegations about the operations, which appear in the news media (Brown and Deegan 1998, Sethi 1978, Aerts and Cormier 2009). Frequently this occurs when operations involve politically sensitive or new technologies (Allen and Caillouet 1994, Beelitz and Merkl-Davies 2012). According to the strategic view, organisations use environmental disclosures in annual or corporate reports as a symbolic strategy in order to ‘deflect’ the negative attention over challenged means of operation, to other more positive aspects of an organisation’s performance (Deegan et al. 2000). Because of the use of the strategic perspective in SEA, the focus has been on disclosures, rather than the effects on individuals who receive them (Milne and Patten 2002, O’Dwyer 2002, Deegan et al. 2002).

Instead, it allots individuals - a role of “passive consumers” of disclosures, disregarding their agency and cognition (Ashforth and Gibbs 1990).

But this is important, as social legitimacy is conferred by individuals external to the organisations, and these disclosures may fail, they may not have the intended effects (on cognition (judgement) and behaviour), they may not act to legitimise organisations (O’Dwyer 2002).

From the perspective of individual members of the public, research indicates that they are more likely exposed to news media than the annual report, when operations are challenged (Zeghal and Ahmed 1990, Sethi 1978, Brown and Deegan 1998, Aerts and Cormier 2009). Organisations disclose environmental information in the news media (Tilt 2004) when their operations are challenged, their defences of these operations appear in news media (Aerts and Cormier 2009).

But the influence of this news media environmental disclosure has not been the subject of research (see, Vanhamme and Grobben 2009, Milne and Patten 2002, Kuruppu and Milne 2010). The effect of this disclosure on their cognition (social legitimacy judgement) and behaviour has been neglected. Because of this, the conditions (information attributes and personality characteristics) under which this environmental disclosure successfully influences social legitimacy judgements and behaviour have not been identified.

The institutional view of social legitimacy concentrates on these individuals (social actors) who receive news media information about these challenges and defenses of particular means of operation, and assumes that “delegitimation” and legitimation of occurs when individuals receive this information. This perspective is discussed next, and the gap is made clear.

2.12.2 Institutional Perspective of Social Legitimacy

In contrast to the strategic perspective with its focus on symbolic actions of organisations to influence their social legitimacy, this perspective take a different view by focusing on how social legitimacy it is constructed by individuals - the social actors comprising the broader social system. Suchman (1995, p. 577) succinctly conveys the difference between the strategic and institutional perspectives:

the distinction between strategic and institutional approaches is a matter of perspective, with strategic theorists adopting the viewpoint of organizational managers looking "out," whereas institutional theorists adopt the viewpoint of society looking "in"

From an institutional perspective, social legitimacy is a judgement made by individuals, in this sense it resides in the eyes of the beholders (Zimmerman and Zeitz 2002, Bitektine 2011). But it is viewed as a collective judgement, as “a set of constitutive societal beliefs” (Suchman, 1988, as cited in (Suchman 1995), in other words, the judgements of the social actors, and not as an operational resource.

Collectively these judgements reflect ‘cultural definitions’ which determine how an organisation is constructed, how it is operated, and, simultaneously, how it is understood and evaluated (Suchman 1995, p. 576). In this respect, organisational legitimacy reflects the organisation’s embeddedness in a system of institutionalised beliefs, its “cultural embeddedness” (Suchman 1995, p. 572), making organisations

susceptible to influence of normative or cultural pressures from the environment (Deeppure and Suchman 2008, Powell and DiMaggio 1991, Meyer and Rowan 1977, Zucker 1987), such as social and pressures and expectations (Deegan 2007)

These pressures lead organisations to incorporate “legitimated elements” in their structures and means of operation (Zucker 1987, p. 443) Such elements range “from standard operating procedures to professional certification and state requirement” and “adoption of these legitimated elements”, leads to ‘isomorphism’ with the institutional environment (the set of constitutive beliefs held by social actors of what is appropriate and acceptable), and increases probability of survival.” (Zucker 1987, p. 443). These include organisational practices such as accounting and disclosures (Deegan 2007). Institutionalised practices to reduce pollution may include, for example: environmental committees, ISO 14000, audits, etc. (Milne and Patten 2002). This organisational conformity to the institutional environment simultaneously increases positive judgement from social actors, hence resource flows, and therefore survival (Zucker 1987). Such pressures being cultural transcend any single organisation.

In this way, organisations and their means of operation structurally reflect the judgements of individual members of the public, of what they perceive to be proper, appropriate, desirable (socially legitimate). This perspective is conveyed by Meyer and Rowan (1977, p. 343):

Many of the positions, policies, programs, and procedures of modern organizations are enforced by public opinion, by the views of important constituents, by knowledge legitimated through the educational system, by social prestige, by the laws, and by the definitions of negligence and prudence used by the courts (Meyer and Rowan 1977, p. 343).

This conformity to institutional structures and norms engenders structural similarities, or ‘isomorphism’, across organisations. It is the process by which organisations blend in or fit in with their institutional environment. The environment being determined by members of the public –the social actors, who accept an organisation and its means of operation as appropriate and right, given existing values and norms (Aldrich and Fiol 1994).

2.12.2.1 Importance of Individuals in Legitimation/De-Legitimation

Although it can be seen that the judgement of individual actors play very important roles in determining how organisation are run (Scott 2001), individuals have been neglected in the institutional perspective. However, individuals are essentially the “cognitive microfoundations of institutional theory” (George et al. 2006, p. 347) the fact that individuals are social actors is important as they hold the beliefs that comprise the “constitutive societal beliefs” (Deephouse and Suchman 2008, p. 52) that shape how organisations are structured and run.

Because of this, they are regarded as “agents of social order” (Hybels 1995, p. 242), as it is their judgement and behaviour which reproduces social structure by re-enacting the manipulation of resources according to the rules of traditional practice (Hybels 1995). Essentially, their cognition (judgements) and behaviour underlies the legitimation and delegitimation of organisations.

As agents of social change, they intentionally or unintentionally introduce rearrangements of material reality and social exchange (Hybels 1995, p. 242). The changes in their behaviour that occur due to alternations in their beliefs about what is proper (e.g., given existing environmental values) constitutes social reality, and this underlies the legitimation process (Hybels 1995, p. 242). In this respect, individual cognition and behaviour is a major part of the legitimation or delegitimation of organisations and their means of operation. People constantly judge the social legitimacy of the institutions they encounter, although that judgement often goes unquestioned once established. Always one's judgement is obtained through cognitive analysis (Hybels 1995, p. 245).

In other words, legitimacy is conferred upon or attributed to the organisation by individuals, like beauty, it ultimately resides in the eyes of its beholders (Ashforth and Gibbs 1990), in their internal interpretations, judgements and behaviours (Tost 2011, Bitektine 2011). As Tost (2011, p. 171) indicates:

The process of institutional change [legitimation] necessarily involves shifts in individuals' judgments of the legitimacy of existing social entities and, consequently, shifts in individuals' behaviors with respect to those entities.

In recognising the pivotal role of individuals, some studies have appeared on the cognitive elements to organisational legitimation and de-legitimation. This research has tended to focus on interactions among individuals as the mechanism that determines social reality Bitektine (2011), Tost (2011).

Tost proposed a general framework which elucidates the content of individual legitimacy judgements (intra-individual dynamics of legitimacy judgements) and a model of the process by which these judgements form and change over time. While it is acknowledged that institutional change “involves shifts in individuals’ judgements of legitimacy of existing social entities” and shifts in their behaviours with respect to the entities (Tost 2011, p. 686), the role of discourse and rhetoric are discussed as factors that influence these shifts in judgements, and “persuasion” attempts are discussed. But the conditions, under which individual social legitimacy judgements are influenced by the media, which is a source of discourse and rhetoric Tost (2011) is not a focus of the paper.

Similarly, Bitektine, discusses in general terms, how individuals make their legitimacy judgements under “real-life constraints” such as “time, effort, and other factors” “under conditions of bounded rationality” and how cognitive and social factors influence this process. While it is acknowledged that news media are one of these influencing factors, its role in this process is not developed, only suggesting that individuals may easily adopt facts about organisations communicated by institutionalised suppliers, such as the news media, of information, conveying the belief that individuals may absorb this information (Bitektine 2011, p. 167). Despite the neglect of this recent research to focus on the role of the news media as a factor that influences individual actors’ social legitimacy judgements and behaviour, it is maintained that news media influence on individuals has a major role in the legitimation and delegitimation of organisational means of operation (Deephouse 1996, Aerts and Cormier 2009, Brown and Deegan 1998, Lamertz and Baum 1998, Bitektine 2011).

2.12.2.2 Organisations’ Means of Operation

Organisations’ structures and means of operation are often “overdetermined” and “inherently ambiguous”, open to multiple interpretations (Ashforth and Gibbs, 1990) by social actors. Given this “polyarchic context”, the social labelling of a particular

means of operation as "illegitimate" is frequently problematic (Ashforth and Gibbs 1990). This superficiality, multiple causality, ambiguity, and disagreement creates uncertainty and thus latitude for the management of labels and impressions (Ashforth and Gibbs, 1990).

This can happen because of a lack of clear technologies or output standards (Ashforth and Gibbs 1990). For example, organisations often operate in a “politically sensitive technological area” (Allen and Caillouet 1994, p. 48), or legitimacy challenges often occur when a technology is newly developed, and its cause-effect relationship is unsubstantiated, leading to the organisation’s means or ends being questioned (Allen and Caillouet 1994, p. 49, Ashforth and Gibbs 1990). Technologies may not be institutionally defined and means-ends chains may not be specified. In these instances, expectations of actors, about what constitutes legitimate means and ends are often vague (Elsbach and Sutton 1992, Meyer and Rowan 1977).

Because of this ambiguity with respect to organisations employing politically sensitive or new technologies in their operations, news media is assumed to disseminate information to individual actors, giving meaning about these ambiguous, vague or yet to be institutionally defined operations.

2.12.2.3 Media Information about Challenged Means of Operation

Commonly, interpretations are disseminated about the environmental implications of new and or politically sensitive technologies employed by organisations in their means of operation, i.e., nuclear energy (Beelitz and Merkl-Davies 2012) or waste incineration (Allen and Caillouet 1994), frequently portrayed as negative by environmental groups, and this is reported by the media. In this way organisations’ means of operation come to be negatively linked with fragmented environmental issues (Brown and Deegan 1998). This is based on the premise of “an anti-business bias in the news media and among journalists prevents it from getting fair and objective exposure” (Sethi 1978, p. 60). In this respect, the media are seen as adversaries, hostile towards business, because they are “inundated with revelations of activities that business would like to describe as necessary evils but that other groups consider ... unethical.” (Sethi 1978, p. 62).

But the media in performing “a monitoring service” does not only report alleged “illegitimate activities” (Hybels, 1995: 244) They also serve to legitimate, or defend

social legitimacy of operations (Deephouse and Suchman 2008), because organisations' react to challenges (Suchman 1995) responses to challenged means of operations also appear in the media reports (Beelitz and Merkl-Davies 2012, Elsbach and Sutton 1992, Allen and Caillouet 1994). Organisations' react with responses known as 'defences' to the media, so providing information on a challenged means of operation, with the goal of maintaining a legitimacy judgement of the operation (Suchman 1995), in the face of challenges, which are based frequently based on environmental values (Ashforth and Gibbs 1990).

In this respect, the media provide an important battleground where de-legitimizing attacks on organisational means of operations are mounted and disputes around the social norms and regulations are played out (Ingram & Rao, 2004) (Bitektine 2011).

When these disputes (challenges and defence) occur over challenged means of operations, individuals rely on the information that they obtain through the media (Brown and Deegan 1998), to make their social judgements. This occurs, because such means of operation are inherently complex and ambiguous, and represent issues with which individuals have little personal contact or experience with and for which they rely on the media as the primary (and sometimes only) source of information (Aerts and Cormier 2009, Brown and Deegan 1998). The less experience they have with an issue, they more likely they would be to rely on the media for information and interpretation of that issue (Brown and Deegan 1998).

In such instances, the institutional perspective maintains that there is a demand for readily available legitimacy judgments that individuals can easily adopt, which has led to the emergence of "institutionalized suppliers" of such judgments about organisations (Bitektine 2011, p. 167). The mass media may be seen in this light, as providing information and opinions that "guide legitimacy judgments" of individuals in the wider community and general public (Bitektine 2011, p. 167). As Mayer (1980) indicates that newspapers have the capability of influencing or determining the way most people think about the world, what they consider to be normal or proper, and what they consider to be important public issues (Brown and Deegan 1998)

2.12.2.4 Individual Social Actors

As the sole provider of information on these ‘fragmented [environmental] issues’ to individual actors, the media is thus seen as an ‘intermediary’ or ‘informediary’ between organisations and members of the public, acting “as a negotiator and creator of meaning” (Lamertz and Baum 1998, p. 95), by defining and evaluating the ambiguous structures and means of operation of organisations and disseminating the information (Hybels 1995).

Media play an important role in legitimation processes (Aerts and Cormier 2009, p. 3), because of they have a “broad reach and influence” on readers – the individual actors (Bitektine 2011, p. 155).

Because they are assumed to influence individual social actors, they are conveyed by institutional theorists as ‘infomediaries’ who can legitimate or delegitimize particular means of operation, influencing what is perceived by readers as appropriate and normal (Pollock and Rindova 2003).

Given this assumed influence, the news media are seen to be a “source of legitimacy”, an “institutionally rich indicator of society-wide legitimacy” (Deephouse and Suchman 2008, p. 55). It is assumed to influence the judgement and behaviour of individual members of the general public (Deephouse and Suchman, 2008, p. 56, Deephouse, 1996; Elsbach and Sutton, 1992), influencing their perceptions of social legitimacy in disputes regarding the environmental consequences of new and or political sensitive technologies in organisational operations (Elsbach, 1994; Lamertz & Baum, 1998; Zuckerman, 1999) (Pollock and Rindova, 2003). In this sense, institutional theorists believe there to be “close alignment between media content and public opinion” (Deephouse and Carter, 2005, p. 339).

This reflects the assumption that media invariably influence judgement, depicting the individuals as passive, and gullible i.e., that the media tells them when to accept or not accept an organisational means of operation, by simply reporting its compliance with, or violation of, widely shared norms and values (c.f. Deephouse, 1996).

But this view of media influence ignores cognition and behaviour of the individuals at the receiving end of this information. As Ashforth and Gibbs (1990, p. 186) indicate legitimation is constructed by an “interactive and often iterative process of social

construction, negotiation, and labelling” - “a collective making of meaning” – between individuals and media. Hence, this view of media influence ignores this interaction of individual agency and cognition with media information, it portrays individuals in this process as “passive consumers of legitimation practices” Ashforth and Gibbs (1990, p. 186). This neglect in the institutional perspective is also noted by Bitektine (2011, p. 151):

... evaluators [are] placed on the receiving end of discourse and framing debates that the organization was engaged in and were regarded as “audiences” perceiving the organization, attending to its communications, and watching the political action around it. Nevertheless, this passive role allotted to the evaluating audiences in the literature underestimates the importance of active cognitive processing ...

2.12.2.5 Conditions Under which Individuals are Successfully Influenced by Media Information

Despite this crucial role of successful interaction between news media and individuals in legitimation and de-legitimation (DiMaggio 1997), with respect to particular means of operation, the institutional perspective, similar to the strategic perspective, has overlooked the conditions under which this media information successfully influences social legitimacy (Ashforth and Gibbs 1990), assuming that individual social actors are invariably influenced by this information in news media.

Psychology research which focuses on individual cognition and behaviour, has long demonstrated, individual social legitimacy judgements and behaviour are affected by the media - under certain conditions – when information contains specific attributes and individual recipients have particular characteristics (Pollock and Rindova 2003). But these attributes and characteristics have been neglected by the institutional perspective.

2.12.2.6 Summary of Theoretical Gap in Institutional Perspective

In summary, according to the institutional view, individuals are important, as legitimacy resides in their eyes, it is a social judgement that they make (Suchman 1995). Although much of the institutional perspective views this as a collective judgement, more recent research recognises this role of individual cognition (judgement) and behaviour in legitimation and delegitimation of organisations (Bitektine 2011, Tost 2011, George et al. 2006). With respect to organisations’ means

of operation that are challenged and defended, media is seen to have a role in providing information of these challenges and defences to individual social actors (Aerts and Cormier 2009, Bitektine 2011) in particular when these challenges and defences concern means of operation which contain new or politically sensitive processes – causes and effects are vague and ambiguous, creating latitude for disputes over these operations (Allen and Caillouet 1994, Beelitz and Merkl-Davies 2012).

Legitimation and delegitimation are believed to occur in such instances, by the successful interaction of this media information and individual social actors (Ashforth and Gibbs 1990, Deephouse and Carter 2005, Bitektine 2011, Deephouse and Suchman 2008). Because of the focus of the perspective on the social system, whether or when individual social legitimacy judgements and behaviour are affected by the information is not considered. An implication is that such a view leads to the exclusion of individual cognition (judgement) and behaviour. It allots individuals - the beholders of social legitimacy to a role of “passive consumers” of information, disregarding their agency and cognition (Ashforth and Gibbs 1990, Bitektine 2011).

Therefore a gap exists in the institutional perspective, it is not known when this interaction is successful, that is the conditions under which individuals’ social legitimacy judgements and behaviour are influenced by this news media information –these conditions – the information attributes and personality characteristics have not been the subject to research in the institutional perspective (Pollock and Rindova 2003, p. 640),

2.13 Conclusion

Based on the preceding review of social legitimacy perspectives employed in SEA research a number of conclusions can be drawn. Organisations’ social legitimacy is ‘challenged’ when some aspect of their operations become the subject of an environmental dispute. Typically this is triggered by allegations appearing in news media reports (Brown and Deegan 1998, Sethi 1978, Aerts and Cormier 2009). Widely contended in the literature is the notion that organisations respond by disclosing environmental performance information via corporate report media. This is assumed to ‘deflect’ the negative attention of society (the social system) to other more positive aspects of organisations’ environmental performance (Deegan et al. 2000). These disclosures are assumed to defend the collective perception of organisations’ social legitimacy in the face of challenges. A consequence of the

strategic perspective is that the focus in SEA has been on organisations' disclosures, rather than individual reactions to the disclosures (Milne and Patten 2002, O'Dwyer 2002, Deegan et al. 2002, Deegan 2002, Deegan 2007).

Despite the fact that individuals confer social legitimacy on organisations, the strategic perspective employed in SEA, has meant that there has been little focus on individuals in the research on organisations' social and environmental disclosures (Deegan 2002, O'Dwyer 2002, Milne and Patten 2002, Deegan 2007). Whether environmental disclosures have the intended effect in the face of legitimacy challenges has remained relatively unexplored in the SEA literature. It was highlighted that when organisations' means of operation are subject to legitimacy challenges (in news media), individuals are more likely to be exposed to news media rather than annual reports (Zeghal and Ahmed 1990). Organisations typically respond to challenges with disclosures defending their actions in news media (Aerts and Cormier 2009, Elsbach 1994, Sethi 1978, Brown and Deegan 1998). But because individuals have been discounted, their reaction with respect to these environmental disclosures has been overlooked.

Acknowledging that individuals are the 'beholders' of legitimacy, the institutional view of legitimacy theory would suggest that organisations' disclosures in news media rather than corporate reports affect individuals who comprise the social system. When these disputes occur, individuals' interaction with news media information is believed to be important aspect of how the disputes affect social legitimacy of operations (Bitektine 2011, Brown and Deegan 1998, Lamertz and Baum 1998). But institutional perspective assumes that effectiveness occurs because individuals are exposed to news media information (Ashforth and Gibbs 1990, Deephouse and Carter 2005, Bitektine 2011, Deephouse and Suchman 2008).

Such a view allocates individuals to a role of "passive consumers" of the media information (c.f. Ashforth and Gibbs 1990, p. 186). Thus the perspective of legitimacy omit individual agency or cognition (George et al. 2006). Drawing from the psychology literatures, individuals do not invariably accept information that they receive or are exposed to (Petty et al. 2002) – there are moderating factors/conditions. But these conditions remain unaddressed in SEA reserach. In other words, when

organisations' disclosures in news media affect individual members of the public, have not been the subject of SEA research.

This gap with respect to individuals in both perspectives will be addressed by developing a conceptual model of the attributes of this media information and personality characteristics (the conditions) that successfully influence individual social legitimacy judgement and behaviour. The model will thereby integrate the two perspectives of social legitimacy, and extend the legitimacy theory perspectives employed in SEA research. This conceptual model and hypotheses will be presented in the next chapter.

Chapter Three

Conceptual Model and Hypotheses

3.1 Introduction

In this chapter, the conceptual model, will be presented. In the next section – Section 3.2, understanding of news media communication regarding an environmental dispute over an organisational means of operation in organisational legitimacy theory is discussed. The shortcomings regarding the usage and understanding of news media frames in organisational legitimacy theory is outlined in Section 3.3. Subsequently, in Section 3.4, drawing on political communication research, frames in media communication are defined, and framing – the process by which they influence peoples’ attitudes is outlined. Within this section, frames with particular attributes, known as environmental value frames, relevant to social legitimacy judgements are explained.

In Section 3.5, the process by which frames, including environmental value frames come to be reproduced in news media reports is discussed. Following this, in Section 3.6, the bases of environmental concern – the abstract beliefs, invoked by environmental value frames, and which guide individual social legitimacy judgements are introduced. In Section 3.7, influence of these frames on social legitimacy judgement is explained, and in Section 3.8, the ability of frames to influence individual judgements with respect to disputes is made clear.

The conceptual model is introduced in Section 3.9. In Section 3.9.1, hypotheses of the model are explained and presented, including the predicted effects of the particular environmental value frames from pressure groups and companies in dispute and the variables (company credibility and level of individual environmental concern) which moderate the effects of frames on individuals’ social legitimacy judgement of the disputed operation.

3.2 Environmental Disputes over Organisational Operations

According to organisational legitimacy theory, when environmental disputes occur, a specific operation can be portrayed as inconsistent or consistent with widely held environmental values, which is assumed to influence *collective* judgement of the

operation along a social legitimacy dimension (Patten 1991, Patten 2002). This particular dimension of organisational legitimacy is implicated, as it reflects an evaluation of whether organisations' operations are consistent with social values and norms (Dowling and Pfeffer 1975), and widely held environmental values are a subset of social values and norms (Eagly and Kulesa 1997, Lange 1993)

Organisational means of operation are frequently subjected to challenges because of potential negative impact on the environment. If effective, they are perceived as inconsistent with widely held environmental values this generates a negative normative evaluation of the operation – socially illegitimate. For companies with operations in a “politically sensitive technological area” (Allen and Caillouet 1994, p. 48), these legitimacy challenges often occur when a technology is newly developed, because the technology's cause-effect relationship is unsubstantiated, the organisation's means or ends are questioned (Allen and Caillouet 1994, p. 49, Ashforth and Gibbs 1990). Technologies may not be institutionally defined and means-ends chains may not be specified. The expectations of actors, about what constitutes legitimate means and ends are often vague and in flux (Elsbach and Sutton 1992, Meyer and Rowan 1977), and are susceptible to messages which make sense of the operations for them.

It is maintained that social legitimacy of such operations is also defended (Deephouse and Suchman 2008), because organisations' react to challenges (Suchman 1995) responses to challenged means of operations also appear in the media reports (Beelitz and Merkl-Davies 2012, Elsbach and Sutton 1992, Allen and Caillouet 1994). Organisations' react with responses known as 'defences' to the media, so providing information on a challenged means of operation, with the goal of maintaining a legitimacy judgement of the operation (Suchman 1995), in the face of challenges, which are based frequently based on environmental values (Ashforth and Gibbs 1990). If the defence as effective, the operation is perceived as consistent so a positive normative evaluation of the organisation, the operation is judged by society as proper, appropriate and desirable (Suchman 1995, Chen and Roberts 2010, Zimmerman and Zeitz 2002) - socially legitimate

In this respect, the media is believed to provide an important battleground where delegitimising attacks on organisational means of operations are mounted and disputes

around the social norms and regulations are played out (Ingram & Rao, 2004) (Bitektine 2011).

Essentially, social legitimacy judgement is assumed to be affected in disputes regarding the environmental consequences of new and or political sensitive technologies in organisational operations. In particular when these challenges and defences concern means of operation which contain new or politically sensitive processes because it is maintained that their causes and effects are vague and ambiguous, creating latitude for disputes over these operations (Allen and Caillouet 1994, Beelitz and Merkl-Davies 2012). These initial challenges and subsequent defences characterise environmental disputes, and their effects are views at a collective level by organisational legitimacy scholars, i.e., their effects on individuals are not addressed.

Drawing from the psychology research in political communication, it is contended that at an individual level, peoples' social legitimacy attitudes (judgements) of disputed operations are affected when frames about the disputes, containing particular attributes, appear in news media communication. Existing understanding of frames in organisational legitimacy theory is discussed next. Subsequently, frame attributes that affect individuals with respect to environmental disputes are made clear.

3.3 Frames and Organisational Legitimacy

According to legitimacy theory, frames in news media communications are assumed to impact the legitimacy of organisations (Deegan et al. 2002, Deephouse and Carter 2005, Pollock and Rindova 2003, Neu et al. 1998), but there remains no conceptual understanding in the theory regarding the meaning or informational content of these frames. This is for two reasons.

Firstly frames in organisational legitimacy theory are not well defined, they are referred to with some vagueness, and therefore, like the legitimacy term itself, the particular frame attributes in communication that influence legitimacy, in particular, social legitimacy have not been the subject of research in organisational legitimacy.

Secondly, as individual cognition and behaviour has not been the subject of much research in organisational legitimacy (see Tost 2011, Bitektine 2011); therefore the particular frame contents or attributes that influence individual judgements has not

been explored. This is evident in much of the legitimacy literature regarding the understanding about how frames work.

It is maintained that negative and positive frames [in the media] affect collective perception of an organisation's legitimacy (Pollock and Rindova 2003, Deegan et al. 2002). As Pollock and Rindova (2003, p. 632) convey, news media "impacts the ways that stakeholders interpret and evaluate information about firms by framing its descriptions of them in positive and negative terms". Positive and negative frames in the media of environmental issues, over time, are assumed to impact organisations' legitimacy, by having an media agenda effect, making environmental issues salient, making the issues salient, bringing them to individuals' attention (Deegan et al. 2002).

Deephouse and Carter (2005, p. 339) indicate, there is "close alignment between media content and public opinion as part of the agenda setting and framing paradigms" This reflects a view in legitimacy that ignores individual cognition, what a person thinks, and their behaviour, assuming individuals are passive, and are influenced by receiving information – positive or negative evaluations of organisation, or particular environmental issues.

This is evident in the following assertion by Pollock and Rindova (2003, p. 634) "framing events and issues in positive or negative terms provides audiences with visible public expressions of approval or disapproval of firms and their actions (Elsbach 1994, Lamertz and Baum 1998).

Hence, although frames are often cited, their contents have not been addressed, in particular frame elements which influence individual legitimacy judgements, along the different dimensions, such as the moral/ethical dimension (social legitimacy). Therefore what particular elements of a frame impacts this type individual judgement in an environmental dispute is unknown.

A wealth of psychology based research in political communication on social (including environmental) disputes has illuminated frame attributes that influence individual judgements of the issues that people make (Nelson et al. 1997a, Chong and Druckman 2007a, Chong and Druckman 2007c, Nelson et al. 1997b, Nelson and Oxley 1999, Druckman and Nelson 2003). These frame attributes and their influence in individual judgements are outlined next.

3.4 Definition of Frames in Disputes

Drawing from this research, frames are information attributes in news media and are defined as “central organizing ideas”, suggesting what is at issue (Gamson and Modigliani 1989, p. 3). They are constructions of a disputed issue: spelling out the essence of the problem (Nelson and Kinder 1996), They are a selection of some aspects of a perceived reality which makes them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described (Entman 1993, p. 53). They can be seen as “plots” or “storylines”, lending coherence to the multiple pieces of information of a dispute (Nelson et al. 1997a). Stressing particular values, facts, opinions, or other considerations (Brewer 2003), they convey them with greater apparent relevance to the dispute than other relevant considerations. These frames are assumed to influence individual attitudes (judgements)

3.4.1 Influence of Frames in Disputes on Peoples’ Attitudes (Judgements)

Attitudes are people’s evaluations (judgements) of entities, which are called “attitude objects” in attitude theory. They are people’s psychological tendency expressed by evaluating (judging) other people, objects, and issues (entities) with some degree of favour or disfavour (Petty et al. 2002, Eagly and Kulesa 1997). These objects can be anything, that is, “any entity that is distinguished in an individual’s mind” (Eagly and Kulesa 1997, p. 124). An attitude is a function or outcome of a person’s favourable and unfavourable beliefs about the issue or person that is the object of their attitude (Nelson and Oxley 1999, McGuire 1985).

People have conflicting beliefs (considerations) with respect to a dispute, and frames tell people how to weight these considerations (favourable and unfavourable beliefs) that enter into everyday deliberations over such disputes. Frames may supply no new information about the disputed issue, yet their influence on individuals’ attitudes may be decisive through their effect on the perceived relevance of peoples’ alternative and conflicting considerations (Nelson et al. 1997b). How persons weight their often conflicting considerations about an issue (Nelson et al. 1997b).

Because frames with respect to disputes stress specific values, facts, (considerations), endowing them with greater apparent relevance to a dispute than they might appear to have under an alternative frame, they influence individuals to make judgements of the attitude object based on these considerations. In other words, frames affect peoples’

attitudes simply by making certain considerations seem more important than others; these considerations, in turn, carry greater weight for the person's final attitude (Nelson et al. 1997a). Drawing from relevant political communication research, frames with respect to environmental disputes are explained.

3.4.1.2 Value Frames

With respect to environmental disputes, the relevant considerations are values, and essentially, applicable frames are called "value frames" (Brewer 2001, Brewer 2002, Brewer 2003, Brewer and Gross 2005, Shen and Edwards 2005, Eagly and Kulesa 1997, Lange 1993), which is a specific type of frame that depicts an association between a social value (a person's abstract beliefs) and a disputed social (environmental) issue, therefore stressing specific values, endowing them with greater apparent relevance and importance to a dispute than they might appear to have under an alternative frame (Nelson et al. 1997b). Frames may portray the dispute as having implications for one social value, or multiple values (Chong and Druckman, 2007).

3.4.2 Environmental Value Frames

Research suggests that the opposing sides in an environmental dispute will frame their positions around particular values: altruistic, biospheric, or egoistic bases of environmental concern (Eagly and Kulesa 1997, Stern and Dietz 1994, Lange 1993). These particular values reflect the value bases of environmental concern for most people.

Attitudes of concern about environmental issues are based on a person's more general set of values (Stern and Dietz 1994, Schultz 2001). These values reflect the relative importance that a person places on themselves (egoistic), other people (altruistic), or plants and animals (biospheric) (Stern and Dietz 1994). These general values are the bases of a person's general attitude towards environmental issues, termed environmental concern. Frames invoking these values constitute "effective persuasive appeals" (Eagly and Kulesa 1997, p. 131) because they contain arguments that address or invoke the values commonly associated with peoples' attitudes on environmental issues; values to which the issue is commonly linked in people's minds (Eagly and Kulesa 1997).

Based on a synthesis of political and environmental psychology research, an environmental value frame is an information attribute in news media communication, and is defined as ... an association between an egoistic, altruistic or biospheric value and an organisational means of operation, linking these bases of environmental concern to a particular position (e.g., opposition or support) on the operation (Lange 1993, Eagly and Kulesa 1997).

3.5 Presence of Environmental Value Frames in News Media Communication about a Dispute

According to the political communication literature, representatives of 'organized interests' compose and promote frames with goal of planting them in news media outlets, supplying framing devices such as sound bites, slogans, analogies, and imagery to succinctly and effectively convey a specific construction of a dispute – one that naturally benefits the organization's own interests. Although journalists themselves concoct their own frames, they have a common dependence on 'elite sources' (organised interests) for quotes, insight, analysis, and information. Because of this, media often serve as conduits for organised interests eager to promote a certain perspective to a broader public audience (Nelson et al. 1997a).

According to political communication research, environmental pressure groups and companies constitute elite sources (Lange 1993, Eagly and Kulesa 1997, Chong and Druckman 2007a), often with media relationships specialists who compose environmental value frames and promote them to journalists of news media outlets in the hopes of having their frames reproduced in news media coverage of the disputes. Given the complexity and different angles of environmental disputes, journalists depend on such sources to give meaning to such disputes (Eagly and Kulesa 1997) for members of the general public. Based on this, it is predicted that when environmental value frames of these disputes from environmental pressure groups, or from companies, are used by news media in coverage of the dispute, these particular frames will influence individual social legitimacy judgements.

To explain how these particular frames influence peoples' social legitimacy judgements of operations, the role of peoples' values linked with their environmental

concern, which they employ in their attitudes (judgements), will be explained in more detail.

3.6 Value Bases of Environmental Concern

According to the attitude change/persuasion literature, a person's attitude on a particular social dispute is "embedded in a network of broader values" (Eagly and Kulesa 1997, p. 128). In this sense, these broader values reflect the external structure of attitudes on disputed social issues, making these attitudes hierarchical in the sense that these attitudes (judgements) on issues, are linked to this network of general values (Eagly and Kulesa, 1997). A person forms an attitude by establishing a link between a particular attitude object and their values (Eagly and Kulesa, 1997, pp. 125-126). These values reflect broad, abstract beliefs, which differ from the specific attitude about the disputed issue. Attitude formation about disputed issues entails an abstract inference by which the attitude is an implication of more general beliefs that has already been formed (Eagly and Kulesa, 1997, p. 126).

Values often represent these abstract beliefs in relation to social disputes, and are defined as "representations of general goals or end states of human existence" (Eagly and Kulesa 1997, p. 126, Rokeach 1968, Rokeach 1973). They can be distinguished from attitudes on disputes in that they reflect "single beliefs about abstract desirable states or behaviour" (Verplanken 2002, p. 218), and in this sense, are relatively stable beliefs (Schwartz, 1992; Verplanken, 2002).

For most people, they include endorsing abstract beliefs generally advocated by environmentalists (Eagly and Kulesa 1997). Typical beliefs or environmental values include: "preserving ecological systems, taking care of future generations, or feeling united with nature" (Verplanken 2002, p. 218). In this sense, these values reflect a person's environmental concern and are their broader beliefs that guide the criteria by which they judgement framed attitude objects. This is because values held by most individuals in society are commonly or ordinarily connected to environmental issues in people's minds (Eagly and Kulesa, 1997, p. 132). In relation to environmental concern, these generally held values are: *altruistic* values, *egoistic* values and *biospheric* values (Stern and Dietz 1994).

These three values reflect a person's different bases for their environmental concern, if present, produce a concern for the environment, stemming from different value bases (Stern and Dietz 1994). These bases of environmental concern reflect a valuing of other people (altruistic value), of nonhuman objects (biospheric value) or the self (egoistic value). They may be present simultaneously, to varying extents and predispose people to be sensitive to information about certain outcomes (outcomes for things they value) (Stern and Dietz 1994). It triggers them to judge an attitude object on these bases, when the object may have adverse consequences for the things they value: other people, the biosphere, or the self. These general values, and in particular their relationship to environmental concern will be discussed next.

3.6.1 Altruistic Value

Altruistic value is a value orientation that reflects concern for the welfare or the protection of other human beings. People who apply such values judge phenomena (attitude objects) on the basis of costs or benefits for a human group, such as community, ethnic group, nation state or all of humanity (Stern and Dietz 1994, Stern et al. 1993).

3.6.2 Biospheric Value

Biospheric value is a value orientation that reflects concern with nonhuman species or the biosphere. People who apply such values judge phenomena (attitude objects) on the basis of costs or benefits to ecosystems or the biosphere, including the natural environments, individual animals, and ecosystems (Stern and Dietz 1994, Stern et al. 1993)

3.6.3 Egoistic Value

Egoistic value is a value orientation that reflects concern with the self; it is based on self-interest. People with an egoistic value are People who apply such values judge phenomena (attitude objects) on the basis of aspects of the environment that affect them personally, or to oppose protection of the environment if personal costs are perceived as too high (Stern and Dietz 1994, Stern et al. 1993).

When they think about an environmental dispute, they will base their attitude on the connections that they draw between the dispute and these abstract beliefs (Feldman

1987, Feldman and Zaller 1992, Brewer and Goss, 2005, Brewer 2003), affecting the content of a person's abstract beliefs about the attitude object (Nelson and Oxley, 1999),

These bases of environmental concern or abstract beliefs constitute the general environmental attitudes that most people hold (to some extent) and will influence their specific attitudes about particular organisational operations that become subject to environmental disputes, causing them to judge the operations along a moral/ethical dimension (c.f. Bitektine 2011, Trevino 1986). Judgements based on social values are made along a moral dimension and constitute social judgements (Wood 2000). Such an attitude reflects a social legitimacy judgement, and this is explained next.

3.7 Organisational Legitimacy as an Attitude

Cognitively, legitimacy reflect peoples' attitudes towards "a persistent aspect of society" - organisations and their operations (Hybels 1995, p. 241). Such attitudes are obtained through peoples' cognitive analysis, - that is what a person knows, thinks, believes, and with respect to persistent aspects (organisations and their operations), essentially legitimacy reflects this as people judge the legitimacy of the institutions they encounter, such judgements are "represented in memory by typifications such as 'institution X is okay' or 'institution Y is not okay.'" (Hybels 1995, p. 245) These "schemas" then guide a person's behaviour (Hybels 1995, p. 245). Peoples' behaviour towards institutions and their operations may be interpreted as evidence of their attitudes, their cognitive analysis towards organisations and their procedures (Hybels 1995).

3.7.1 Individual Social Legitimacy Judgement

Research by Tost (2011) and Bitektine (2011), indicate that a social legitimacy attitude is a perception that social values implied by the operations of an organisation are consistent with the individual's values. Social values include widely held environmental values (Eagly and Kulesa 1997). Insofar as these two value systems are consistent, an individual evaluates (judges) the organisation and its means of operation as socially legitimate; that is they judge it as proper, appropriate and desirable (Tost 2011, Bitektine 2011, Deephouse 1996). Social legitimacy essentially reflects a person's judgement of an operation along a moral or ethical dimension (Tost

2011), and much research (outside legitimacy) has focused on judgement along this dimension (Reidenbach and Robin 1990, Barnett 2001), with the objects these judgements usually concerned with selling or managerial practices.

According to this literature, individual's judgment along an ethical or moral dimension is the degree to which he or she considers a particular behaviour morally acceptable – desirable, appropriate (Reidenbach and Robin 1990). It is their “prescriptive assessments” of attitude objects according to “what is right or wrong” (Trevino 1986, p. 604), benchmarked against prevailing social values.

Because environmental value frames guide people to judge operations by benchmarking them against their broader values linked to environmental concern, it is contended that they will influence people to judge the disputed operation along a moral/ethical dimension, essentially influencing them to make a judgement of social legitimacy (Eagly and Kulesa 1997, Tost 2011). Drawing from the political communication research, it is argued that peoples’ social legitimacy judgements are particularly susceptible to manipulation when operations are the subject of an environmental dispute. This is explained next.

3.8 Environmental Disputes and Individual Ambivalence

Because individuals will typically be ‘ambivalent’ with respect to social disputes (Sniderman and Theriault 2004, Eagly and Kulesa 1997), it is contended that when they receive frames from environmental groups or companies, they will be susceptible to such frames.

According to political communication research, ambivalence means a person can simultaneously have a positive and negative orientation toward the attitude object, that is, a person can apply both positive and negative abstract beliefs with respect to the object (Eagly and Kulesa 1997, p. 136). As Sniderman and Theriault (2004) indicate, just so far as individuals simultaneously have reasons both to support a course of action and to oppose it, that is, just so far as they are ambivalent, (Sniderman and Theriault 2004, p. 137), Most people “are up in the air about” about most social disputes (Sniderman and Theriault 2004, p. 138), as Sniderman and Theriault (p. 138) put it “most people possess opposing considerations on most issues that might lead them to decide the issue either way (Zaller and Feldman 1992). This

is because individuals have a stock of considerations [favourable and unfavourable abstract beliefs] that they can consider in making up their mind (Sniderman and Theriault 2004). They employ these considerations to decide whether to support or oppose a possible course of action” (Sniderman and Theriault 2004, p. 137). The more evenly balanced their considerations [abstract beliefs], the less likely they are to offer a univocal guide for making a choice (Sniderman and Theriault 2004, p. 137).

Therefore if an individuals’ attention is directed [by a frame] to the positive considerations they hold on a given dispute, they will be included to give a thumbs up (favourable judgement), however, if their attention is directed to the negative considerations they hold about it, they will be included to give a thumbs down (unfavourable judgement) (Sniderman and Theriault 2004). Drawing from this research, it is contended that because people are ambivalent with respect to social disputes, they will accept the frame that they are exposed to and will accord this greater weight in their judgements of the disputed operation.

This ambivalence with respect to disputes renders people susceptible to effects of frames reproduced in news media communications – frames, they will have greater vulnerability to frames which are directed at either side of a dispute (Eagly and Kulesa 1997). This means for environmental disputes, people have somewhat “moderate attitudes” and be somewhat be vulnerable to frames in news media communications on these issues (Eagly and Kulesa 1997, p. 137).

Drawing on this research, it is expected that when new or politically sensitive technical operations are the subject of environmental disputes, individuals will be ambivalent with respect to how their social legitimacy judgements of the operation, because most people will hold both favourable and unfavourable considerations (abstract beliefs), that they can apply in their judgements, rendering them susceptible to environmental value frames.

Because, environmental pressure groups and companies represent different sides in the dispute, the political communication research indicates that they will link the value bases of environmental concern to their position regarding the operation, i.e., the frame will imply opposition or support. The position of the frames will affect

whether people judge the attitude object (organisational operation) with a degree of favour or disfavour (Brewer 2001). Frame positions can influence whether people generate more favourable or unfavourable abstract beliefs about the attitude object, which determine if a person judges the object favourable or unfavourable (Nelson and Oxley 1999).

Thus, integrating the political communication and legitimacy research, it is predicted that environmental value frames from pressure groups and companies, when they appear in news media communication of disputes will influence individuals to make a social legitimacy judgement of the operation, with some degree of favour or disfavour (depending on the frame position), by causing them to judge the operations in terms of general abstract environmental value or beliefs invoked by the frame.

3.9 Conceptual Model

Based on the foregoing discussion of environmental value frames in the news media and their predicted influence on individual social legitimacy judgements of disputed operations, Figure 3.1 presents a model, which indicates the particular influences of these frames in disputes, and variables which moderate this influence, and the effect this has on their behavioural intentions to oppose an operation.

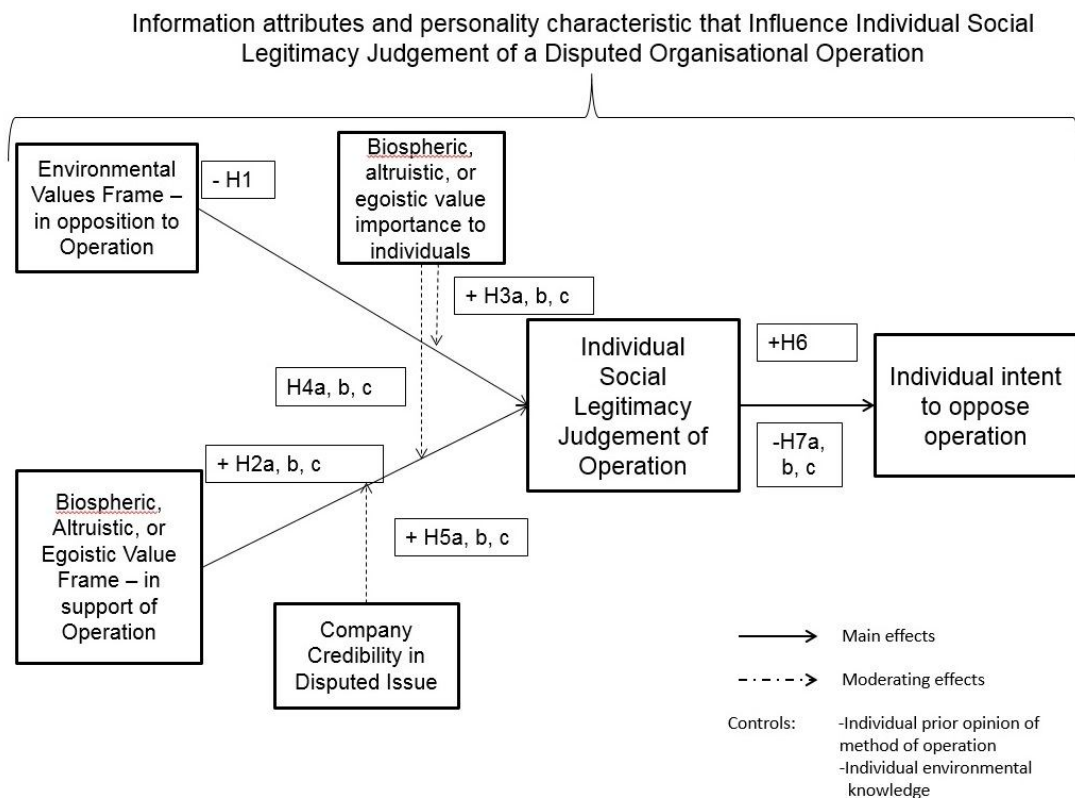


Figure 3.1 Conceptual Model

3.9.1 Development of Hypotheses

Given the foregoing discussion, in the next section, hypotheses are presented.

3.9.1.1 Environmental Value Challenge of Organisational Operation

Organisational legitimacy theory assumes that news media is particularly powerful in mounting challenges for an organisation with respect to particular means of operation (Islam and Deegan 2010, p. 133). Typically a revelation of previously unknown information can create legitimacy problems for an organisation (Islam and Deegan 2010). The source of challenges to legitimacy can often come from the media (O'Donovan 1997; Brown and Deegan 1999) (Deegan et al. 2000). As Sethi (1978, p. 60) notes an “anti-business bias” encapsulates a media hostility towards business. Sethi (p. 62) elaborates on this:

Yet the environment in these media is hostile because the media are being inundated with revelations of activities that business would like to describe as necessary evils but that other groups consider illegal, unprofessional unprofessional, and unethical.

External activist or pressure groups’ are typically the source of these revelations, because of their opposition to the organisational operation (Ashforth and Gibbs 1990). These activist or environmental pressure groups mount pressure campaigns (Ashforth and Gibbs 1990), which result in negative media coverage (Brown and Deegan 1998, Deegan et al. 2002) However, the attributes of this coverage that influence individual judgements has not been addressed in organisational legitimacy theory.

3.9.1.2 Hypothesis 1: Opposition Frame of Organisational Operation

Drawing from the political communication research, it is predicted that when an environmental value frame issued by these groups is reproduced in news media reports, the frame will trigger individuals to make a social legitimacy judgement of the operation, and, because environmental pressure groups are oppositional to the operation, they will cause individuals to judge the operation with a degree of disfavour.

Specifically, the political communication research maintains that environmental groups will frame information to connect their own positions to the altruistic, biospheric or egoistic values underlying environmental concern (Eagly and Kulesa 1997). They will present their position on the issue as being right through linking it to the abstract beliefs that most people hold and which are applicable to environmental disputes (Brewer 2001, p. 46). In other words, environmental groups will define their position on the issue as “correct” in terms of these values (Brewer, 2001).

Explicitly, the frame will employ words representative of these values to link “the correct position”, on an issue. For example, groups will frame the position in opposition of a waste plant by drawing a certain connection between that position and applicable abstract beliefs or values, such as an altruistic value (effects of the particular plant on the health of other humans) (Eagly and Kulesa, 1997; Lange, 1993). In this way, applicable general values to the issue will be used to justify a frame’s “correct” position on the dispute (Brewer 2003), rendering “the correct” interpretation of the plant’s implications for these common values that people hold.

An environmental value frame with an oppositional position will trigger individuals to make social legitimacy judgments of the operation which will be dominated by these particular negative abstract beliefs, rather than other beliefs about the consequences of the operation on the environment that may be available to individuals (their conflicting considerations).

Hence, this frame will present a certain negative interpretation of biospheric, altruistic or egoistic value implications with respect to a particular operation. Given that these three values, constitute popular environmental values (Eagly and Kulesa 1997), it is proposed that exposure to such a frame will cause individuals to apply these particular unfavourable beliefs and so will be accorded greater weight in their social legitimacy judgements of the particular organisational operation under dispute. This leads to the following hypothesis:

Hypothesis 1

In comparison with no frame, exposure to an environmental values frame in opposition to an organisation's operation will negatively influence individuals' social legitimacy judgements of the operation.

3.9.1.3 Defence of Challenged Organisational Operation

According to organisational legitimacy theory, most challenges (including environmental value challenges) ultimately rest on “failures of meaning” (Suchman 1995, p. 597), in particular when politically sensitive or new technologies are involved. Attempts to defend occur when an organisation's legitimacy is challenged (Ashforth and Gibbs 1990, p. 183). Essentially, this is a “reactive response” to an “unforeseen crisis of meaning” (Suchman 1995, p. 597). Management attempts to counter and defend against the challenge. “The defence of legitimacy is apt to involve a greater proportion of symbolic activities.” (Ashforth and Gibbs 1990, p. 183). Operating in a “politically sensitive technological area” (Allen and Caillouet 1994, p. 48), legitimacy challenges often occur when a technology is newly developed, a technology's cause-effect relationship is unsubstantiated, the organisation's means or ends are questioned (Allen and Caillouet 1994, p. 49, Ashforth and Gibbs 1990).

In defending legitimacy, the mix of legitimation activities may be affected by the nature of the challenge (Ashforth and Gibbs 1990). Value challenges tend to be met with attempts to alter socially institutionalized practices (e.g., advertising for nuclear energy) and various combinations of the symbolic practices (Ashforth and Gibbs 1990). The objective is to “prevent or forestall potential challenges to legitimacy.” (Ashforth and Gibbs 1990, p. 183).

According to legitimacy theory, when operations are subjected to environmental value challenges, symbolic practices entail “reactive self-presentational verbal behaviour” which is mainly defensive and it is typically initiated as a response to a challenge situation, and “tend to attenuate the negative meaning of events or outcomes” (Aerts and Cormier 2009, p. 9). Reactive environmental press releases, through “a mixture of verbal remedial tactics, are found to be effective in transforming events that seem at

first to be image-threatening into messages that ultimately protect and even enhance a firm's environmental media legitimacy.” (Aerts and Cormier 2009. p. 23). Excuses, justifications and causality denials are the more traditional forms of defensive impression management tactics (Aerts and Cormier 2009), which are also believed to be effective

But the attributes of the organisational responses carried in the news media which effectively prevent or forestall individual judgements that an operation is socially illegitimate are not addressed by organisational legitimacy theory. Drawing from the political communication research, it is contended that counter frames/reframes can mitigate the negative effect on a challenge on individual social legitimacy judgements. This is explained next.

3.9.1.4 Hypothesis 2: Support Frame of Organisational Operation

Environmental disputes are viewed in the political communication research as “communicative strategies [which] mirror and match one another as disputants engage in a synchronous, spiral-like logic of interaction” (Lange 1993, p. 241). Matching refers to “communicative behaviour that copies or repeats the other party's strategy”, mirroring describes “communicative behaviour that duplicates the other party's tactic by presenting antithetical, polar or “mirror image” information” (Lange 1993, p. 245), in this sense, an organisation's ‘reframes or ‘counter frames’ are information attributes which represent their behaviour.

This accounts for the competitive context to disputes in which organisations' frames are transmitted. Environmental value frames advocating a particular position on a disputed environmental issue rarely go undisputed (Brewer 2003, Chong and Druckman 2007b, Chong and Druckman 2007a). Disputed social issues are inherently characterised as a dispute between opposing positions. “As with other disputes, both environmentalists and industry representatives choose strategies that are dependent on and responsive to their antagonist (Lange 1993, p. 241). In a sense a competing information campaign occurs.

Specifically, they rebut opposing frames (Sniderman and Theriault 2004, Brewer and Gross 2005), by invoking the same general value, or other values applicable to the

dispute (altruistic, biospheric or egoistic values), connecting these values to their advocated position - the value or values becomes a justification for supporting the organisation's position. More than one value is usually applicable to most controversial issues, and competing frames often revolve around different values (Brewer 2002). Competing sides promote interpretations of the implications of alternative values (Chong and Druckman, 2001). For example, in controversial environmental issues, frames often connect their position to a biospheric value in competition with frames that connect their position to an altruistic value (Eagly and Kulesa, 1997). In this way, environmental issues can be seen as a series of reframes or counter frames of procedures from organisations that "mirror" and "match" opposing frames (Lange 1993, Eagly and Kulesa 1997).

Viewed in this way, controversial issues are essentially a sum of frames with competing positions, and individuals are typically exposed to these competing frames, via the news media.

Reframes or counter frames, are information attributes that have been found to neutralise or cancel out the effects of initial opponent frames on peoples' judgements (Brewer and Gross 2005, Sniderman and Theriault 2004). Essentially, competing frames cancel each other and fail to move public judgement regarding a controversial issue (Chong and Druckman 2007a). However, the organisation as an elite source have a vested interest in the social legitimacy attitude of individuals, and this will be apparent to the individuals receiving the reframe or counter frame (Ashforth and Gibbs 1990), thus, it is predicted, that this will undermine the credibility of organisations as the sources of environmental value frames (Ashforth and Gibbs 1990). Credibility moderates the effect of frames, frames from sources with lower credibility will have less of an effect on individuals (Druckman 2001).

This leads to the expectation that when a reframe or counter frame is reproduced in media communication invoking either of the three value bases of environmental concern: biospheric, altruistic or egoistic it will not eliminate or cancel the effect of an opposing environmental values frame. Because the organisation has lower credibility, it is proposed that it will mitigate or reduce the effect of the opposition frame on individual social legitimacy judgement of the environmental values frame on the operation. This is expressed in the following set of hypotheses:

Hypothesis 2

H2a: The negative effect of an environmental values frame in opposition to an operation on individuals' social judgement judgements will be significantly mitigated when a biospheric value frame in support of the operation is present.

H2b: The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgements will be significantly mitigated when an altruistic value frame in support of the operation is present.

H2c: The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgements will be significantly mitigated when an egoistic value frame in support of the operation is present.

Much research in political communication and persuasion has demonstrated that the strength of value frames on peoples' attitudes will be impacted by a number of variables, such as the level of importance that they personally attach to the values invoked in the frames. Individual environmental value importance as it is understood in legitimacy theory is discussed first (Verplanken 2002, Johnson and Eagly 1989, Chong and Druckman 1997b, Shen and Edwards 2005, Schemer et al 2012).

3.9.1.5 Individual Environmental Concern

An organisation is said to be legitimate to the extent that its actions (operations) appear to be consistent with social norms, values, and expectations (Ashforth and Gibbs 1990, Dowling and Pfeffer 1975). These values include the general values linked to environmental concern – biospheric, altruistic and egoistic. But a key assumption in the organisational legitimacy literature is that these values are uniform among different groups and members of society

This view of uniform values also extends to environmental concern. Environmental values or concern is the importance placed on environmental responsibility by the general public (Neu et al. 1998). But legitimacy studies ignore heterogeneity in social values, and the effect of this heterogeneity on individuals' social legitimacy judgements. An entity is perceived as legitimate by an individual on social grounds when it is perceived to be consistent with their social values (Tost 2011), and these

are a characteristic of the individual's personality (Bitektine 2011). The social values the individual holds affects their social legitimacy judgements (Bitektine 2011).

But some claims exist in the SEA literature, that this view of concern is unrealistic. Specifically, it is argued that members in society hold differing views on a given issue, and the intensity with which people express their environmental values varies greatly (Campbell et al. 2003, Deegan et al. 2002). Further, some studies in SEA have examined individual environmental concern (Milne and Patten 2002, Cho et al. 2009). Although Milne and Patten (2002) examine the effect of different levels of environmental concern among individuals in their legitimacy judgements, the authors noted that environmental concern was more based on a concern for risk rather than ethical concern (values). Cho et al, (2009) examined participants' concern about social and environmental responsibility issues, in general, rather than values attached to such concern.

But organisations are answerable to diffuse individuals with frequently conflicting expectations (values) "(Zald's 1978 "polyarchic context")" (Ashforth and Gibbs 1990, p. 177). There is differences in audiences concerns with respect to legitimacy related disputes (Elsbach 2003). Given this view of uniform values, the effect of a variety of levels of value importance among individuals has not been addressed. It is argued that this personality characteristic which differs among individuals moderates the effects of both the opposition and counter frames.

3.9.1.6 Level of Individual Environmental Concern

Drawing from the persuasion research, individuals will vary in degree of importance that they attach to popular values (Verplanken 2002) – including biospheric, altruistic, and egoistic values (Eagly and Kulesa 1997). Even though frames address common values, the degree of centrality of these values to individuals varies, and this has been found to have important implications for influence of frames on disputed issues concerning these values, on the intensity of their judgements (Johnson and Eagly 1989).

Individuals adhere strongly or weakly to the values linked to environmental concern, and this has been found to apply to egoistic, altruistic and biospheric values (Verplanken, 2002; Eagly and Kulesa, 1997).

3.9.1.7 Hypothesis 3: Interaction of Individual Environmental Concern and Opposition Frame

Persuasion research indicates that the influence of frames on individual judgments will be moderated by differences in the degree of importance that individuals attach to values invoked by the frames (Chong and Druckman 2007b, Shen and Edwards 2005, Schemer et al. 2012, Johnson and Eagly 1989).

In the course of deliberating about a frame, people compare the information contained in the frame with the values they hold. When an individual strongly adheres to a particular value, persuasion research suggests that a frame which promotes that value will influence more extreme (stronger) judgment in these individuals, compared to individuals who weakly adhere to that value (Shen and Edwards 2005, Johnson and Eagly 1989). Applied to the model, it is expected that the negative effect of the opposition frame on individual social legitimacy judgement, will be moderated by level of importance of these values to individuals. If individuals accord a high level of importance, the fame will have a stronger negative effect, and if individuals accord a low level of importance, the frame will have a weaker negative effect. Based on this, the following set of hypotheses are presented with respect to individual biospherc, altruistic and egoistic values.

Hypothesis 3

H3a: The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgments will be stronger for individuals who attach a high level of importance to the biospheric value invoked in the frame, than for individuals who attach a low level of importance to the value.

H3b: The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgments will be stronger for individuals who attach a high level of importance to the altruistic value invoked in the frame, than for individuals who attach a low level of importance to the value.

H3c: The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgments will be stronger for individuals who attach a high level of importance to the egoistic value invoked in the frame, than for individuals who attach a low level of importance to the value.

It is expected that the strength of the reframe or counter frame on attitude will be similarly affected.

3.9.1.8 Hypothesis 4: Interaction of Individual Environmental Concern and Support Frames

A counter frame will have a stronger effect on judgements of individuals who attach a higher level of importance to the frame value, compared to individuals who attach a lower level of importance to that value (Sniderman and Theriault, 2004; Chong and Druckman, 2007). People are "capable of picking the side of the issue that matches their political principles when they are exposed to a full debate" (Sniderman and Theriault, 2004, p 149). For example, when individuals who are generally committed to freedom over order receive both frames, they revert to their general (freedom) principal and support allowing the rally. Sniderman and Theriault (2004) conclude "when citizens can hear the clash of political argument the positions they take on specific issues are markedly more likely to be grounded in their underlying principles" (p. 26). Drawing from this, the prediction is therefore made, that when a counter frame invokes a biospheric value, it will have a stronger mitigating effect on the social legitimacy judgements of individuals who attach higher level of importance to that value, compared to individuals who attach a lower level of importance to the value. This effect can also be expected for the reframes that invoke an altruistic or egoistic value. These expectations lead to the following set of hypotheses:

Hypothesis 4

H4a: The mitigating effect of a biospheric value frame in support of an operation on individuals' social legitimacy judgements will be stronger for individuals who attach a high level of importance to biospheric value, than for individuals who attach a low level of importance to the value.

H4b: The mitigating effect of an altruistic value frame in support of an operation on individuals' social legitimacy judgements will be stronger for individuals who attach a high level of importance to altruistic value, than for individuals who attach a low level of importance to the value.

H4c The mitigating effect of an egoistic value frame in support of an operation will be stronger on individuals' social legitimacy judgements for individuals who attach a high level of importance to egoistic value, than when individuals attach a low level of importance to the value.

Research in political communication and persuasion literatures indicate that the strength of counter frame effects on peoples' attitudes is impacted by their perceived credibility of a frame source, i.e., organisations when they are the source of an environmental value frame (Chong and Druckman 2007). Organisational credibility as it is understood in legitimacy theory is discussed next.

3.9.1.9 Organisational Credibility in Defence of Challenged Operation

Organisations are typically viewed as the sources of reaction to value challenges over their operations, and, organisations need “a credible collective account or rationale” in such instances (Suchman 1995 p. 575).

Elsbach (1994 p. 65) asserts that references to institutionalised structures and programs and “institutional characteristics” in reactive communications improves credibility of organisations and supports their claims.

... references to institutional characteristics may have been used to improve the credibility of spokespersons and thus increase the believability of their accounts (Elsbach and Sutton, 1992) (Elsbach 1994, p. 66). Second, references to widely institutionalized structures and programs may have been a form of social proof that an organization was credible and rational (Elsbach 1994, p. 74).

Besides such structures and procedures, scholars, convey the notion that organisations can be judged as credible by building up a record of legitimate behaviour (Ashforth and Gibbs 1990, Suchman 1995). According to Ashforth and Gibbs (1990) reputation of the organisation is important to the credibility of these reactions. As Ashforth and Gibbs (1990, p. 189) indicate, “a good reputation ... provides leverage or slack for defending against challenges to legitimacy”. They indicate that individuals “tend to discount such practices [protests] when the organization's reputation is not strong and the purpose is apparent.” The protestor's readily apparent vested interests and lack of a strong reputation jointly undermine the protest's credibility (McGuire 1985).

Ashforth and Gibbs convey this notion of a reputation for behaving legitimately, in essence, there can be a reputation for acting in a manner considered right and appropriate. Suchman (1995) also refers to this reputation for legitimacy, as “past accomplishments”

“organizations may seek to buttress the legitimacy they have already acquired. In particular, organizations can enhance their security by converting legitimacy from episodic to continual forms” (Suchman 1995, p. 595).

Organisations can do this by displaying “evidence of ongoing performance” Ashforth and Gibbs (1990, p. 183) with respect to the interests of constituents, i.e., evidence that means of operation are in conformity with social norms and values (social legitimacy) (Ashforth and Gibbs 1990). This evidence entails periodic assurances of “business-as-usual and other “warm signals.” (Ashforth and Gibbs 1990, p. 183). Essentially using subtle legitimation techniques, to develop a defensive stockpile of supportive beliefs, attitudes, and accounts” (Suchman 1995, p. 595). This is a type of reputation.

3.9.1.10 Hypothesis 5: Organisational Credibility in Disputed Issue

But organisational legitimacy theory does not address the particular reputation attributes that successfully influence individual attitudes with respect to environmental disputes (Lindskold 1978, Goldberg and Hartwick 1990, Fombrun and van Riel 1997, Goldberg and Hartwick 1990, Lafferty 2007, Goldsmith et al. 2000). These attributes are introduced next.

Drawing from the marketing literature on company credibility, they are the extent to which the company is perceived as possessing *expertise* relevant to the communication topic and can be *trusted* to give an objective opinion on the subject (Goldsmith et al. 2000). It is management's or the company's perceived trustworthiness and competence (expertness) in the disclosures it makes about the issue at stake in the environmental dispute (c.f. Mercer 2004, p. 186, Mercer 2005, p. 724).

According to Fombrun (1996), this company credibility is one dimension of corporate reputation and represents the degree to which consumers, investors, and other constituents believe in the company's trustworthiness and expertise (Lafferty 2007). A distinction should be made between credibility and reputation, reputation, is much broader in scope and includes, but is not limited to, the dimensions of expertise and trustworthiness (Goldsmith et al. 2000). Company credibility is the perceived expertise and trustworthiness or truthfulness of a firm (Newell and Goldsmith 2001). According to Jahdi and Acikdilli (2009, p. 109) “a more credible source might be an organisation that is well known for its CSR reputation.”

Trust concerns the confident expectation, based upon the other party's goodwill, that one's interests will be protected (Swift 2001). It is confidence in another party's reliability and integrity, in their benevolence. It is confidence in their reliability to act in a socially and environmentally responsible manner, their honesty, sincerity and goodwill with respect to their claims of environmental responsibility.

In terms of trust of a company source, it is typically developed by past actions and experience (Goldberg and Hartwick 1990), in other words, a reputation for source credibility may be developed, it evolves based on the communicator's past performance or reputation (Lindskold 1978, Goldberg and Hartwick 1990). In order to develop trust the company must establish a pattern of and a reputation for trustworthy behaviour (Swift 2001). Corporate reputation is stakeholder expectations that the organisation will act in a socially responsible manner (Swift 2001).

However, organisation's management cannot be trusted to provide information which may best serve the interests of stakeholders and the ecosphere because they will inevitably resort to opportunism to promote the organisation's best interests, i.e. those of management or shareholders (Swift 2001, p. 22). So there are situations when management might be tempted to appear responsible in their environmental disclosures (c.f. Williams 1996) [when in fact they are not]. If a company consistently provides disclosures in which it claims it will act in an environmentally responsible manner and external information (newspaper reports, Environment Agency disclosures] always contradicts this, the trustworthiness of companies in their environmental disclosures will be questioned (Williams 1996, Mercer 2004). On the other hand, belief that the company will act with integrity develops when external

information consistently corroborates the claims of environmental responsibility in its disclosures.

Expertise is “the extent to which a communicator is perceived to be a source of valid assertions” (Hovland et al. 1953, p. 21). It refers to the communicator’s qualifications, knowledge or ability to know the truth about a topic (Metzger et al. 2003). It is derived from knowledge of the subject. The skill and experience necessary (expertise)

Disclosure competence reflects stakeholder’ assessment of managers’ ability with respect to targets about environmental performance/emissions. A reputation for accurate environmental disclosures can develop. If managers have a past disclosure record containing claims that they will act in a responsible manner, the public can assess management disclosure accuracy relative to the closeness of these claims to actual performance (Mercer 2004, Williams 1996). Managers who have a record of consistently meeting their environmental performance targets are likely be viewed as more competent (Mercer 2004, Williams 1996).

The political communication research demonstrates that the strength of counter frames’ effects on individual judgements will be moderated by credibility of their sources (Druckman 2001). According to this literature, only frame sources that are perceived as credible can engage in successful framing (Druckman 2001, Chong and Druckman 2007a) in this respect, source credibility is a prerequisite for the success of frames in influencing individual judgement. In other words, a frame is only successful if the audience believe the source to be credible (Druckman, 2001b).

When a counter frame from a credible source is paired with frame from an equally credible source, research demonstrates that both frames will cancel each other out (Sniderman and Theriault, 2004; Chong and Druckman, 2007). But the impact of a counter frame with no credibility is overwhelmed when paired with a credible frame (Chong and Druckman, 2007), “because people delegate, to credible sources”. In competition, a credible frame “swamps” a frame with no credibility (Chong and Druckman, 2007). In competitive contexts, frames with no credibility have less of an effect and are dominated by credible frames (Chong and Druckman, 2007).

According to the research, this occurs because people turn to frames for guidance, and they are selective about which frames they believe (Druckman, 2001). Rather than being manipulated by whichever frame they read, people tend to delegate to credible sources to help them sort through the many possible frames (Druckman, 2001b, p. 244). They only believe frames that come from sources that they perceive to be credible.

The marketing literature on company credibility maintains that highly credible organisational source in the issue at hand is more effective than a less credible source (Lafferty and Goldsmith 1999) in influencing peoples' judgements, it has a stronger effect on judgement, than a low credibility source (Lafferty and Goldsmith 1999, Lafferty 2007). Expert and/or trustworthy sources are more persuasive than sources who have less expertise or trustworthiness (Lafferty and Goldsmith 1999). Company credibility should influence stakeholders' opinions. Regarding CSR communication, source "credibility" and "reliability" are major requirement "for CSR message acceptance and communications effectiveness" (Jahdi and Acikdilli 2009, p. 111). In order for a company to persuade, it needs to possess the dimensions of source credibility (Jahdi and Acikdilli 2009). According to (Druckman 2001), source credibility moderates the effect of framing on opinion.

Guided by marketing literature on organisational source credibility and the framing literature, it is argued that when a reframe or counter fame from the organisation invoking the value bases of environmental concern (biospheric, altruistic and egoistic) is reproduced in the news media, the organisation's level of expertise and trust in the disputed issue, will moderate the effect of the reframe or counter frame on individual social legitimacy judgements. This expectation leads to Hypothesis 5:

Hypothesis 5

H5a: The mitigating effect of a biospheric value frame in support of an operation on individuals' social legitimacy judgements will be stronger when the organisation transmitting the frame has high trust and expertise in the disputed issue, whereas, the mitigating effect will be weaker when the organisation has low trust and expertise in the issue.

H5b: The mitigating effect of an altruistic value frame in support of an operation on individuals' social legitimacy judgements will be stronger when the organisation transmitting the frame has high trust and expertise in the disputed issue, whereas, the mitigating effect will be weaker when the organisation has low trust and expertise in the issue.

H5c: The mitigating effect of an egoistic value frame in support of an operation on individuals' social legitimacy judgements will be stronger when the organisation transmitting the frame has high trust and expertise in the disputed issue, whereas, the mitigating effect will be weaker when the organisation has low trust and expertise in the issue.

3.9.1.11 Legitimacy Judgement and Behaviour

According to the limited work on the cognitive perspective of legitimation, peoples' legitimacy judgement of an organisation is assumed to guide their behaviour towards it (Hybels, 1995). The public as an external constituency control resources crucial to an organisation's establishment, growth and survival (Hybels, 1995; Elsbach, 2003). This represents many important types of support behaviour: they buy goods, supply labour and affect legislation via lobbying (Hybels, 1995). When the public form judgments of legitimacy, the judgement guides behaviour towards an organisation (Hybels 1995), tolerance, or active support of the organization (Bitektine 2011, Hybels 1995, Handelman and Arnold 1999). If a judgement of illegitimacy, this can take the form of sanctions, The public renders a judgment as to whether organisational operations are legitimate, and hence should be encouraged (or at least tolerated), or are unacceptable (Aldrich and Fiol 1994, Meyer and Rowan 1977, Suchman 1995, Bitektine 2011).

An aspect of sanctions are community boycotts, local opposition gives way to legal and political opposition to an organisation's local means of operation, so this support is crucial (Handelman and Arnold 1999). Moreover, the public affect legislation and regulation directly through lobbying and indirectly through influence on voters (Hybels 1995) They judge the legitimacy of organisations they encounter and this judgement guides their behaviour (supply of resources) (Hybels 1995).

In psychology research, it has long been demonstrated that peoples' attitudes and judgements guide their behaviour (Petty et al. 2002, Eagly and Kulesa 1997). In

particular, peoples' judgements along a moral/ethical dimension have been found to guide their behaviour (Reidenbach and Robin 1990). Given the foregoing predictions of the influence of environmental value frames on social legitimacy judgement, it is predicted that they indirectly influence people' behaviour towards the operation. This is discussed next.

3.9.1.12 Hypotheses 6 and 7: Environmental Value Frames and Behavioural Intent

According to the persuasion literature, a person's attitude is an important mediating variable between exposure to information on the one hand, and behavioural change, on the other (Petty et al. 2002). Attitudes are predictors of behaviour. Based on the persuasion research, judgements have a causal role in relation to behaviour (Eagly and Kulesa 1997). They influence individuals to engage in behaviours. Influencing peoples' judgements of some attitude object, to influence their behaviour towards it (Petty et al. 2002). Once a person has made a judgement of some object, this new judgement, under limited circumstances, guides their action (Petty et al. 2002). Individuals' attitudes or judgments about an issue influence their behavioural intentions, which in turn influence their subsequent behaviour (Ajzen and Fishbein 1980, Fishbein and Ajzen 1975, Bass et al. 1999). In many marketing studies, judgements have been found to be predictive of behavioural intentions to purchase products.

Previous research shows that individuals' judgments along a moral/ethical dimension are strongly predictive of their behavioural intentions regarding ethical issues (Hunt and Vitell 1986). Whether the consequences of the behaviour will have positive or negative consequences for the things that they value.

An individual's behavioural intention is "the expressed likelihood that he or she will engage in a particular action" (Hunt and Vitell 1986). The formation of intentions is a component of several ethical decision-making models (Hunt and Vitell 1986, Cherry 2006, Barnett 2001, Bass et al. 1999, Dabholkar and Kellaris 1992). Intent is also posited as the strongest predictor of behaviour in the theory of planned behaviour (Ajzen 1991).

Therefore, it is predicted that when environmental value frames of an organisational operation, are reproduced in media communication, they will influence individual

behavioural intention towards an organisational operation, via their influence on individuals' social legitimacy judgements of the operation. Because the model includes frames that take an oppositional position and a counter or reframe of this, these frames are predicted to produce significantly unfavourable or favourable judgement, so the frames will have different effects on behavioural intention.

The frame that takes an oppositional position is predicted to have a positive influence on individuals' intention to oppose an operation, via its effect on individual's social legitimacy judgement of the operation. This expectation is presented in Hypothesis 6:

Hypothesis 6

The positive influence of an environmental value frame in opposition to an operation on individual intention to oppose the operation will be mediated by individual social legitimacy judgement.

Consistent with this research, reframes/counter frames in disputes, i.e., the support frames which invoke either biospheric, altruistic, or egoistic values are predicated to have a mitigating effect on an individual's intention to oppose the operation, via their mitigating effect on an individual's social legitimacy judgement of the operation. This expectation is presented in Hypothesis 7.

Hypothesis 7

H7a: The mitigating effect of a biospheric value frame in support of an operation on individual intention to oppose the operation will be mediated by individual social legitimacy judgement of the operation.

H7b: The mitigating effect of an altruistic value frame in support of an operation on individual intention to oppose the operation will be mediated by individual social legitimacy judgement of the operation.

H7c: The mitigating effect of an egoistic value frame in support of an operation on individual intention to oppose the operation will be mediated by individual social legitimacy judgement of the operation.

3.10 Conclusion

In summation of this chapter, perspectives from organisational legitimacy theory, political communication, persuasion and attitude change, financial disclosure and marketing were integrated.

According to the institutional perspective of legitimacy theory, organisations responses to challenged means of operation appear in news media reports (Beelitz and Merkl-Davies 2012, Elsbach and Sutton 1992, Allen and Caillouet 1994). The organisational legitimacy literature has focused on collective legitimacy judgement and therefore information attributes of news media reports that affect individual legitimacy judgements has not been addressed. According to the political communication literature, value frames in news media are an information attribute that affects individual judgements (Gamson and Modigliani 1989, Nelson and Kinder 1996, Brewer 2003). Because of its focus on collective judgement, the meaning or content of frames in news media that affect individual social legitimacy judgements have not been addressed (Deegan et al. 2002, Deephouse and Carter 2005, Pollock and Rindova 2003, Neu et al. 1998). Drawing from perspectives in political communication on social disputes (Brewer 2001, Brewer 2002, Brewer 2003, Brewer and Gross 2005, Shen and Edwards 2005), frames that affect individual legitimacy judgements were identified and defined, and are referred to as environmental value frames (Lange 1993, Eagly and Kulesa 1997). Because these frames invoke common environmental values, they were predicted to influence individual social legitimacy – as it is an individual’s judgement along an ethical or moral dimension (Tost 2011, Bitektine 2011) Particular values bases of environmental concern invoked by these frames and held by individuals were categorised as: altruistic, biospheric and egoistic (Eagly and Kulesa 1997).

The predicted relationship between these environmental value frames in an environmental dispute and social individual legitimacy judgements was explicated (Hybels 1995, Tost 2011, Bitektine 2011). Drawing from the political communication research on social disputes, frame positions in an environmental dispute were made clear and it was predicted that opposition frame will negatively influence individuals’

social legitimacy judgments. Relying on this research 're frames' or 'counter frames' to opposition frames were proposed as information attributes of organisational responses that are expected to significantly mitigate individual social legitimacy judgements.

The strength of these frames' effects on individual judgements was predicted to be moderated by key variables: environmental concern and company credibility. In relation to environmental concern, the level of importance that individuals attach to the value bases of environmental concern was proposed to moderate the strength of the influence of an opposition and support environmental value frame. Drawing from the marketing literature (Goldberg and Hartwick 1990, Lafferty 2007) and financial disclosure literature (Williams 1996, Mercer 2004), the concept of company credibility in an environmental dispute was developed and was predicted to moderate the effect of organisations' support frames. In the following chapter, philosophical assumptions underlying this conceptual model and the method adopted to test the model will be discussed.

Chapter Four

Methodology

4.1 Introduction

In this chapter, philosophical assumptions which underlie the thesis will be made clear. In Section 4.2, positions on ontological (the way we perceive social reality), epistemological (the way we gather knowledge to understand the social world) and human nature, assumptions underlying the study will be outlined. Given the particular positions of the study regarding these assumptions, the role of the researcher is made clear in Section 4.2.4. These particular philosophical positions and how they relate to the overall aim of this study is outlined in Section 4.2.5. Implications of these assumptions for the methodological approach adopted by the study are discussed in Section 4.2.6.

Subsequently, the array of various research methods under this approach for testing of the hypotheses of the conceptual model is discussed in Section 4.3. Appropriateness of these methods for the study is assessed in terms of internal validity and external validity considerations in Section 4.4. The experimental method is chosen and is explained in Section 4.4. Logic, basic components and design elements of experiments are outlined in Section 4.5. The remainder of the chapter discusses the experimental design and set up for testing the hypotheses of the study.

The particular design of the experiment is outlined in Section 4.6. Operationalization of environmental value frames is discussed in 4.6.4, and company credibility in Section 4.6.5. Degree of individual concern for the environment in Section 4.6.6. Operationalization of the dependent variables and the scenario is explained in Sections 4.7 and 4.8 respectively. Manipulation checks and control variables are discussed in Sections 4.9 and 4.10. The experimental material and procedure employed is delineated in Section 4.11. In Section 4.14, recruitment of participants, participant numbers and random assignment is addressed. Finally, ethical considerations of the experiment are discussed in Section 4.16.

4.2 Philosophical Assumptions of the Research

It is important for researchers to clearly recognise fundamental assumptions that underlie their research, and to consider whether alternative research approaches are more appropriate. This is because all social scientists approach their subject via implicit assumptions about the nature of social reality and the way in which it is investigated (Burrell and Morgan 1979, p. 1). Such assumptions about social reality and investigations of it, entail philosophical assumptions about the way we make sense of the world. When undertaking any organisational (including accounting) research, it is essential to consider the nature of these assumptions that underlie the particular approach adopted for the research (Johnson and Duberley 2000, p. 9).

These philosophical assumptions are broadly categorised along types of assumptions – ontological (the way we see the world) and epistemological (the way we gather knowledge) and assumptions about human nature. In explicitly making clear the particular positions taken on this set of assumptions, their implications for the methodology of the research will be explicated. This is important, as methodology has implications for the particular branch of research methods that are available to the researcher (Ryan et al. 2002). In outlining the positions taken, Burrell and Morgan's (1979) categorisation of these social philosophical assumptions along 'subjective – objective dimensions, will be employed. These represent broad distinct standpoints regarding researchers' assumptions about the nature of social reality and the way in which it is investigated. An 'objective' standpoint characterises the social world as hard, real and external to the researcher, whereas the 'subjective' standpoint concentrates on the subjective experience of the researcher in the creation of the social world. See Figure 4.1 for a representation of these set of assumptions along Burrell and Morgan's (1979) subjective-objective dimensions. Each assumption will be outlined, and the position taken (objective or subjective) in this study will be outlined.

Figure 4.1
Subjective-Objective Dimension

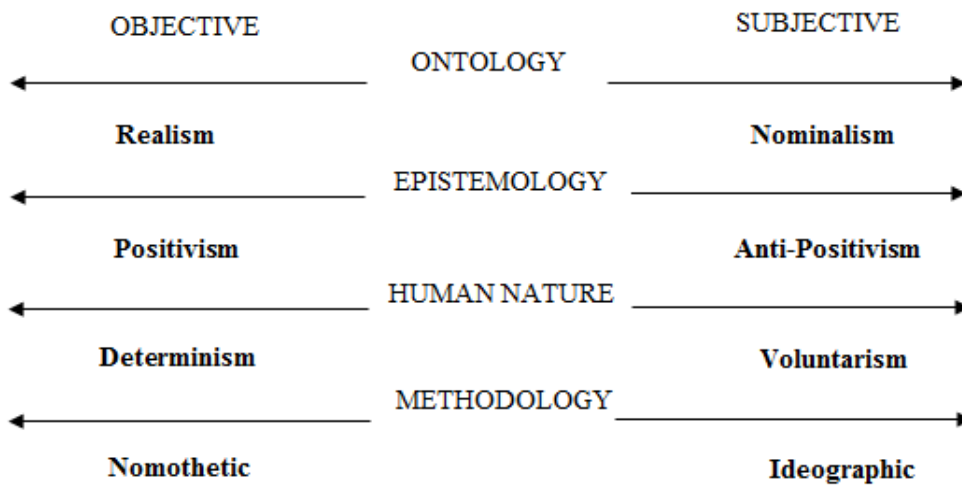


Figure 4.1 Burrell and Morgan's subjective-objective dimension, adapted from Johnson and Duberley, 2000, p. 78

4.2.1 Ontological Assumptions

Ontological assumptions are concerned with what we discern to be ‘real’ (Ryan et al. 2002), “the very essence of phenomena under investigation” (Burrell and Morgan 1979, p. 1). Applying Burrell and Morgan’s (1979) subjective-objective dimensions, reality is either of an “objective nature” - a given out there in the world, external to our minds, or of a subjective nature: a product of one’s mind or consciousness” Ontological assumptions of a subjective nature are nominalist, and along an objectivist dimension are realist (Burrell and Morgan 1979, Johnson and Duberley 2000).

A nominalist position on ontology (subjectivist dimension) assumes that reality is an output of human cognitive processes (Johnson and Duberley 2000, p. 180), in other words, reality is simply a product of our minds - a projection of our consciousness and cognition. Because of this, reality cannot exist separately from human cognition (Johnson and Eagly 1989, p. 78). Following this view, there is no real structure to the social world, merely names, concepts, and labels, used by humans, to structure reality (Burrell and Morgan 1979, p. 4). Such names are merely tools used to decipher, and make sense of the social world.

4.2.1.1 Realist Position on Ontology

On the other hand, realist position on ontology (objectivist dimension) views reality as existing outside of human cognition, the social world comprises hard, tangible, objective structures. Like the natural world, it has an existence which is tangible and real. In this sense, reality subsists within objects (Ryan et al. 2002). Individuals are born into and exist within this social world (Burrell and Morgan 1979, p. 4). Objects in the social world have their own reality independent of individuals' perception of them. Applying names, concepts, or labels to them makes no difference to their indelible nature. When we describe it, it has a reality which is independent of our perception of it (Ryan et al. 2002). Such a world gives rise to a belief in relationships and causality between the tangible objects of perception.

It is this realist position on ontology (the nature of social reality) which underlies the theoretical perspective of this study. Essentially legitimacy theory and the cognitive underpinnings of (de)legitimation are based on an assumptions that organisations and the environments that they operate in, have a reality independent of human consciousness and cognitions (Johnson and Duberley 2000). Following this belief, human actors and organisations are viewed as passive, as machines or biological organisms. They are like inanimate objects, existing in a social world of other hard, tangible objects, and their actions and behaviour is caused by other objects in the environment (Johnson and Duberley 2000, Burrell and Morgan 1979). Next, epistemology will be explained.

4.2.2 Epistemological Assumptions

This entails an assumption about how we investigate social reality, given the [ontological] assumptions we make about it (Burrell and Morgan 1979, Johnson and Duberley 2000). It is concerned with how we can acquire knowledge, particularly, the acquisition of social scientific knowledge (Ryan et al. 2002). It has a focus about the nature of knowledge itself (Johnson and Duberley 2000, Burrell and Morgan 1979) – that is the criteria by which we can know what does and what does not constitute warranted, or scientific, knowledge (Johnson and Duberley 2000). Plato defined it as *justified true belief*.

Applying Burrell and Morgan's (1979) subjective-objective dimensions, a positivist position on epistemology reflects the objective dimension, and an anti-positivist

position on epistemology reflects the subjective dimension (Burrell and Morgan 1979, Johnson and Duberley 2000). The anti-positivist view on epistemology (subjectivist) views the social world as “essentially relativistic” and can only be understood from the point of view of the individuals who are directly involved in the activities which are to be studied” (Burrell and Morgan 1979, p. 5)

4.2.2.1 Positivist Position on Epistemology

The positivist position on epistemology (objectivist) seeks to explain and predict the occurrences of the hard, tangible objects that comprise the social world, “by searching for regularities and causal relationships between its constituent elements” (Burrell and Morgan 1979, p. 5). Given the realist position of the study, it follows that it takes a positivist position on epistemology. It seeks to explain and predict human legitimacy judgement and behaviour.

The aim of such an approach is to generate laws which govern the ways in which these objects of the social world operate (Johnson and Duberley 2000, p. 40). These laws are based on explanation and prediction. The generation of these causal laws with their predictive property is at the core of this view (Johnson and Duberley 2000). Positivists typically regard explanation as a process of discovering the necessary law-like generalisations that cover the singular instance to be explained (Ryan et al. 2002).

Because this is a social world of causal relations between tangible elements, there is a view that knowledge is gathered by observation.

It is held that this can be done with ‘theory-neutral’ observational language (Johnson and Duberley 2000, p. 180). Observation of the empirical world is done through the accumulation of “objective sense-data” (Johnson and Duberley 2000, p. 78). Guided by this view, social interactions are studied in the same manner as physical elements – as a network of causal relations linking aspects of behaviour to context and stimuli in the external environment and thus conditioning human actors to behave in a certain way. Meaningful statements with regard to social interactions, and aspects of human behaviour are only those which can, in principle at least, be verified by observation (Ryan et al. 2002). Essentially this entails causal theories of behaviour, human actors are akin to machines; they are entirely a product of their environment, thus responding

in a deterministic way to the external conditions (stimuli) that they are exposed to (Burrell and Morgan 1979, p. 102).

Popper made a major contribution to this epistemological position: deduction and falsification, which is known as the hypothetico-deductive method. Popper proposed, a critical attitude should be taken to these law like generalizations - predictions and explanations of human actors and their behaviour, because research can never produce definitive explanations about these operations in the social world (Johnson and Eagly 1989)

In this sense, deduction proceeds from general laws to the particular. This is essentially looking for evidence to disprove (falsify) the theory, so the goal of research is to eliminate as many alternative explanations (de Vaus 2001) There must be a willingness to change laws and theories to test them, to refute them, to falsify them (Johnson and Duberley 2000) This is the process whereby predictive and thereby testable hypotheses are deducted from theoretical conjectures (a priori assumptions) [general laws] and subjected to confrontation with a cognitively accessible world (Johnson and Duberley 2000).

As de Vaus (2001, p. 15) notes “a sceptical approach” should be employed with respect to explanations. We should anticipate rival explanations and collect data to enable the winnowing out of the weaker explanations and the identification of which alternative theories make most empirical sense.” (de Vaus 2001, p. 15). In this way theories are only survive to the extent that they have not been falsified. This is like a survival of the fittest theory. Given the view of human actors as hard inanimate objects, this implies a certain view of human nature. This view is discussed next.

4.2.3 Assumptions of Human Nature

Two distinct views exist with respect to how humans are viewed. Applying the subjective-objective dimensions (see Figure 4.1), a voluntaristic position on human nature reflects the subjectivist dimension, and a deterministic position on human nature reflects the objectivist dimension. A voluntaristic position on human nature (subjectivist) holds that human action is completely voluntary and free willed, so it is the outcome of culturally derived meanings they have utilised during sense-making. On the other hand, a deterministic position on human nature (objectivist) holds that

human behaviour is determined by their responses to external stimuli, the situation or the environment that they are in (Burrell and Morgan 1979, Johnson and Duberley 2000).

4.2.3.1 Determinism

Given the foregoing ontological and epistemological positions underlying the theory of this study, a view of human nature that accords more to the deterministic position than voluntary position is taken. From this perspective, human behaviour is determined by the situation – as necessary responses to external stimuli (Johnson and Duberley 2000, p. 78) Determinism prevails, with human behaviour reduced to the product of external forces of the environment (Johnson and Duberley 2000, p. 40). When behaviour is viewed in these terms, the aim is to establish causal laws, - the effects of external stimuli on individual behaviour.

Reflecting the fact that humans do differ to inanimate objects, de Vaus (2001) notes that a more moderate view is taken to a view of pure determinism, maintaining that “human behaviour is complex, it has subjective, meaningful and voluntaristic aspects to it”, therefore most causal statements in relation to humans can never be completely deterministic, rather they can only ever be will be contingent or probabilistic (Johnson and Duberley 2000).

This reflects the position on causal thinking in the social sciences, human behaviour is probabilistic rather than deterministic (de Vaus 2001), in other words a given (external) factor will increase the likelihood of a given outcome, but there can never be complete certainty about the outcomes (de Vaus 2001, p. 5). Probabilistic explanations can be improved by specifying conditions under which X is less or more likely to affect Y (de Vaus 2001), but we can never achieve complete or deterministic explanations (de Vaus 2001).

4.2.4 Role of the Researcher

Taking a predominantly objectivist position on ontological, epistemological, and human nature assumptions, has implications for the role of the researcher. Given this position, the role of the researcher is as detached controller and observer, examining the impact of stimuli on effect (Johnson and Duberley 2000, p. 57). Researchers are assumed to be “value-neutral”, “capable of discovering the “truth” about the world” (Johnson and Duberley 2000, p. 181). They are independent of what is being

observed, therefore it is maintained that as observers they can stand back and observe the world objectively (Johnson and Duberley 2000, p. 39)

4.2.5 Philosophical Assumptions and Objective of the Study

Organisational legitimacy theory as a theoretical explanation of environmental disclosure, reflects the foregoing positions along the objective dimension with respect to ontology, epistemology and human nature. In other words, it essentially reflects a positivist approach in seeking to describe and explain organisations' environmental disclosure practice (Gray et al. 1996). Within the sphere of social accounting research (of which environmental disclosure is a part), the theories [including organisational legitimacy] are essentially functionalist – constructed from analogies from the biological and natural world (Burrell and Morgan 1979).

This is because, environmental disclosure is seen as a subset of an organisations' wider accounting disclosures, and “functionalism is the predominant category of traditional accounting research”; it is “philosophically objectivist, positivist, deterministic and nomothetic” (Dillard 2007, p. 39).

Indeed the early theory building of organisational legitimacy scholars: Parsons (1960) and Dowling and Pfeffer (1975) is rooted in the ‘structural functionalism’ approach to theory development in social sciences, whereby biological analogies inform sociological thought. In particular Parson’s work on the social system (upon which organisational legitimacy is based), is informed by use of the “biological and physical world as source of analogies” (Burrell and Morgan 1979, p. 102) for viewing the social world, and as a source for the hypotheses (Burrell and Morgan 1979, p. 102). Based on these underlying assumptions, studies employing legitimacy explanations of environmental disclosures frequently incorporate hypotheses or propositions (Aerts and Cormier 2009, Brown and Deegan 1998).

Scholars have noted the importance and relevance of this functionalist research with its realist and positivist underpinnings to the agenda of advancing the design and development of accounting disclosures on normative grounds. As Cooper (1981, p. 198) noted “...only through a well-grounded understanding of how systems operate can we prescribe how accounting systems should be changed”. This had led to calls for “greater descriptive understanding of the functioning of current accounting practices” in the expectation that this research “would lead to the design of more

meaningful and appropriate normative systems” (Laughlin 1995, p. 63). Therefore scholars have long argued for the merit of description of accounting, so that “the effects of accounting on society (and vice versa)” can be understood, “and for increased understanding of the relationships between accounting, the accounting profession and the institutions in society” (Cooper and Sherer 1984, p. 220).

As Cooper and Sherer (1984, p. 207) note, the intention of taking a functionalist approach is “to understand how accounting systems operate in their social, political and economic context in order that "better" accounting systems might eventually be designed.”

This study with its functionalist approach, is driven by this objective: it does so for these normative reasons, to gain further understanding of the operation of environmental disclosures that organisations provide via the various disclosure media (e.g., corporate reports, brochures, press releases, news media articles) (Tilt 2004, Zeghal and Ahmed 1990). This is contemporaneously important, as scholars continue to call attention to the fact that many aspects of their operation remain unknown in particular the effects of disclosures (Deegan 2007, Deegan et al. 2002): if they are successful in influencing social legitimacy judgement with respect to challenged means of operation. Knowing when organisations are successful at influencing judgement in such an instance, is important from a public policy perspective, because successful public disclosures may ensure continued support and tolerance for operations which are potentially damaging the environment, thereby enabling organisations to proceed with activities that may be negatively contributing to social welfare, and the ecosphere (Deegan 2002, Cooper and Sherer 1984, Unerman et al. 2007). In this respect, social progress and environmental protection could be hindered by ‘legitimising’ disclosures (Puxty 1991). Studies adopting a functionalist approach to understanding environmental disclosure are important, in highlighting such inequalities, and provide the necessary grounds for prescriptions about how they should be changed. This functionalist commitment, with its normative objective, necessarily has implications for the methodological approach adopted, this will be discussed next.

4.2.6 Methodological Assumptions of the Study

These objectivist ontological, epistemological and human nature positions of the study, have “direct implications of a methodological nature” (Burrell and Morgan 1979, p. 2). Applying the subjective-objective dimensions in Figure 4.1, a ‘nomothetic’ position on methodology comes under the objectivist dimension, and an ideographic position on methodology lies under the subjectivist dimension (Burrell and Morgan 1979, Johnson and Duberley 2000). Methodologies which treat the social world like the natural world tend to be characterised as nomothetic, and others which view it as being, intangible, personal and of a subjective quality, are of an ideographic nature. From an ideographic standpoint (subjectivist), one attempts to understand the social world by “to uncover the internal logics that underpin human behaviour through deploying methods that access cultures”, (Johnson and Duberley 2000, p. 78) “getting inside situations and involving oneself in the everyday flow of life” (Burrell and Morgan 1979, p. 6). Within the realm of the ideographic approach to social science, qualitative methods to collecting research are there, including participant observation, unstructured interviewing, case studies and focus groups.

4.2.6.1 Nomothetic Approach to Methodology

The “nomothetic” approach (objectivist) concentrates on basing research upon systematic protocol and technique, it applies protocols and procedures that are used in the natural sciences. It has a focus on testing of hypotheses, with the use of quantitative techniques for the analysis of data. Nomothetic methodology comprises many research tools, including questionnaires, experiments and archive methods. Given the ontological, epistemological and human nature positions underlying the theoretical perspective of this study, it follows that a nomothetic approach to methodology is taken.

4.3 Quantitative Methods

The different quantitative methods that underlie this methodological approach are briefly discussed.

4.3.1 Surveys

A survey is a technique used to collect data during a highly structured interview – sometimes with a human interviewer and other times without (Cooper and Schindler 2006, p. 245). It encapsulates different communication media – face-to-face interviews, mail, telephone, e-mail, and internet (Smith 2003). The most common employed of these: mail surveys and face-to-face interviews will be briefly explained.

4.3.1.1 Mail Surveys

The most common form of survey method is the mail questionnaire. These are measuring instruments that ask individuals to respond to a set of questions (Schwab 1999, p. 50). Typically questions ask for respondents to provide information about themselves, and so often they are self-report questionnaires (Schwab 1999). Questionnaires are quick, cheap and a straightforward method of obtaining information (McQueen and Knussen 2006, p. 16). Further, they do not require many facilities for their administration such as those required of other methods, such as laboratories, computers, support etc. (McQueen and Knussen 2006).

4.3.1.2 Face-to-face Interviews

With this method, people selected for the sample are interviewed in person by a trained interviewer.

4.3.1.3 Archival Research

Essentially this entails interpretations of primary data, and associated research approaches include fundamental analysis of accounting data and content analysis of narratives (Smith 2003). The sources used to generate research are based on historical documents, texts, journal articles, corporate annual reports, company disclosures, newspaper articles etc. (Cooper and Schindler 2006, Smith 2003).

All surveys can be characterised by their reliance on existing or natural differences in a sample, rather than active intervention by the researcher to produce change or to create differences (de Vaus 2001). In this sense, surveys compare across naturally occurring situations, focusing on the relationships between individual cases in these situations. This is normally executed at one point in time. Such comparison across situations is essentially ‘cross-sectional analysis’. This focus on relationship between

individual cases is different to examining differences between groups of cases – which is what experiments do (Schwab 1999, p. 121). The experimental method will be explained next.

4.3.2 Experiments

Experiments are studies involving intervention by the researcher beyond that required for measurement. The usual intervention is to manipulate some variable in a setting and observe how it affects the subjects⁹ being studied. Typically, the independent or explanatory variable is manipulated by the researcher and they observe whether this intervention has the hypothesised effect on the dependent variable (Cooper and Schindler 2006, p. 274). The aim is to establish a cause-effect relationship, the role of the researcher is as detached controller and observer, examining the impact of stimuli on effect (Johnson and Duberley 2000, p. 47).

4.4 Appropriate Method for the Study

Key criteria for evaluating the suitability of these quantitative methods – internal validity and external validity will be applied to assess the methods (Johnson and Duberley 2000) and the most suitable method for testing the hypotheses of the conceptual model is justified.

4.4.1 Internal Validity

Internal validity is concerned with whether or not the cause actually produces the effect. It is the extent to which valid conclusions can be drawn about the causal effects of one variable on another. Essentially, the confidence with which cause and effect conclusions can be made with respect to research results (Aronson et al. 1998, p. 129).

4.4.1.1 Surveys

Surveys, and related methods (mail surveys, face-to-face interviews, content analysis) can explore the associations between particular variables (Oppenheim 1992). They generally supply correlations, but correlations do not allow causal statements to be

⁹ Subjects are often used interchangeably with participants, *informants*, *respondents*, *subjects*, or *interviewees*. They are individuals who are selected to participate in a research study or who have volunteered to participate in a research study (Persuad, 2010).

made (Field and Hole 2003, p. 26), they are not causations (Johnson and Duberley 2000). A relationship obtained between two variables contributes little to causal understanding (Schwab 1999, p. 127). In this respect, surveys are not strong research designs for addressing causal direction. However, with strong theoretical basis, the direction of a causal relationship is often certain in surveys (Schwab 1999, p. 127). Statistical controls can be employed and if the correct information is obtained, it is possible gain convincing evidence to support cause-effect relationships, (McQueen and Knussen 2006, p. 16). Causal relationships are determined by using statistical controls (de Vaus 2001).

But an absence of ‘randomised control groups’ means there is considerable sample variance and the creation of post hoc comparison groups. There are obvious issues around sample size and sample type (de Vaus 2001). As Oppenheim (1992, p. 16) notes although surveys can be used to develop complex designs that employ controls, ultimately they can only uncover patterns of correlations, they can hardly ever prove causality.

4.4.1.2 Experiments

In contrast, experimental methods provide the clearest possibility of establishing cause-effect relationships (Johnson and Duberley 2000, p. 45). Their aim is to demonstrate that a particular experimental manipulation or intervention results in a particular outcome (McQueen and Knussen 2006, p.56). Essentially, they are concerned with discovering the causes of human behaviour - the basic mechanisms of human perception, cognition, motivation, emotion, and behaviour (Aronson et al. 1998, p. 106). To understand the causes of these psychological phenomena it is often necessary to conduct experimental rather than correlational (survey) studies (Aronson et al. 1998, p. 107).

This is because human behaviour is complex, with a whole array of factors having a bearing on any single human act. Human attitudes and behaviour will be guided by a great variety of contributing factors (McQueen and Knussen 2006). Such factors are “tangled up” in such a way that it is nearly impossible to isolate any cause-effect relationships (McQueen and Knussen 2006, p. 7), let alone confidently draw conclusions about such relationships. In this way they represent “noisy variables” and

impede the chances of isolating the effect of one variable upon another (Aronson et al. 1998, pp 105-106)

This is why a laboratory or controlled setting is essential, so that sufficient control can be exerted over the environment in which the process occurs, and restrict the many sources of variation among participants (McQueen and Knussen 2006, p. 7). The laboratory (or highly controlled setting) provides the sterility that enables observation of an event on the attitudes and behaviour of participants unencumbered by noisy or extraneous variables that could confound interpretation (Aronson et al. 1998, p. 106). It can “tease out pure, uncontaminated cause-and-effect relationships” (McQueen and Knussen 2006, p. 7)

But with this control there is a trade off with generalizability and external validity (Johnson and Duberley 2000, p. 46). Generally more internal validity comes at the expense of external validity

4.4.2 External Validity

This is the extent to which results from a study can be generalised beyond the particular study (de Vaus 2001). It entails the procedures used to generalise to other populations, times, conditions, and measures (Schwab 1999), and whether relationships between particular variables generalise beyond the specific situation studied (Schwab 1999).

4.4.2.1 Statistical Generalization

Although internal validity is not as strong in surveys as experimental methods, surveys typically have more realism which provides higher external validity (Smith 2003). Surveys and related methods rely heavily on statistical generalisation – randomly drawn representative samples is the mode of generalisations used in survey methods (De Vaus 2002). Probability theory is used to estimate the likelihood that the relationships observed in the sample will hold in the broader population from which the sample was drawn. Probability theory gives a degree of confidence of how likely these relationships reflect those in the wider population (De Vaus 2002).

Surveys employ probability sampling to obtain cases¹⁰ from the larger population (Schwab 1999, p. 89)

4.4.2.2 Generalisation

Experiments, on the other hand, lack representative samples, due to the fact that they demand more out of people, and they depend on active interventions, therefore they heavily rely on volunteers and samples available to the researcher (de Vaus 2001). Their concern is not with statistical generalisation, but with generalisation of causal relationships. With experiments, external validity is about whether an observed causal relationship generalises across persons, settings, and times (Cooper and Schindler 2006).

With a focus on the generalisation of cause-effect relationships, goal of experiments is to test a theory, rather than to establish external validity (Aronson et al. 1998, p. 133). In the testing of theory it is often necessary to construct a situation (active intervention) that is extremely artificial and low in mundane realism. As long as it triggers the same psychological processes as occur outside of the laboratory, however, it can be generalised to those real-life situations in which the same psychological processes occur (Aronson et al. 1998, p. 133).

Although the concern with experiments is to replicate the same psychological processes as occur outside a controlled setting, there is often a debate as to whether they should be low or high in mundane realism. Do participants normally read local media stories? Mundane realism is the extent to which events occurring in the research setting are likely to occur in the normal course of participants' lives, i.e., the real world (Aronson et al. 1998, p. 131).

When the aim of experiments is to elicit particular attitudinal responses (i.e., judgements) in participants, 'psychological realism', rather than mundane realism is of concern. In these experiments, participants recognise, recall, classify, or evaluate stimulus materials presented by the experimenter (Aronson et al. 1998, p. 109), this is in order to elicit meaningful judgemental and behavioural responses. The goal of such experiments is to test theory rather than to establish external validity. Therefore

¹⁰ Cases are the entities investigated in research, such as the individuals interacting with organisations (Schwab, 1999, p. 4).

the experiment is about 'psychological realism', rather than mundane realism (Aronson et al. 1998, p. 133). As Aronson et al. (1998, p 133) convey:

To test a theory it may be necessary to construct a situation that is extremely artificial and low in mundane realism. As long as it triggers the same psychological processes as occur outside of the laboratory, however, it can be generalized to those real-life situations in which the same psychological processes occur.

It is often assumed that all studies should be high in external validity, that is, it should be possible to generalise their results as much as possible across populations and settings and time (Aronson et al. 1998, p. 132), but as conveyed above, this is not relevant with respect to experiments eliciting attitudinal responses.

Given the focus of this study is to ascertain judgemental and behaviour responses to information attributes, from a review of the survey and experimental methods, the experiment is the most appropriate method to test such hypotheses. Although the experiment is the most suited, and adopted method for this study, it is not without its limitations.

4.4.3 Disadvantages of Experiments

Although strong in internal validity, and unconcerned with external validity (of the survey kind), experiments also have their disadvantages, they can result in "some very artificial situations and alien environments, so the resulting behaviour we observe in people may not be representative of how they would respond in a more natural setting" (Field and Hole 2003, p. 26). Further, experimental research is not well placed to uncovering explanations of the results, specifically the mechanisms by which one variable affects another, nor does the method allow us to obtain a full picture of the complexity of the factors driving the outcome (de Vaus 2001, p. 70). In addition, their emphasis on control places people out of their everyday contexts, and relevance to real life can be lost to the point where it becomes impossible to generalise from experimental findings to the real world (McQueen and Knussen 2006, p. 8). In addition, experiments do not take away all threats to internal validity (degree of confidence over cause-effect conclusions), many threats to internal validity exist, and not all of them can be reasonably controlled in an experiment (Schwab 1999)

But despite their drawbacks, the experimental method is the most appropriate research method for a study of this nature, i.e., it is based on the cognitive elements of social legitimation i.e., human social legitimacy judgements and behaviour. The hypotheses are based on the factors that drive these outcomes - information attributes in news media reports, and individual attitudes, and behavioural intention. In order to isolate the psychological process, a controlled experiment represents a more appropriate method for the study. In the next sections, basic components of experiments, and design elements will be discussed.

4.5. Experimental and Control Groups

The logic of making comparisons between groups is central to testing causal relationships (de Vaus 2001). “Causal inferences are drawn by comparing scores on a dependent variable across two or more groups of cases that experience different levels of an independent variable” (Schwab 1999, p. 96). In terms of groups, the basic design for an experiment, is one group that is exposed to an active intervention (the experimental or treatment group) and one group that is not exposed to the intervention, and serves as a comparison with the experimental group (the control group) (de Vaus 2001, McQueen and Knussen 2006).

4.5.1 Random Allocation of Participants to Groups

In the groups that are being compared, the aim is to ensure the groups are the same in all relevant aspects, except with regard to the intervention (independent variable). Researchers must be able to control (manipulate) levels of the independent variable(s) in experiments (Schwab 1999, p. 88). The researcher ensures that these conditions are identical except for the independent variable (the one believed to have a causal effect on people’s responses). (Aronson et al. 1998, p. 100).

There will be many individual differences among participants, and because there are many extraneous variables, (nuisance factors) such as the characteristics of the participants themselves (age, gender, education), which may also influence the dependent variable, and thus interfere with the influence of the treatment - manipulated independent variable¹¹. Participants are randomly allocated to the different levels or values of an independent variable(s) – these represent the active

¹¹ Often the terms ‘intervention’, ‘treatment’, ‘independent variable’, ‘groups’, ‘conditions’ are used interchangeably.

interventions. This randomisation procedure is considered the best approach for minimising such confounded effects (McQueen and Knussen 2006), and isolating the effect of the manipulated independent variable.

It is predicted on the notion that if we recruit participants from a population that is homogenous (generally there is equivalence in terms of individual characteristics), and draw from it a number of samples, then on any measures we take of the samples, we would expect groups to be the same (McQueen and Knussen 2006, p.57). So when the groups are exposed to an experimental treatment, any differences between these groups should be due to this treatment. The key to random allocation is that the any difference between the groups should be random rather than systematic (de Vaus 2001)

The best way to ensure this is random allocation of people to the different groups being compared at the start of an experiment. Any differences between groups should be random, and should not account for group differences in outcomes

4.5.2 Pre-test and Post-test Measures

Besides the manipulated independent variables, experiments also may contain pre-test and post-test measures. Post-test measures are administered to participants after the intervention (their exposure to the manipulated independent variable), and typically elicit their responses on the dependent variable. Pre-test measures are administered to participants before the intervention, and typically can elicit information about their personal characteristics.

As already discussed, the main aim of experimental designs is to maximise internal validity, which is to establish if the cause actually produces the effect (Johnson and Duberley 2000, p. 46). The combination of random assignment of participants from a homogenous population and a control group means that experiments have a high internal validity (Johnson and Duberley 2000), as these procedures increase the extent of confidence that the manipulated independent variable caused the particular outcome.

4.5.3 Experimental Design

For the particular experimental design employed in this study, it should be noted that when asking research questions that deal with causal process an appropriate research

design is absolutely essential (De Vaus 2002). Regardless of the design type, all experiments are subject to internal validity threats (Schwab 1999, p. 114). Whatever the particular design, they will always be tempered by constraints, and so compromises are always required (Schwab 1999, p. 113). Notwithstanding limitations on design, need for appropriate design is important if we wish to generalize from findings, such as drawing valid inferences from collected data in terms of causality (Oppenheim 1992). Given the discussion above about the basic components of an experiment, general elements of experimental design are discussed next, and the particular design features used in the experiment for this study made clear.

4.5.4 Basic Control Design

There are a number of basic designs which may be incorporated into experiments. For a study with one manipulated independent variable, two designs are possible. Firstly, a between-subjects design can be used, this is a design in which differences in scores are observed on the dependent variables across participants in two or more groups who have experienced different levels of the manipulated independent variable (Schwab 1999, p. 96). Participants, in these groups experience each level of the independent variable only once.

A within-subjects design (also known as repeated-measures designs) involves only one group of participants. In this design, each participant experiences each condition (level) of an independent variable with measurements of the dependent variable taken on each occasion. Comparisons are still made between groups, the difference being that the same participants appear in each condition or level (Schwab 1999, McQueen and Knussen 2006, Field and Hole 2003). In a sense the within-subjects design is longitudinal in that the dependent variable is measured more than once.

For a study with a combination of two or more manipulated independent variables, a factorial design is appropriate (Schwab 1999). In such a design, the effects of several variables or factors can be investigated on some outcome measure (McQueen and Knussen 2006). This permits us to look for possibility of interactions among the factors themselves (McQueen and Knussen 2006). An interaction effect occurs when the effect of one independent variable varies depending on the level of another independent variable. Different combinations of independent variable levels can be

examined to see how they work together to produce a unique effect. The direct effects (main effects) of the different independent variables can also be examined.

In factorial designs, all factors can be measured as between subjects or within subjects, or there can be a combination of these, i.e., an independent variable is between subjects and the other a within-subjects factor. In such instances, this is a mixed between-and within-subjects design (Seltman 2012, Pallant 2007)

4.6 Design of Experiment for the Study

Because the conceptual model contains three independent variables: environmental value frames, company credibility individual environmental concern, and an interaction between the variables is expected, a factorial design is employed in the experiment of the study. Pre-test and post-test measures are also incorporated into the design (see Appendices A-G). It will be described in more detail in the next sections.

4.6.1 Independent Variables

The experimental design measured the first independent variable: environmental value frames as a between-subjects variable with five different groups or manipulations ¹². The five manipulations of this variable are listed in Table 4.1.

Table 4.1 Environmental Value Frame Manipulations

Number	Manipulation
1	No frame
2	"Opposition Frame" = Environmental values (biospheric, altruistic, and egoistic values) frame in opposition to company's means of operation
3	Opposition Frame + Biospheric value frame in support of company's operation
4	Opposition Frame + Altruistic value frame in support of company's operation
5	Opposition Frame + Egoistic value frame in support of company's operation

Measured as a between-subjects variable

The second independent variable: company credibility in environmental dispute (the issue to which the means of operation is linked), was measured as a within-subjects

¹² Manipulations correspond to levels or values of the independent variable.

factor with two different groups or manipulations. These manipulations are listed in Table 4.2 below.

Table 4.2 Company Credibility Manipulations

Number	Manipulation
1	High company credibility in environmental issue
2	Low company credibility in environmental issue

Measured as a within-subjects variable

The main reason why this independent variable was measured using a within-subjects approach was due to the number of participants needed. It is recommended that between 20 and 30 participants are needed for each group or condition (McQueen and Knussen 2006, Scopelliti 2013), and the experiment would have been too large, if this second variable was also measured as a between-subjects variable. This is because between-subjects variables need a great deal of participants, as each participant is exposed to only one level of the variable.

A within subjects variable where feasible, greatly reduces numbers, as the same participant can be exposed to all levels of the variable. For example, taking a study with one independent variable measured at two levels, if a between-subjects approach is adopted, two groups of participants are needed, i.e., 60 (assuming 30 in each group) but a within-subjects approach is adopted only one group of participants are needed, i.e., 30 participants in total. Within-subjects designs are possible when the independent variable involves treatment differences (McQueen and Knussen 2006), as company credibility does.

The third independent variable: importance of biospheric, altruistic and egoistic values to individuals, was measured as an individual differences variable with two manipulations or levels (median split). These manipulations are listed in Table 4.3.

Table 4.3 Individual Value Importance Manipulations

Number	Manipulation
1	High individual biospheric, altruistic, or egoistic value importance
2	Low individual biospheric, altruistic or egoistic value importance

Measured as a between-subjects variable

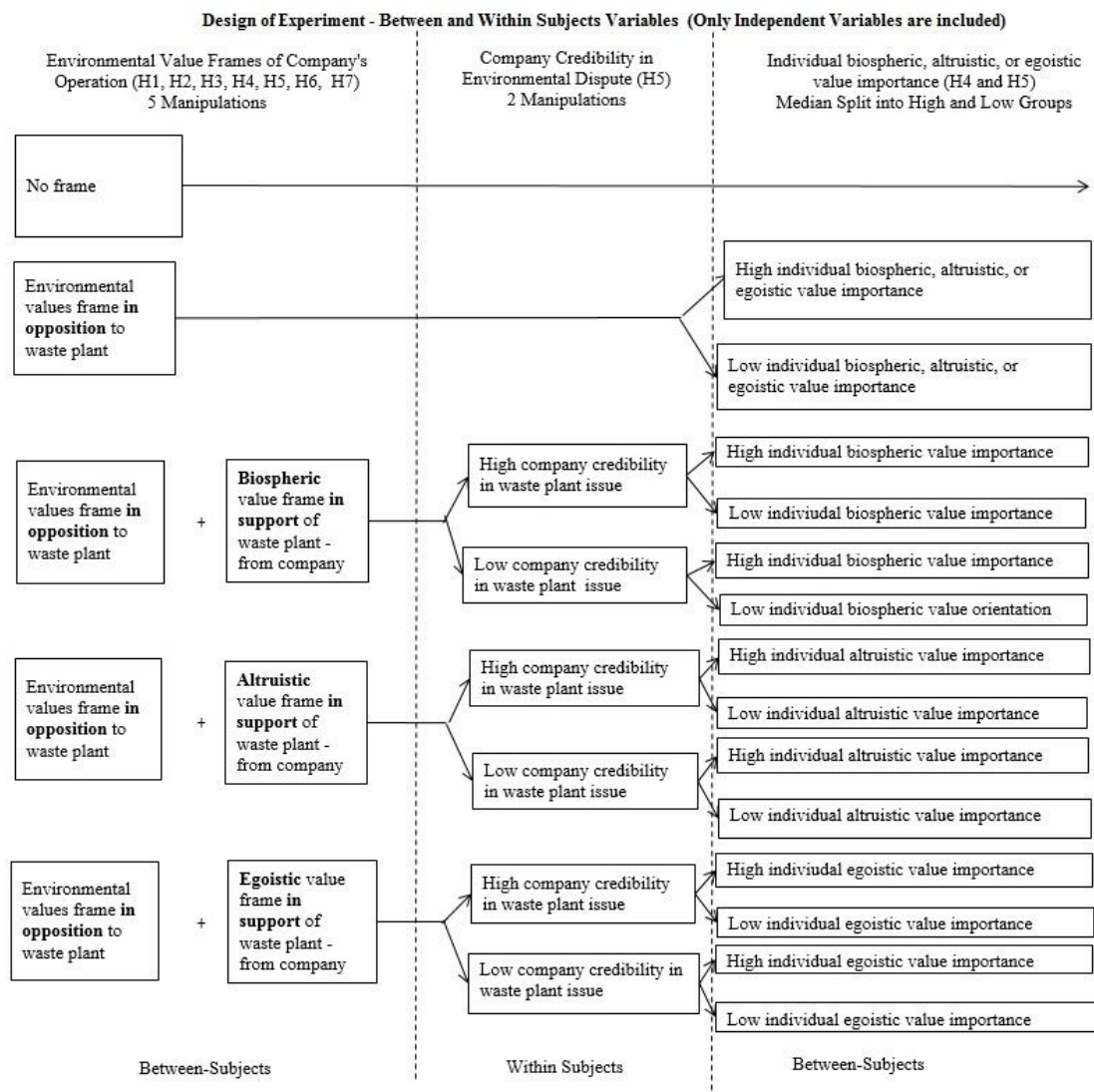
4.6.2 Operationalization of Independent Variables

Concepts of the independent variables must be transformed into variables that are the best operational representations of the concepts, to make them measurable and subject to testing (Cooper and Schindler 2006). In order to operationalise the first independent variable: environmental value frames, a scenario was employed concerning an organisational means of operation frequently subjected to challenges because of potential negative impact on the environment – waste companies that employ new waste incineration technologies in their plants. For companies with operations in a “politically sensitive technological area” (Allen and Caillouet 1994, p. 48), legitimacy challenges often occur when a technology is newly developed, because the technology’s cause-effect relationship is unsubstantiated, the organisation’s means or ends are questioned (Allen and Caillouet 1994, p. 49, Ashforth and Gibbs 1990).

Technologies may not be institutionally defined and means-ends chains may not be specified. The expectations of actors, about what constitutes legitimate means and ends are often vague and in flux (Elsbach and Sutton 1992, Meyer and Rowan 1977), and are susceptible to messages which make sense of the operations for them.

The scenario was based on real news media coverage of proposed waste plants employing new waste incineration technologies. Based on this scenario, the design of the experiment is outlined in Figure 4.2 below.

Figure 4.2



These waste plants have become a disputed environmental issue because over the last number of years. This is explained in more detail next.

4.6.3 Background to Experimental Scenario

The European Landfill Directive and the UK's enabling act, the Waste and Emissions Trading Act 2003, require the diversion of biodegradable municipal waste (BMW) from landfill (DEFRA 2007a). There continues to be a policy pressure to drive waste away from landfill and ensuring that the UK meets the EU Landfill Directive targets for diverting biodegradable municipal waste from landfill in 2013 and 2020 (DEFRA 2007b). By 2020 the Directive sets a target to reduce municipal waste landfilled to

35% of that produced in 1995. Landfill is increasingly seen as the last resort for most waste, and particularly for biodegradable waste (DEFRA 2011).

One policy measure was to establish a Landfill Allowance Trading Scheme (LATS) whereby local authorities were set allowances for tonnes of waste they could send to landfill every year, these allowances reduce yearly, and any waste sent to landfill over these set amounts incurs a penalty of GB£150.

In responding to these national-level developments, local authorities have tended to offer large long term waste management contracts to waste management companies under which authorities commit to supply waste and private sector contractors (waste management companies) commit to treat and dispose of waste for an agreed gate fee (DEFRA 2011). Local authorities let private waste contractors achieve collection and treatment technology outcomes. Historically, private finance initiative (PFI) has been a key funding model for waste infrastructure.

Because of the pressure to divert Municipal Solid Waste (MSW) from landfill, waste companies are securing contracts by introducing a stream of new technologies in their operations which obviate the need to send waste to landfill. These technologies have an increasing role in the treatment of MSW (DEFRA). Gasification is one in a range of these new energy from waste technologies that include pyrolysis, anaerobic digestion. These technologies are increasingly seen as an alternative to incineration of municipal waste. Gasification is one of the more popular of these technologies, and is a process that burns rubbish at a low temperature. It involves the partial combustion of waste in limited oxygen to produce a 'syngas' – mainly hydrogen and carbon monoxide (CO). This is then passed into another chamber where it is burnt at high temperature to generate steam. The steam can then be used to generate electricity by passing it through a steam turbine. In this sense the technology is designed to recover energy (DEFRA 2007a). Such a controlled burn leads to lower emissions of pollutants than conventional incineration and to lower clean-up costs (Report 2008).

Private waste companies are being allowed to build waste plants employing these new technologies by councils in communities across the UK. They promote gasification and other new types of technologies as different to 'older' incineration technologies, and thus claiming it to be less environmentally polluting. But as the means and ends

of these technologies are largely unsubstantiated, and incineration is a politically sensitive technology, claims regarding what these technologies are, or are not, are made by parties locked in dispute over their use.

This has given rise to an ongoing environmental dispute in the UK news media that pits these private waste companies, Environment Agency (EA), and Councils on one side and various parties on the other such as Greenpeace, Friends of the Earth (FoE), The Wildlife Trusts and Natural England. These opposing parties maintain that these are just like the old incineration plants and will cause much harm to the health of local people, will pollute the air and damage the biosphere.

This national level debate, is mirrored by local disputes all over the UK between private waste companies, who are being incentivised to use these means of operation (by securing large contracts from local councils), and people in local communities opposed to the operations. At a local level, parties include local individuals, and opposition groups, local councils, the companies behind the waste plants, and the local branches of national environmental pressure groups.

The environmental value frames of the experiment, were developed from performing a content analysis of the news media coverage in various local disputes regarding these new plants in areas around the UK, including, most notably plants proposed for Derby and Rainworth, Nottinghamshire. The majority of the material is based on the proposed plant in Derby which is proposed by two well established UK waste companies. The procedures used to conduct the content analysis will be described next (although the analysis did include other waste plant disputes, given that most of the material is based on the Derby waste plant dispute, the procedures will be explained by reference to this particular dispute).

4.6.4 Content Analysis of Material for Scenario

A search for value frames was conducted in media coverage of the controversial plans to build the plant in Sinfin - an area on the margins of Derby city. The period spans the period from December 2008 when it was publicised that two waste companies: *United Utilities* and *Interserve*, in a joint venture, were awarded a contract to manage Derby city's municipal waste. They established a company called: *Resource Recovery Solutions (RRS) Derbyshire Ltd* to manage the contract. The method of identifying the various environmental value frames of the waste plant disputes is

guided by prior political psychology research on framing (e.g.; Brewer, 2001; Brewer, 2003). The following general instructions guided the content analysis:

An environmental value frame was defined as an association between an egoistic, altruistic or biospheric value and an organisational means of operation that links these values to a particular position with respect to the operation (e.g., opposition or support for the operation).

An environmental value frame was counted as being present if it appeared at least once in the entire text of the item (newspaper article); each individual item could contain one frame, multiple frames, or no frame at all.

If text within an item promoted, downplayed or both, costs, risks or benefits of environmental effects to the wellbeing, welfare or health of others, rather than oneself, e.g., a human group, such as community, ethnic group, nation state or all of humanity, this was coded as an altruistic value frame.

If text within an item promoted, downplayed or both, costs, risks or benefits of environmental effects to ecosystems or the biosphere, including the natural environments, individual animals, and ecosystems, this was coded as a biospheric value frame.

If text within an item promoted, downplayed, or both costs, risks or benefits of environmental effects on peoples' personal outcomes, e.g. their community, their welfare, their material possessions, etc. (invokes their self-interest), this was coded as an egoistic value frame.

If these texts promoted or downplayed the costs, risks, and benefits in justification of support or opposition to waste treatment plants, they were coded as in opposition, or support of, the waste plant accordingly.

The data source was the "ALLNEWS" file of the LexisNexis database, which contains the English language full text of news sources from around the world. Significantly, the database contains full text of two prominent Derby newspapers:

Derby Evening Telegraph and *Derbyshire Times*. The UK's main national newspapers are also included in the database. Hence, this provides a broad cross-section of items to which Derby residents would have been exposed. In order to identify as many relevant articles as possible, two database searches were conducted.

First, a search was conducted in "Major mentions" with the search words "Sinfin" AND "waste". In a preliminary examination of articles on the controversy, the term "waste" was most widely cited, as opposed to "rubbish". Secondly, a more general search was conducted in "Major Mentions" with the words "Derby" AND "waste" and "plant". This was done, to ensure, all relevant articles about the controversy were captured – as, in the preliminary examination, sometimes Sinfin was not specifically mentioned. The vagueness of the search terms, other than the terms "Sinfin" and "Derby" was intentional, so that as many relevant articles as possible were detected. The first and main search ("Sinfin" AND "waste") generated 215 items for analysis, a cursory glance at the search results, indicated that an overwhelming majority of the items were about the controversy.

Every article returned from the search was analysed—including news stories, opinion columns, editorials, and letters to the editor—that mentioned those terms because previous research indicates that frames for environmental controversies can appear in any of these items.

A content analysis of the frames in Sinfin dispute (for examples of the content analysis results see Appendix H) was done using these 215 items. Environmental Value Frames in opposition to RRS's waste plant were found, and environmental value frames in support of RRS's waste plant were also present in the items. Similar to other environmental controversies, the environmental values employed in these frames were based on biospheric, altruistic and egoistic values (Eagly and Kulesa 1997, Lange 1993).

Typical value frames included altruistic/egoistic frames whereby local opposition groups claimed that the proposed waste plants emitted harmful substances such as dioxins, which cause various forms of ill health, biospheric frames which included that these plants would lead to less recycling and more burning of valuable resources,

or that their emissions would be bad for the local and national environment, or that they would be built on greenfield sites which contained valuable species and habitats.

Based on the sample of environmental value frames derived from this content analysis, the five different manipulations of environmental value frames for the between subjects variable were constructed (manipulations are described in Table 4.1 above). The environmental value frames used in the experiment are included in the experimental booklets in Appendices B to F. In these appendices, parts of the experimental material which represent the frames are highlighted in bold, for more details see Section 4.11 below.

4.6.5 Operationalization of Company Credibility in Environmental Dispute

For the within subjects variable, descriptions of the credibility of the waste company in the issue were based on operationalization of company credibility widely used and validated marketing and financial disclosure experiments (Goldberg and Hartwick 1990, Lafferty and Goldsmith 1999, Lafferty 2007, Mercer 2005). It refers to the extent to which the company is perceived as possessing *expertise* relevant to the communication topic and can be *trusted* to give an objective opinion on the subject (Goldsmith et al. 2000).

The trustworthiness of the companies was manipulated by providing information pertaining to their past record of acting in an environmentally responsible/irresponsible manner with respect to their waste plants. It included claims of acting responsibly and information from external institutions validating or contradicting these claims. The expertness of the companies was manipulated by providing information which signalled their ability/inability to predict the environmental performance of their waste plants, the consistency/inconsistency of their targets with external information. This procedure is comparable to previous research on manipulating company credibility (Goldberg and Hartwick 1990, Lafferty and Goldsmith 1999, Lafferty 2007), and disclosure credibility (Mercer 2005). The exact wording used in the experiment is included in the experimental booklets in Appendices D-F. In order to ascertain the part of the experimental material which represents company credibility see Section 4.11 below.

Next development of the different levels of the individual difference variable will be discussed.

4.6.6 Importance of Value Bases of Environmental Concern to Individuals

Individual differences and personality traits (characteristics) are difficult to manipulate, so the researcher has to measure them (Scopelliti 2013, de Vaus 2001). It was predicted that the effect of the frame manipulations would be stronger or weaker depending on one individual difference between participants – differences in their degree of environmental concern. Attitudes of concern about environmental issues are based on a person's more general set of values (Stern and Dietz 1994, Schultz 2001). These values reflect the relative importance that a person places on themselves (egoistic), other people (altruistic), or plants and animals (biospheric) (Stern and Dietz 1994). Schultz (2001) designed an environmental concern scale that measured the degree of importance that individuals place on valued objects organised around self (egoistic), other people (altruistic), and all living things (biospheric) (Schultz 2001).

In the Schultz (2001) scale, twelve Likert scale questions (four items to tap each factor of environmental concern: egoistic, altruistic and biospheric) were used to tap this individual difference variable. According to Schultz (2001), Cronbach alpha coefficients for each of the four-item environmental concern scales were: biospheric concerns (alpha = 0.92), altruistic concerns (alpha = 0.78), egoistic concerns (alpha = 0.83), indicating an acceptable level of reliability.

In order to test if this individual difference variable interacts the other independent variables of the study, this variable is median split (Scopelliti 2013). This entails dichotomising a continuous independent variable at the median value, so that high and low groups can be created. This is required in studies such as this where the other independent variables are categorical/ordinal (the manipulated environmental value frames and company credibility variables are).

The extent to which environmental values are central to individuals varies (Eagly and Kulesa 1997, Verplanken 2002), some people adhere strongly to environmental values and others do not (Verplanken 2002). All individuals will hold biospheric, altruistic and egoistic values, but the extent to which they hold these three different value bases of environmental concern will vary substantially between individuals (Eagly and Kulesa 1997). Given the individual difference in the extent to which individuals

adhere to these values, the biospheric, altruistic and egoistic value importance of each participant in the experiment was measured and a median split was performed into high and low groups, i.e., those that attach high importance to biospheric values (all values above the median), versus those that attach low importance to biospheric values (all values below the median). The wording of the environmental concern scale items is presented in Table 5.25 in Chapter 5, see also post pre-test questions in Appendix A.

Next, dependent variables used in the experiment will be outlined.

4.7 Dependent Variables

4.7.1 Operationalisation of Individual Social Legitimacy Judgement

With respect to ‘fragmented’ environmental issues, it is a company’s social legitimacy that is affected (Patten 1991). In this respect (as discussed in Chapter 2), social legitimacy is based on a perception that the organisation’s means of operation are consistent with social values and norms (Dowling and Pfeffer 1975). In the context of environmental issues, this represents consistency with widely held environmental values. This consistency generates a positive normative evaluation of the organisation and its means of operation, because stakeholders judge a given operation as ‘the right thing to do,’ that it benefits wider society, rather than whether the activity simply benefits them (Suchman 1995, Chen and Roberts 2010). At an individual level, it is a perception that social [environmental] values implied by the operations of an entity are congruent with the individual’s values (Tost 2011). Insofar as these two value systems are congruent, an individual judges an entity and its operations as socially legitimate; its operations are seen to be desirable, proper or appropriate (Suchman 1995).

From a review of the organisational legitimacy theory literature, no scale existed that measured individual social legitimacy judgements of organisations and their activities. Of the few experimental studies that did assess individual judgements, these assessed cognitively oriented legitimacy judgements (Elsbach 1994, Vanhamme and Grobbsen 2009), pragmatic or economic legitimacy (Milne and Patten 2002), or general legitimacy (Kuruppu and Milne 2010). Although Handelman and Arnold (1999) assert that their scale assesses social legitimacy, it does not tap the normative/moral

dimension of legitimacy, but rather cognitive elements of legitimacy, i.e., conformance with the cultural rules and norms that give meaning and acceptability to organisations, rather than conformance to social values. In sum, no prior studies assessed individual social legitimacy judgements (normative/moral type of legitimacy).

However, an ethical judgement scale originally developed by Reidenbach and Robin (1990), tapped individual moral evaluation, and has been adopted and adapted by various scholars over the years (Dabholkar and Kellaris 1992, Latour and Henthorne 1994, Barnett 2001, Cherry 2006). Therefore the scale has been widely used in several empirical studies and has reliability coefficients in the .70 to .90 range.

It is a semantic-differential measure – a type of measure most suited to elicit individuals' perceptual judgements (Oppenheim 1992), and widely used to assess individuals' judgements along a moral dimension. To measure participants' social legitimacy judgement, six endpoints were taken from the most common endpoints of these ethical judgement scales - "unacceptable/acceptable," and "immoral/moral", "bad/good," "wrong/right," "unethical/ethical," and "incorrect/correct" (Osgood et al. 1957). Added to this were a further three seven point scales with the following endpoints "undesirable/desirable", "improper/proper" and "inappropriate/appropriate". These adjectives are included as they are most commonly used in the organisational legitimacy literature to convey legitimacy judgement (Suchman 1995, Zimmerman and Zeitz 2002).

Participants' social legitimacy judgement of the waste plant was assessed with these nine seven point semantic differential scales. These nine scales comprised a summated measure representing overall social legitimacy judgement. The wording of the social legitimacy judgement scale items is presented in Table 5.26 in Chapter 5, see also post-stimulus material questions in Appendix D.

4.7.2 Operationalisation of Individual Intention to Oppose Organisational Means of Operation

In a decision-making context, an individual's behavioural intention is the expressed likelihood that he or she will engage in a particular action (Hunt and Vitell 1986). Intent is also posited as the strongest predictor of behaviour in the theory of planned behaviour (Ajzen 1991). Following this, ten seven-point items were used to operationalise individual behavioural intention to oppose the waste plant. Like much

of the studies that use behavioural intention, the scales were anchored with “very likely/very unlikely”. Questions tapping opposition to the waste plant were developed based on the content analysis results, which revealed common opposition behaviours of members of the community where the waste plant was planned. Questions measured the likelihood of individuals signing petitions, partaking in boycotts, complaining to BANES Council, protests and membership of opposition groups. Legitimacy studies indicate that such actions are common expressions of peoples’ opposition to particular organisational operations (e.g., Handelman and Arnold 1999). The wording of the opposition to waste plant scale items is presented in Table 5.27 in Chapter 5.

4.8 Operationalisation of Scenario

Because participants may have been potentially exposed to some of the debates around the construction of plants in particular parts of the UK, details of the story were changed. This was to prevent any bias due to existing perceptions of a known waste company and particular waste plant. Given that this is an ongoing environmental issue, it is likely that at least some participants would have prior knowledge of the company or the issue which may impact their evaluations of company credibility and social legitimacy judgements.

A fictitious company and waste plant location were created. The name of the waste company was changed from RRS, and two fictitious waste company names were created (because company credibility was measured as a within-subjects variable): Green Treat Waste Company Ltd/Green Bin Waste Company Ltd. These names were chosen after checking to ensure that there were no major waste companies with these names that might bias responses.

The fictional location of the proposed waste plant was chosen in order that experiment participants perceived it to be in their local vicinity. The participants selected for the experiment should be representative of the population to which the researcher wants to generalise the study’s results (Cooper and Schindler 2006). This was to ensure that they would react in a similar fashion, exhibit (to the same extent) the same information processing and attitudinal and behavioural responses as those members of

the general population living in proximity to one of these new or proposed waste plants (to enhance psychological realism).

Because University of Bath students were the target participants of the experiment, they mostly live in Bath city, the fictional location was chosen in the local catchment area for Bath city - Bath and North East Somerset (BANES). It is not argued that University of Bath students provided an ideal pool of participants for the study, in that they do not fully reflect residents in the BANES area, but nonetheless, most of them live and study in the area during their course at the University of Bath, and in this sense have an attachment to the area that is not too different to other residents.

Regarding the use of students, there is increasing recognition that surrogate participants have the necessary skill base to participate in experiments (Smith 2003). The information processing and decision making of students has been found to approximate that of the rest of the general population (Ashton and Kramer 1980). Using students to study behaviour in experiments is widespread in business research (Holm and Rikhardsson 2008). Further, students have been participants in previous experiments investigating legitimacy perceptions and decision (Kuruppu and Milne 2010, Elsbach 1994, Milne and Patten 2002). Students have also been used in experimental studies testing environmental attitudes and involvement (Wood et al. 1985). As already discussed, students in this experiment were attached to the BANES area, i.e., they were studying and living in Bath city; this was a further indicator of their suitability as individuals to judge the legitimacy of a waste plant in BANES.

Steps were taken to avoid the likelihood of participants in the experiment living in the fictional location itself, and so census data was accessed through the Bath and North East Somerset (BANES) Council web site - <http://www.bathnes.gov.uk/>, accessed 22 April 2013, and the lowest population of full-time students (48) in BANES lived in Timsbury, an area which is part of the BANES authority area, but is 8 miles from Bath city. It was not possible to identify if these residents of Timsbury were students of the University of Bath. Given the low proportion of students in this area of BANES, the probability of some of the participants living in this area was low. It is important that they did not live in the fictional location, as if they did so, it may prioritise egoistic concerns (concerns about the effects of the waste plant on their

personal lives) in their heads, and obfuscate the generation of altruistic and biospheric concerns that experimental stimuli (see altruistic and biospheric value support frame manipulations in Appendices D and E) were designed to trigger. Given this information, Timsbury was found to be a suitable area of BANES for the fictional waste treatment plant. Descriptive data of the sample presented in Chapter 5, indicate that no participant in the experiment lived in Timsbury. A map indicating the location of Timsbury relative to Bath city (given to participants) is in Figure 4.3 below.

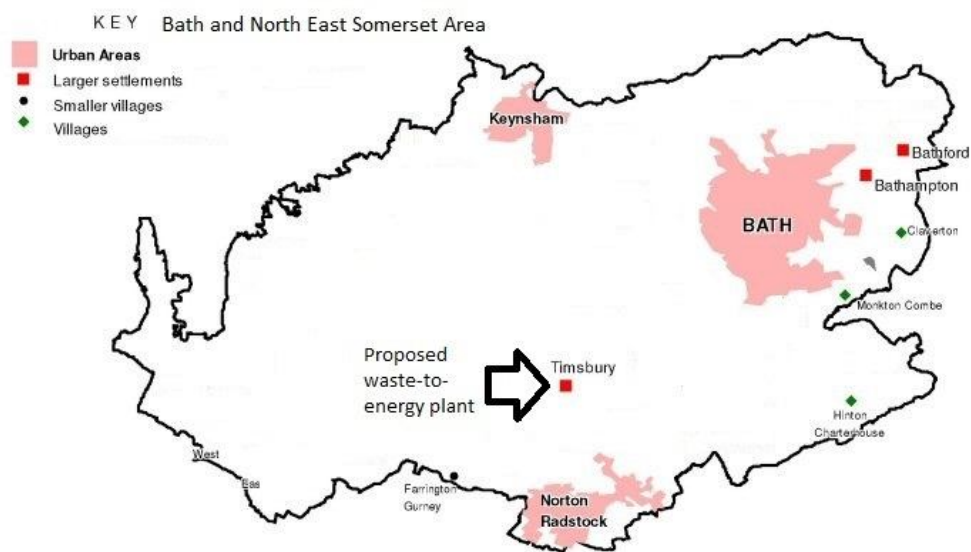


Figure 4.3 Proposed waste-to-energy plant to be built at Timsbury

4.9 Manipulation Checks of Independent Variables

The aim of manipulation checks to demonstrate that the levels or the manipulation(s) are related to ‘direct’ measures of the latent variables (theoretical constructs) they were designed to alter. It provides information about the extent to which an experimental condition or treatment had its intended effect on each participant. The construct validity of the manipulations as operationalizations of the intended independent variables would be questionable. In essence to check if the manipulations were successful.

Following the procedure in other research that employs framing manipulations (Maheswaran and Meyers-Levy 1990, Meyerowitz and Chaiken 1987) two manipulation check questions are used to examine the environmental frame manipulations. A one-item, seven point Likert scale was used to assess the extent to

which participants felt the position advocated by the frame was in opposition of, or support for, the waste plant. The item read “to what extent did environmental groups convey that the waste plant in Timsbury will have negative environmental effects?” A one-item seven point Likert scale was used to measure the degree to which participants felt the frames invoked either egoistic, altruistic or biospheric values. The items read “to what extent did environmental groups convey that a waste plant in Timsbury could have negative environmental effects on: you and others in Bath city?” (egoistic value), “wildlife in the Timsbury area?” (biospheric value), and “people living in the Timsbury area?” (altruistic value).

Following the procedure in the marketing research on company credibility, the scale originally developed by Newell and Goldsmith (2001) was used to measure the company credibility manipulation. Four scales measured company trustworthiness and four scales measured company expertise. One of the trustworthiness items read: “Green Treat Waste Company is honest.” One of the expertise items read: “Green Treat Waste Company is skilled in what they do.” See Table 5.20 in Chapter 5, and also post-stimulus material questions in Appendix D.

4.10 Control Variables

From a review of the political communication and market literatures, a number of control variables were identified. These were needed in order to rule out possibilities that the relationships identified would be spurious. Variables were identified which were potentially related to the dependent variable: judgement of waste incineration operations. Control variables that could also be a source of participants’ judgements with respect to such operations, consisted of other attitudinal and political variables, and included participants’ prior opinion about waste incineration, political orientation (conservative or liberal), and environmental knowledge (Brewer 2001, Nelson et al. 1997a, Nelson et al 1997b, Chong and Druckman 2007c).

In prior political communication research on frames, knowledge or familiarity of the issue was found to have a moderating impact on the effects of frames. The extent of participants’ knowledge concerning the environment, and the environmental impact of waste incineration was assessed. An environmental knowledge scale, originally developed by Kaiser, Wölfing and Fuhrer (1999, p. 4) to measure “factual knowledge about the environment” was used. According to Kaiser et al. (1999) Cronbach’s alpha

for the scale was 0.84 (Kaiser et al. 1999, p. 8), which reflects a satisfactory level of reliability.

As the knowledge items of the scale reflected environmental issues which have been the subject of considerable public discussion for some time, i.e., melting of polar ice caps, burning of fossil fuels. Items were updated to reflect topical environmental issues such as ocean acidification, deforestation and nitrogen run-off, and included items about the environmental effects of waste incineration, such as incinerator emissions. These updated items were obtained from a review of the environment sections of a number of prominent UK news media, such as The Guardian, or BBC. Items were included based on the most popular issues, identified from reviewing these media. The scale was comprised of 10 knowledge items, assessed with dichotomous yes/no questions. The wording of the environmental knowledge scale items is presented in Table 5.28 in the next chapter.

Regarding political orientation, this was measured by asking participants the extent to which they were conservative or liberal. These orientations were assessed with two seven point scales, both ranging from 1 = not at all to 7 = fully. This follows prior work which tested the framing effects in respect of environmental issues (Nelson and Oxley 1999). The wording of these political orientation questions is presented in Table 5.29 in the next chapter.

To assess participants' prior opinion about waste incineration, participants' were asked if they opposed or supported incineration as a method of treating residential waste. This was examined on a seven point scale ranging from 1 = strongly oppose to 7 = strongly support. It is common in persuasion and political communication studies to use such one item questions to assess participants' prior opinion towards issues (Brewer 2001, Chong and Druckman 2007, Shen and Edwards 2005, Brewer and Gross 2005, Nelson et al. 1997). The wording of this prior opinion question is presented in Table 5.30 in the next chapter.

4.11 Experimental Material and Procedure

Experimental booklets contained three sections, reflecting three stages of the experiment: a pre-test questionnaire; the stimulus material: newspaper reports which included the environmental value frames and the descriptions of company credibility in the issue, and a post-test questionnaire, which included manipulation checks and dependent variables of the study. The pre-test questionnaire contained the twelve

questions, tapping the individual difference variable - level of importance of biospheric, altruistic and egoistic environmental values to individuals (the environmental concern scale items), and a control variables, such as individuals' environmental knowledge, and prior support/opposition to incineration as a method of processing waste – see Appendix A.

Experimental participants (University of Bath students) were asked to assume that they were residents of Bath city now and for the next few years¹³. Next, participants read one or two (depending on the frame condition) fictitious newspaper reports "about a proposed waste plant for Bath city and its environs." Reports were presented as having appeared in the local newspaper: *The Bath Chronicle*.

The first two paragraphs and the last paragraph of the newspaper reports remained the same across all five conditions, and included general information about the proposed waste plant for Timsbury; the middle paragraphs were used to create the five environmental value frame conditions outlined in Table 4.1 and Figure 4.2 above.

In order to manipulate these five frame conditions, participants were exposed to:

(1) one newspaper report that contained no environmental value frame (no frame manipulation) (see Appendix B); or (2) one newspaper report that contained an environmental values frame in opposition to the company's waste plant in Timsbury (opposition frame manipulation) (see Appendix C); or (3) two newspaper reports - the first one containing the environmental values frame in opposition to the company's waste plant and the second one containing either a biospheric, altruistic, or egoistic value frame, attributed to the company, in support of its waste plant (opposition + biospheric value support frames/opposition + altruistic value support frames/opposition + egoistic support frames manipulations) (see Appendices D-F). Participants who received both news reports, received the environmental values frame in opposition to the company's waste plant first.

In order to manipulate the credibility of the waste company (as outlined in Table 4.2 above), participants were exposed to the second newspaper report (frames in support

¹³ The targeted participants were full-time students of the University of Bath, so most participants would live in Bath city. However, participants were explicitly told to assume this role, as they may be final year students or students intending to leave the area within the year and so would not be expecting to live in Bath city for the next few years.

of the waste plant) twice, first, it was attributed to a waste company with high credibility, with the name: “Green Treat Waste Company”, the second time it was attributed to “Green Bin Waste Company”, with the following information: “Now, imagine that Green Treat has withdrawn its waste plant proposal, but a new company: Clean Bin Waste Company plans to continue with exactly the same waste plant proposal. The companies are in no way related.” Clean Bin Waste Company was manipulated to have low credibility.

Because company credibility was measured as a within-subjects variable, repetition or carry over effects (the possibility that exposure to one level of a manipulated variable will influence measurements on another) may have confounded the effect of credibility. Counterbalancing was employed to reduce the chances of an order or repetition effect. Half of the participants encountered company credibility in the order high credibility then low credibility, and the other half got the low credibility then high credibility order. An order of credibility variable was measured as a separate variable. No significant main effect or interaction effect was found between the order in which participants received the manipulations and the effect of company credibility on social legitimacy judgements. This gives some assurance about the effects of company credibility which are presented in Chapter 5.

The descriptions of the waste companies’ credibility were included as the first paragraph of the newspaper reports on both occasions. Company descriptions reflecting high and low credibility are highlighted in bold, see Appendices D - F.

The post-test questionnaire contained the measures for the dependent variables, manipulation check measures of the independent variables.

The last section of the booklet contained questions to elicit demographic information of participants such as their attachments to BANES, whether they lived in Bath city, their experiences regarding waste collection services, and waste incineration.

4.12 Demand Effects

Demand effects refer to features of the experiment that unintentionally provide participants with hints about the real purpose of the study - research hypothesis. Given that the post-test measures in the questionnaire were obtrusive i.e., participants

were asked directly for their legitimacy judgements, the experimental design contained demand characteristics. Therefore steps to disguise the purpose of the experiment were taken, by telling the subjects that the study is about something different from its actual purpose. This involved the use of ‘filler’ questions that support this ‘fake purpose’ in order to ensure they don’t guess the hypotheses. Otherwise the results of the experiment could have been confounded.

The purpose of the experiment, was presented to participants as "to investigate perceptions of democracy in local environmental and waste issues." This served to control for demand effects. To further control for this, questions relating to this stated purpose were included throughout the pre- and post-test questions. Further, an open ended question served as a check to ascertain if participants did guess the real objective of the experiment. This read: *“Please write down what you think the purpose of this experiment is?”* This question served as a check to ensure the results were not confounded by demand effects. Based on an analysis of the results of this question, none of the 413 cases were confounded by demand effects. Upon completing the post-test section of the booklet, participants were compensated and debriefed.

4.13 Pilot Study

Once the experimental material is developed, each aspect (.e.g., stimuli and questions) should be evaluated before final administration of the experiment (De Vaus 2002). Thus it should be pilot tested on a small sample of the population that will be used in the final administration of the experiment (McQueen and Knussen 2006).

The objective of the pilot study is to refine elements of the design, to identify questionnaire items which are misleading or confusing, resolve any ambiguity or to rectify any problems with the selected scenario and to ascertain whether participants encounter any technical difficulties.

The experiment was pilot tested on 15 participants in July 2013, who completed the task under normal experimental conditions. These participants consisted of University of Bath School of Management faculty and PhD students. Although representative of the participant pool, pilot participants did not take part in the subsequent and final experiment.

Experimental design, procedure, booklets and scenario were examined in the pilot test. Based on the results, some of the questions and experiment instructions were revised, to make them clearer and unambiguous.

4.13.1 Pilot Study Results

The main change concerned the high and low manipulations of company credibility in the waste plant issue. This is measured as a within-subjects variable, and in the pilot test material, the same company name was used in both the high and low manipulations, with pilot participants being informed that there was a change in the company information when they encountered the second of the two manipulations. This confused participants, so instead, a different company name was used in the high and low manipulations, and participants were informed that the original company had left the project, but a new company was making exactly the same proposal.

Another significant change was the fictitious newspaper article(s). In the pilot study, participants were led to believe that they were reading one newspaper article, and were exposed to parts of the same article between the questions. This led to confusion among participants, about which part to consider in answering questions, so instead for the final study, participants were led to believe that they were reading three separate newspaper articles about the waste plant.

In relation to the questions, the main change concerned the semantic-differential items with respect to the behavioural intention scale. Participants felt that the items were repetitive and unnecessary. Based on prior research assessing behavioural intentions, these items were dropped in favour of one item with the endpoints – unlikely and likely. Some spelling mistakes and general grammatical errors were also detected and corrected. Words of a technical nature, such as incineration, were also identified by non-native English speakers as terms that they did not understand, so these were given brief and simple definitions.

4.14 Participants

4.14.1 Recruitment of Participants

A number of approaches were used in order to recruit a sufficient number of participants. This consisted of class visits, posters on campus, distribution of flyers, advertisements on university intranet. For examples of the recruitment materials used

see Appendix J. Participants received GBP£5 each for completing the study. Regarding experimental participants, modest monetary incentives are typically required to induce attendance, participation and attention (Smith 2003). Small incentives are considered necessary and are widely used in most fields in management and social sciences research. In line with convention in management research, £5 is believed to be appropriate in order to successfully recruit students.

4.14.2 Number of Participants per Experimental Group

Regarding the number of participants required per group, it is advisable as a general rule to have 20 to 30 participants per group (McQueen and Knussen 2006, Scopelliti 2013). In the recruitment of participants, the goal was to have over 25 participants per group. Four hundred and thirteen (413) University of Bath students participated in the experiment between September and November, 2013. Given the individual difference variable, had three factors of concern, egoistic, altruistic and biospheric, which had to be median split into high and low groups for each of the five frame manipulations, the target was set to recruit at least 50 students per frame manipulation, i.e., at least 25 students per high and low median split group.

4.14.3 Random Assignment of Participants to Groups

Experimental booklets were sorted into bundles of 81, 83, 82, 84 and 83 (413) as per the five conditions of the between-subjects variable: environmental value frame. Using the random number generator: <http://www.random.org/>, the five conditions were randomly ordered. Once the five bundles of booklets were randomly ordered, each individual booklet (1-413) was sequentially numbered. Finally, using random numbers from random.org again, all of the 413 individual booklets were sorted in a random order. In this way, the booklets were randomly assigned to each participant as they arrived to take part in the experiment.

4.15 Experimental Setting and Control

Unlike conventional experiments, social sciences experiments do not typically occur in laboratories (de Vaus 2001). However, experimental control, “holding constant the physical environment of the experiment”, is nevertheless important (Cooper and Schindler 2006, p. 279), as the only difference between the groups was their exposure to the manipulations of the experiment (de Vaus 2001). Arrangements of the rooms

used for the experiment, the time of administration, the experiment's contact with the subjects, and so forth, must all be consistent across each administration of the experiment (Cooper and Schindler 2006)

4.15.1 Experimental Setting

The experiment took place in a number of identical university teaching rooms that were adjacent to each other, and that had their own corridor. These were reserved for whole days at a time to ensure no distractions for non-participating students while the experiment was being carried out. Upon arrival, participants were asked if they were students at the University of Bath. Only students of the University were allowed to participate in the experiment. Instructions and information about the experiment (on the front of each booklet) were read out. If they were satisfied with the requirements, they were randomly assigned (discussed above) a pen-and-paper booklet and escorted to a free desk and seat in one of the reserved teaching rooms.

Participants were requested not to use their mobile phones or other distractions during the experiment. They were also requested not to talk to, or interact with, each other. However, participants were free to ask administrators of the experiment any questions they had. These instructions were contained on the front page of the booklet, and were also stated to each participant before they began. Participants were asked to sign the front page of the booklet if they agreed with the instructions. To ensure these requirements were adhered to, the principal investigator and the administrators frequently monitored students throughout their participation. However, this was done as unobtrusively as possible, glass panels in the doors of the rooms, enabled this to be effectively without intruding on the participants. For full information about the experiment protocol, see the experimental protocol document which was distributed to, and read by, individuals administering the experiment, in Appendix I. These procedures were implemented in order to ensure a sufficient level of experimental control.

4.16 Ethical Considerations

When conducting experiments in the social sciences there are ethical considerations that need to be taken into account (de Vaus 2001, Field and Hole 2003). These considerations concern deception of participants, pressure to participate, informed

consent, harm to participants, confidentiality and data storage (de Vaus 2001, Field and Hole 2003). These issues will be discussed next.

4.16.1 Deception of Participants

In this experiment, participants were misled regarding the true aim or objectives of the experiment. There are ethical implications of ‘deceiving’ participants with respect to the true objectives of the research (Smith 2003, de Vaus 2001). In such situations, debriefing of participants is warranted (de Vaus 2001). When the booklets of the experiment were completed by participants and handed back to the researcher or administrators, they were informed what the experiment was about, and asked if they had any questions. Based on feedback, none of the participants detected the true objective of the study, and none expressed any annoyance or objections to having been deceived. Further, the ‘cover story’ given to participants, that the aim of the study was about democracy and local waste issues, was not too far removed from the true objectives of the study.

4.16.2 Voluntary Participation

None of the participants were led to believe that they were required to participate in the experiment. During recruitment of participants, efforts to attract students, included making the study an appealing topic to them by emphasising the environment, and using a cover story to which they could relate to: waste. GB£5 was offered as an incentive to encourage participation. When participants were handed an experimental booklet, they were informed that they could withdraw from the study at any point, and this was stated on the front page of the booklet with the following wording:

“Your participation in this study is entirely voluntary and you may refuse to complete the study at any point during the experiment, or refuse to answer any questions with which you are uncomfortable.”

Further, although a controlled setting, the facilities used did not impose any restrictions on participants to leave. Doors to all rooms used for the experiment were unsecured at all times and the experimenter and administrators did not try to pressure students to participate, or participants to remain in the study.

4.16.3 Informed Consent

On the front of each experimental booklet, participants were informed about what the experiment involved and made aware of their rights while they were taking part. The name and contact details of the researcher were given, and participants were informed to contact the researcher if they had “any questions or concerns that have not been addressed during your participation”. The following wording was used to secure the consent of participants:

“CONSENT

I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study.”

Participants were asked to sign and date the front of the booklet to indicate their consent, and all 413 booklets have the signature and date of all participants.

4.16.4 No harm to participants

In psychological experiments, psychological harm to participants is sometimes a possibility (Field and Hole 2003, p. 101). For example they could be given stimuli or induced to act in ways which they subsequently regret or find distressing (de Vaus 2001), or they could be made to feel stressed, embarrassed, depressed, anxious or fearful (Field and Hole 2003). Some experiments involve the researcher actually doing something that may be physically harmful to the participants, such as when the stimuli involve a drug.

No physical or psychological harm could be detected from participating in this experiment. The scenario of the experiment may be perceived as potentially distressing – construction in the local area of a waste incineration plant that may have potential harmful effects on participants. But participants were informed that the waste plant proposal was fictional a number of times throughout the study. Further, the treatment of waste is not a particularly sensitive social issue. In addition, in terms of inducement of psychological responses, participants were asked to give their judgements and intentions to behave regarding a fictional waste plant proposed for their local area. Such psychological processes do not involve inducing particular moods or emotions that would be distressing. In addition, during the debriefing of

participants, they were asked how they found participating in the experiment. From the feedback received, no participants reported distress as a result of their participation.

4.16.5 Confidentiality and Data Storage

Participants and their personal data should never be publicly identifiable or at risk of being so (Field and Hole 2003, p. 101). People participating are entitled to expect that the particular responses they supply to the questions cannot be linked to them. This experiment did collect personal information for each participant, such as their name, e-mail address, course, year of study, nationality, age, and other demographics.

Steps have been taken to prevent unauthorised access to the completed pen-and-paper booklets. They have been secured in locked cabinets, in an office at the University of Bath. Only the researcher has access to these booklets.

Data from the completed booklets were entered into SPSS, and this SPSS file is stored on the University's computer system, on the computer account of the researcher. This electronic file does not contain the names or other personal details of participants that could link them with their responses. This file is maintained on the researcher's password protected University of Bath computer profile.

4.17 Conclusion

In summation, a positivist approach is adopted to describe and explain organisations' environmental disclosures. This reflects a functionalist approach to the study of accounting disclosures (Dillard 2007). Such an approach takes a realist position on ontology. This is a view that legitimacy theory and cognitive underpinnings of (de)legitimation are based on assumptions that organisations and their environments have a reality external to human consciousness and cognitions (c.f. Johnson and Duberley 2000). Based on this realist position, a positivist view on epistemology is taken – an approach maintains that human judgement and behaviour is explainable and predictable. Rooted in this is a deterministic view of human nature – it is assumed that humans respond to external stimuli in the environment. A nomothetic position on methodology follows from these assumptions. Of the appropriate quantitative methods rooted in a nomothetic approach, the experiment was conjectured to be the most suitable method to test hypotheses of this study (see Chapter 3) as they focus on human judgement and behaviour. Given the conceptual

model, a mixed between-and within-subjects design is the experimental design employed. Operationalisation of the variables of the conceptual model was accommodated by employment of a scenario from real news media coverage of proposed waste plants employing new waste incineration technologies.

Environmental value frames were derived from content analysis of the material collected on the scenario. Company credibility in the waste plant issue was constructed employing a similar definition and operationalisation to that used in the marketing and financial disclosure literatures. A scale to measure individual social legitimacy judgements was developed from existing scales on ethical or moral judgements employed in the business ethics literature (Reidenbach and Robin 1990, Dabholkar and Kellaris 1992, Latour and Henthorne 1994, Barnett 2001, Cherry 2006). Next, experimental material and procedure and recruitment and random allocation of participants were described. Lastly, ethical considerations of the study were outlined. In the next chapter, the data from the experiment will be analysed, and subjected to statistical tests to test the hypotheses of the conceptual model.

Chapter Five

Data Analysis and Results

5.1 Introduction

The purpose of the chapter is to present and discuss the results from the tests of the hypotheses derived from the conceptual framework. In section 5.2, various descriptive data with respect to the student sample for the experiment are discussed. Subsequently, results of the manipulation checks of the independent variables are presented in section 5.3. Following this in Section 5.4, dependent measures are described, and results of principal components analysis and reliability checks of the measures are reported. In Section 5.5, covariates commonly found to confound the effects of value frames and included in tests of hypotheses are outlined and explained. Subsequently in Section 5.6, results from tests of hypotheses of the study are presented. Finally the conclusion is outlined.

5.2 Description of Sample

Given that the participant pool for the experiment was University of Bath students, the characteristics of the students who participated in the study will be described next. Demographic, academic, and residential characteristics of participants will be reported.

5.2.1 Demographic Characteristics

Demographic characteristics of the participants in the experiment (N: 413) are presented in Tables 5.1, 5.2 and 5.3.

Table 5.1 Participants' Gender

Gender	Number	Percent %
Female	225	55
Male	188	45
Total	413	100

As indicated in Table 5.1, of all the participants in the study, over half were females (N: 225, %: 55), and under half were male (N: 188, %: 45). This indicates a fairly even balance of gender in the sample.

Table 5.2 Participants' Country of Birth

Country of birth	Number	Percent %
United Kingdom	196	48
China	66	16
Malaysia	38	9
Hong Kong	13	3
Other countries	90	22
No response	9	2
Missing	1	0
Total	413	100

Nearly half of the 413 participants were born in the UK (N: 196, %: 48). After this, significant numbers of students were born in China (N: 66, %: 16) and Malaysia (N: 38, %: 9%). The next most common countries (not reported in the Table) included France (N: 7, %: 1.7), Bulgaria, Spain and India (N: 6, % 1.5). There were no other significant countries of birth represented in the sample. Participants' Age is presented next.

Table 5.3 Participants' Age

Age	Number	Percent %
17	1	0
18-23	379	92
24	15	4
25-38	17	4
No response	1	0
Total	413	100

Most participants were aged between 18 and 23 years of age. Given that the participants of the study were university students, most of whom were undergraduate students (see Table below 5.4) this bias in age of the sample is to be expected.

5.2.2 Academic Characteristics

Academic characteristics of the participants are presented in Tables 5.4 and 5.5 below.

Table 5.4 Participants' Year of Study and Degree Type

Year of Study						
	1	2	3	4	5	Total
Degree Type						
Bachelor's degree	92	130	45	47	0	314
Master's degree	90	0	0	0	4	94
PhD	2	2	1	0	0	5
Total	184	132	46	47	4	413

As can be seen in Table 5.4, a sizeable majority of the 413 participants were undergraduates, studying for Bachelor's degrees (N: 314, %: 75). Postgraduates, studying for Master's degrees represented a minority of participants (N: 94, %: 24).

Table 5.5 Participants' Year of Study and Subject Area

	Engineering & Design	Humanities & Social Sciences	Management	Science	Total
Degree Type					
Bachelor's degree	58	57	112	86	313
Master's degree	10	39	42	3	94
PhD	3	1	0	1	5
Total	71	97	154	90	412

As can be seen in Table 5.5, most of the 413 participants were studying degree courses in management (N: 154) followed by Humanities and Social Sciences (N: 97). This spread of students across these four subject areas is broadly representative of the spread for all University of Bath students.

5.2.3 Residence of Participants

In order to enhance the generalizability ('psychological realism – see Chapter 4 – Section 4.4.2.2'), a fictional location of the proposed waste plant was an area in BANES. Therefore the goal of the study was to recruit participants who lived in the BANES area, in order that they would be residents of the locality for which a waste plant was planned, and would likely experience the psychological processes and

reactions of people learning about the construction of a waste plant in an area that they live. Tables 5.6 and 5.7 present details about participants' attachment to Bath and North East Somerset (BANES), and their residence.

Table 5.6 Participants' Attachment to BANES*

	Number	Percent %
Attachment		
Study	413	100
Family	15	4
Work	13	3
No Attachment	0	0

* = Bath and North East Somerset

As Table 5.6 indicates, all participants (N: 413, %: 100) were attached to Bath and North East Somerset (BANES) because of their studies at the University of Bath. Given that participants were required to be students of the University of Bath, this result serves as a verification that study participants had at least some attachment to BANES.

Table 5.7 Participants Living in BANES

Living in BANES Area		
Yes	396	96
No	16	4
No response	1	0
Total	413	100

Table 5.7 indicates that while most participants in the experiment, lived in BANES (N: 396, %: 96). A minority of the sample (N: 16, % 4%) indicated that they lived outside of BANES. This indicates of the 413 participants who are University students in BANES, 4% were not living in BANES during their studies.

Table 5.8 Participants' Area of Residence in BANES

Current Residence		
Bath city	374	91
Other area in BANES	21	5
Timsbury	0	0
Not applicable	15	4
No response	3	1
Total	413	100

Regarding the areas in BANES where participants lived, of the 413 participants, Table 5.8 indicates that the majority (N: 374, %: 91) lived in Bath city. Given that the University of Bath is located on the margins of the city, this result was expected. A small proportion of the sample (N: 21, %: 5), reported that they lived in another part of BANES.

Significantly, no participant lived in Timsbury – the area in BANES which served as the fictional location of the company waste plant in the experiment. This was important in order to ensure that the fictional location was in the local area of participants (BANES), but that participants were not living in the location. Given that the majority of students were only attached to BANES because of their studies at the University and lived in Bath city because of their studies (Tables 5.6 and 5.8). These results suggest that no set of participants were likely to have had extra familiarity with Timsbury which might confound the results.

5.2.4 Experience with Waste Collection Services

Given the focus of the study on treatment of municipal waste for an area, participants were asked if they had experience of waste collection services. This was to ensure reasonable psychological realism with respect to the scenario of the study.

Table 5.9 Participants' Experience of Household Waste Collection

Ever lived a property where waste was collected by a local authority		
	Number	Percent %
Yes	314	76
No	18	4
Don't know	80	19
No response	1	0
Total	413	100

As Table 5.9 indicates, most participants had some experience of waste collection services. In particular, the majority of participants (N: 314, %: 76) indicated that they had lived in a property where waste was collected by a local authority. For most areas in the UK, waste collection is carried out by the local authority. Given that nearly half of the sample (48%) indicated the UK as their country of birth, and 96% of the sample studied and lived in BANES, it is contended that most of the sample are likely to have had experience and familiarity with waste collection services in the UK, and BANES.

Before the hypotheses can be tested, a number of preliminary checks must be carried out on the data (Field and Hole 2003, Schwab 1999). In the next section, results of the manipulation checks are presented.

5.3 Manipulation Checks

Given that experiments involve the testing of cause and effect relationships, some evidence needs to be ascertained if the manipulation of the independent variable really affected the measured dependent variable (Perdue and Summers 1986, Scopelliti 2013). In other words some assurance needs to be obtained that the manipulations themselves are not confounded. It is to ensure the construct validity of the manipulations (Perdue and Summers 1986). These checks add confidence to the conclusion that it was the manipulated independent variable which was responsible for the cause (Perdue and Summers 1986). A common test to gain evidence of this is the manipulation check.

This is particularly important when manipulations are related to "direct" measures of the latent variables¹⁴ they were designed to alter (Perdue and Summers 1986). The first latent independent variable of the study to be manipulated is the environmental value frame.

5.3.1 Environmental Value Frame Manipulation Checks

This variable was manipulated in two ways: frame position e.g., opposition or support and the environmental value invoked by the frame, (e.g., biospheric, altruistic and/or

¹⁴ Experimental studies in social sciences, frequently involve "higher order," unobservable independent variables (e.g., perceptions of company expertise and trust, attitudes towards brands) (Perdue and Summers, 1986).

egoistic value bases of environmental concern). These manipulations are indicated in Table 5.10 below.

Table 5.10 Environmental Value Frame Manipulations

Number	Manipulation
1	No frame
2	"Opposition Frame" = Environmental values (biospheric, altruistic, and egoistic values) frame in opposition to company's proposed waste plant
3	Opposition Frame + Biospheric value frame in support of company's proposed waste plant
4	Opposition Frame + Altruistic value frame in support of company's proposed waste plant
5	Opposition Frame + Egoistic value frame in support of company's proposed waste plant

Measured as a between-subjects variable

5.3.1.1 Frame Position Manipulation Check

A brief manipulation check of the environmental value frame positions (opposition or

Table 5.11 Descriptive Statistics for Frame Positions

Manipulation	Number	Mean	Std. Deviation	Minimum	Maximum
1 Opposition Frame	83	5.8795	1.14122	2.00	7.00
2 Altruistic Value Frame in Support	84	2.5952	1.25984	1.00	6.50
3 Biospheric Value Frame in Support	82	2.9085	1.17885	1.00	6.00
4 Egoistic Value Frame in Support	83	2.8193	1.36502	1.00	7.00

support for the waste plant) was conducted by asking participants the following self-report question on a 7 point Likert scale: *"to what extent did environmental groups/Green Treat's communication manager convey that the waste plant in Timsbury will have negative environmental effects?"*.

Table 5.12 ANOVA Summary – Frame Positions

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	605.044	3	201.681	131.282	.000
Within Groups	503.886	328	1.536		
Total	1108.930	331			

A one-way between groups analysis of variance (ANOVA) was conducted to ascertain the effects of the different frame positions on participants. There was a statistically significant difference between the four manipulation frame positions, $F(3, 328) = 131.28, p < 0.001$.

The assumption of homogeneity of variance was not violated as the significance value for the Levene's test was greater than .05 $p = .238$.

Post hoc comparison using the Gabriel's procedure¹⁵ indicated that participants in the opposition frame manipulation perceived the waste plant to have significantly more negative environmental effects ($M = 5.88, SD = 1.14$) than participants in the biospheric value support frame manipulation ($M = 2.91, SD = 1.18$), than participants in the altruistic value support frame manipulation ($M = 2.60, SD = 1.26$), than participants in the egoistic value support frame manipulation ($M = 2.82, SD = 1.37$). These differences between the opposition and each support frame were statistically different at the $p < .001$ level each time. There were no statistically significant differences between any of the support frames.

The means show that participants perceived the biospheric, altruistic and egoistic value support frames to convey the company's waste plant as having less negative environmental effects than the opposition environmental values frame. These results indicate that participants perceived the frame position manipulations as intended.

¹⁵¹⁵ Sample sizes across the different frame manipulations are slightly different, and in such instances, the Gabriels' procedure is the most suitable post hoc test (Field and Hole, 2003).

5.3.1.2 Frame Value Manipulation Check

Next the manipulation of the different value bases of environmental concern which were invoked in the frames (i.e., biospheric, altruistic or egoistic) was tested

5.3.1.2.1 Biospheric Value Frame Manipulation Check

A brief manipulation check of the frame values (biospheric, altruistic and egoistic) was conducted by asking participants the following self-report question on a 7 point Likert scale: *“To what extent did environmental groups/Green Treat’s communication manager convey that a waste plant in Timsbury could have negative environmental effects on wildlife in the Timsbury area?”*

Table 5.13 Descriptive Statistics for Biospheric Value in Frames

Manipulations	Number	Mean	Std. Deviation
1 Opposition Frame	83	5.7108	1.24480
3 Biospheric Value Frame In Support	82	3.0793	1.44331

Table 5.14 Independent Samples Test Summary – Biospheric Value

	Levene's Test for Equality of Variances		t-test for Equality of Means			
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference
Equal variances assumed	3.068	.082	12.546	163	.000	2.63158
Equal variances not assumed			12.535	158.983	.000	2.63158

An independent-samples t-test was conducted, and the results are presented in Table 5.14. As expected, participants in the opposition environmental values frame manipulation perceived the company’s waste plant to have more negative environmental effects on wildlife (in Timsbury) ($M = 5.71$, $SD = 1.24$), than did participants in the biospheric value support frame manipulation ($M = 3.07$ $SD = 1.44$). The mean change was 2.63. This represents a statistically significant difference in the mean between the opposition frame and the biospheric value support frame $t(163) = 12.55$, $p < .001$. (two-tailed). The result indicates that participants

perceived the biospheric value support frame to convey the company’s waste plant as having less negative environmental effects on wildlife (in Timsbury) compared to what participants perceived the opposition environmental values frame to convey about effects of the plant on wildlife. This result indicates that participants perceived the biospheric value invoked by the frames as intended.

5.3.1.2.2 Altruistic Value Frame Manipulation Check

The same manipulation check was conducted for the altruistic value manipulation, by asking participants the following self-report question on a 7 point Likert scale “*To what extent did environmental groups/Green Treat’s communication manager convey that a waste plant in Timsbury could have negative environmental effects on people living in the Timsbury area?*”

Table 5.15 Descriptive Statistics for Altruistic Value in Frames

Conditions	Number	Mean	Std. Deviation
1 Opposition Frame	83	5.6627	1.54033
2 Altruistic Value Frame in Support	84	2.6964	1.44376

Table 5.16 Independent Samples Test Summary – Altruistic Value

	Levene's Test for Equality of Variances		t-test for Equality of Means			
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference
Equal variances assumed	.153	.696	12.841	165	.000	2.96622
Equal variances not assumed			12.836	164.036	.000	2.96622

An independent-samples t-test was conducted – see Table 5.16. As expected, participants in the opposition environmental values frame manipulation perceived the company’s waste plant to have more negative environmental effects on other people (in Timsbury) ($M = 5.66$, $SD = 1.54$), than did participants in the altruistic value

support frame manipulation ($M = 2.70$ $SD = 1.44$). The mean change was 2.96. This represents a statistically significant difference in the mean between the opposition frame and the altruistic value support frame manipulation $t(165) = 12.84$, $p < 0.001$ (two-tailed). The means show that participants perceived the altruistic value support frame to convey the company waste plant as having less negative environmental effects on other people (in Timsbury) compared to what participants perceived the opposition environmental values frame to convey about effects of the plant on other people. This result indicates that participants perceived this company counter frame as intended.

5.3.1.2.3 Egoistic Value Frame Manipulation Check

The same manipulation check was conducted for the egoistic value manipulation, by asking participants the following self-report question on a 7 point Likert scale “*To what extent did environmental groups/Green Treat’s communication manager convey that a waste plant in Timsbury could have negative environmental effects on you and others in Bath city?*”

Table 5.17 Descriptive Statistics for Egoistic Value in Frames

Conditions	Number	Mean	Std. Deviation
1 Opposition Frame	83	5.5663	1.34521
4 Egoistic Value Frame in Support	83	2.8193	1.32190

Table 5.18 Independent Samples Test Summary – Egoistic Value

	Levene's Test for Equality of Variances		t-test for Equality of Means			
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Equal variances assumed	.385	.536	13.269	164	.000	2.74699
Equal variances not assumed			13.269	163.950	.000	2.74699

An independent-samples t-test was conducted and the results are reported in Table 5.18. As expected, participants in the opposition environmental values frame manipulation perceived the company's waste plant to have more negative environmental effects on them and others in Bath city ($M = 5.56$ $SD = 1.36$), than did participants in the egoistic value support frame ($M = 2.82$ $SD = 1.32$). The mean change was 2.75. This represents a statistically significant difference in the mean between the opposition frame and the egoistic value support frame $-t(164) = 13.27$, $p < 0.001$ (two-tailed). The result indicates that participants perceived the egoistic value support frame to convey the company waste plant as having less negative environmental effects on them and others in Bath city compared to what participants perceived the opposition frame to convey about the plant's effects on them and others in Bath city. This result indicates that participants perceived this egoistic value invoked in the frames as intended

5.3.2 Company Credibility Manipulation

In this section, results from testing of the company credibility manipulation are reported. As indicated in Table 5.19 below, there were two company credibility manipulations – high and low credibility.

Table 5.19 Company Credibility Manipulations

Number	Manipulation
1	High company credibility in waste plant issue
2	Low company credibility in waste plant issue

Measured as a within-subjects variable

Given that company credibility consisted of two components: trustworthiness and expertness, an established scale which tapped these two components was used for the manipulation check of company credibility. To tap these components, the scale was comprised of a number of questions. Because of this principal components analysis (PCA) was conducted on the scale first.

5.3.2.1 Principal Components Analysis of Company Credibility Scale

The scale used was developed by Newell and Goldsmith (2001), and consisted of eight items (see Table 5.20 below), and measured two dimensions of company credibility: *trustworthiness* and *expertness*. The scale has been adopted widely in the

marketing literature, to check for the successful manipulation of company credibility (Lafferty and Goldsmith 2004, Lafferty 2007).

Table 5.20 Company Credibility Scale Items

No.	Description
	Expertness
1	Green Treat Waste Company has a great amount of experience
2	Green Treat Waste Company is skilled at what they do
3	Green Treat Waste Company has great expertise
	Trustworthiness
1	I trust Green Treat Waste Company
2	Green Treat Waste Company makes truthful claims
3	Green Treat Waste Company is honest

Measured on 7 point Likert scales anchored by "Strongly agree" = 7 and "Strongly disagree" = 1.

Principal component analysis (PCA) is a technique used to reduce the individual scale items to a particular cluster or group of items which comprise a single component or 'latent variable' (Field 2005). It is a suitable technique when scale items comprise a number of groups or subscales representing different components (Pallant 2007). Based on previous research, items of this scale, are designed to measure two 'latent variables': company trustworthiness and expertness.

PCA of the 8 scale items which were used twice - in the high and also in the low credibility manipulations. The correlation matrix revealed coefficients of 0.36 (high company credibility manipulation) 0.27 (low company credibility manipulation) and above. An oblique rotation (direct oblimin) was used¹⁶. It was only expected that two factors would emerge, oblique rotation was used as the factors would likely be correlated. 6 items loaded highly on two factors, 3 items loaded on a factor that represented the trustworthiness dimension and 3 items on a factor representing the expertness dimension.

These factors contributed to 82% (high company credibility) 83% (low company credibility) of the variance. The Kaiser-Meyer-Okin value was .811 (high company credibility) .826 (low company credibility), well in excess of the recommended value

¹⁶ As trustworthiness and expertness are related, these factors may correlate, because of this it is optimal to use an oblique rotation (direct oblimin or promax) (Field, 2005, p. 645). In this case, direct oblimin was used.

of .5 (Kaiser, 1974) and the Bartlett’s Test of Sphericity was statistically significant ($p < 0.001$) for both high and low credibility, supporting the factorability of the correlation matrix. The results of this PCA support this two dimensional structure as a measure of company credibility.

Next the reliability of the scales was ascertained. Scales should consistently reflect the construct they are measuring, in other words, a person should obtain the same score on a scale if they complete it at two different times points (Field 2005, Pallant 2007). This is scale reliability (the extent to which the items/questions of the scale hang together), and the most common way of measuring it is with a Cronbach’s alpha, α (Field 2005, Pallant 2007). Ideally the overall α should be in the region between .7 and .8 (Pallant 2007).

Results of reliability tests reveal the trustworthiness dimension has good internal consistency with a Cronbach alpha coefficient of .876 (high company credibility manipulation) and .930 (low company credibility manipulation). The expertness dimension was also found to have good internal consistency with a Cronbach alpha coefficient of .849 (high company credibility manipulation) and .849 (low company credibility manipulation).

In order to test if the high and low manipulations of company trustworthiness and expertness were successful, a paired-samples t-test was conducted. This tests if differences between high and low trustworthiness and expertness were found respectively. The paired-samples t-test (also known as a repeated measures test) was used as both high and low company credibility manipulations were administered to the same group of participants, i.e., the same participants have been used in both experimental conditions (manipulations) (Field and Hole 2003). In such instances paired-samples t-tests are an appropriate measure to use (Pallant 2007)

5.3.2.2 Company Trustworthiness Manipulation Check

Table 5.21 Descriptive Statistics for Company Trustworthiness

	Mean	Number	Std. Deviation
Company Trustworthiness – High	4.4766	249	1.18553
Company Trustworthiness – Low	2.4371	249	1.30173

Table 5.22 Paired Samples Test Summary – Company Trustworthiness

	Paired Differences		t	Df	Sig. (2-tailed)
	Mean	Std. Deviation			
Company Trustworthiness - High Company Trustworthiness - Low	2.03949	1.61030	19.985	248	.000

As described in Table 5.21, participants in low company trustworthiness manipulation perceived the company to have lower trustworthiness ($M = 2.44$ $SD = 1.30$), than participants in high trustworthiness manipulation ($M = 4.48$ $SD = 1.19$). The results of the t-test are presented in Table 5.22, and show that the difference in means between the low and high company trustworthiness manipulations was 2.04. This represents a statistically significant difference in the mean between the low and high company trustworthiness manipulations $t(248) = 19.99$, $p < .001$ (two-tailed). These results indicate that participants perceived the company trustworthiness manipulations as intended. That is trustworthiness was perceived to be higher for the high trust company description than for the low trust company description.

5.3.2.3 Company Expertness Manipulation Check

Table 5.23 Descriptive Statistics for Company Expertness

	Mean	Number	Std. Deviation
Company Expertness – High	5.0884	249	1.05717
Company Expertness – Low	2.9150	249	1.22695

Table 5.24 Paired Samples Test Summary - Company Expertness

	Paired Differences		t	df	Sig. (2-tailed)
	Mean	Std. Deviation			
Company Expertness - High Company Expertness - Low	2.17336	1.63586	20.965	248	.000

As described in Table 5.23 above, participants in low company expertness manipulation perceived the company to have lower expertness ($M = 2.92$ $SD = 1.23$), than participants in high company expertness manipulation ($M = 5.09$ $SD = 1.06$). The results of the t-test are presented in Table 5.24, and show that the difference in means between the low and high company expertness manipulations was 2.17. This represents a statistically significant difference in the mean between the low and high company expertness manipulations $t(248) = 20.97, p < .001$ (two-tailed). These results indicate that participants perceived the company expertness manipulations as intended. That is expertness was perceived to be higher for the high expert company description than for the low expert company description.

The final independent variable was the individual difference variable – level of individual biospheric, altruistic and egoistic value importance. This variable was not similar to the environmental value frames or company credibility variables in that it was not manipulated. It was measured by using an established scale. Results of PCA on the scale are reported next.

5.3.3 Principal Components Analysis of Environmental Concern Scale

A scale measuring individual environmental concern was used to ascertain individual biospheric, altruistic and egoistic value importance. This scale was developed by Schultz (2001). It consisted of 12 items, and measured three dimensions which reflects three different value bases of environmental concern as originally proposed by Stern and Dietz (1994): biospheric value, altruistic value and egoistic value.

Table 5.25 Environmental Concern Scale Items

Description		
People around the world are generally concerned about the environment because of different consequences. However, people differ in the consequences that concern them the most. In relation to the following question, please indicate the importance of each item by checking a box.		
I am concerned about the environment because of the consequences for ...		
Biospheric Value	Egoistic Value	Altruistic Value
Plants	Me	People in the community
Marine life	My lifestyle	All people
Birds	My health	Children
Animals	My future	Future generations

Measured on 7 point Likert scales anchored by "Supreme importance" = 7 and "Not important" = 1.

PCA was used on 12 items that were included to measure these value bases of environmental concern. The correlation matrix revealed coefficients of 0.13 and above. Following oblique rotation (direct oblimin), a three factor structure consistent with the three value bases of environmental concern emerged. Consistent with the scale, 4 items loaded highly on each factor. It explained 77% of the variance. The Kaiser-Meyer-Okin value was .870, well in excess of the recommended value of .5 (Kaiser, 1974) and the Bartlett's Test of Sphericity was statistically significant ($p < 0.001$), supporting the factorability of the correlation matrix.

The results of this PCA support a three dimension scale as a measure of altruistic, biospheric and egoistic value bases of environmental concern. The biospheric value dimension has good internal consistency (reliability) with a Cronbach alpha coefficient α of .881. The egoistic value dimension has good internal consistency with a Cronbach alpha coefficient α of .907. The altruistic value dimension has good internal consistency with a Cronbach alpha coefficient α of .887.

5.4 Dependent Measures

In the following sections the dependent variables will be described and the results of PCA analysis of the scales used to measure the variables and results of reliability tests will be presented.

5.4.1 Individual Social Legitimacy Judgement

Participants' legitimacy judgement along a moral/ normative dimension was measured. This was referred to as social legitimacy in line with Dowling and Pfeffer (1975). This judgement was measured with nine seven point semantic differential scale items, as shown in Table 5.26 (see also post-stimulus material questions in Appendix D). The nine items were anchored by the following bipolar adjectives:

Table 5.26 Social Legitimacy Judgement Scale Items

1	Unacceptable	Acceptable
2	Improper	Proper
3	Immoral	Moral
4	Undesirable	Desirable
5	Bad	Good
6	Inappropriate	Appropriate
7	Wrong	Right
8	Unethical	Ethical
9	Incorrect	Correct

Measured on 7 point bipolar adjective item scales.

As discussed in Chapter 4 – Section 4.7.1, no measure at the individual level for this particular type of legitimacy existed in the literature. Therefore, the bipolar adjectives that comprise the scale were derived from both organisational legitimacy and business ethics literature.

The bipolar adjectives were derived from key words identified by a literature review of the organizational legitimacy literature. This review resulted in the following bipolar adjectives: *improper/proper*, *undesirable/desirable*, and *inappropriate/appropriate*. The remaining adjectives were added to the scale from a literature review of ethical judgement scales in the business ethics literature (see Chapter 4 – Section 4.7.1).

5.4.1.2 Principal Components Analysis of Social Legitimacy Judgement Scale

Principal component analysis (PCA) of the scale items was conducted. The correlation matrix revealed coefficients of 0.62 and above. An oblique rotation (direct oblimin) was used. Although it was only expected that one factor would emerge, oblique rotation was used as additional factors would likely be correlated. All 9 items loaded highly on one factor, which contributed to 76% of the variance. The Kaiser-Meyer-Olkin value was .948, well in excess of the recommended value of .5 (Kaiser, 1974) and the Bartlett's Test of Sphericity (Bartlett, 1954) was statistically significant ($p < 0.001$), supporting the factorability of the correlation matrix. The results of this PCA support this uni-dimensional scale as a measure of the social legitimacy judgement of the waste plant.

The scale has good internal consistency with a Cronbach alpha coefficient of .960. Participants' intention to oppose the waste plant was also assessed, this is discussed next.

5.4.2 Principal Components Analysis of Intent to Oppose Company's Waste Plant

Scale items for this measure are shown in Table 5.27 below (see also post-stimulus material questions in Appendix D).

Table 5.27 Opposition to Waste Plant Scale Items

No.	Description
	Hard copies of a petition against Green Treat Waste Company's proposed plant have been made available at various locations around Bath (such as Bath Central Library and Post Office).
1	Please indicate the likelihood that you would sign this petition.
2	An online copy of the petition is also available, please indicate the likelihood that you would sign this petition.
3	Please indicate the likelihood that you would object to Bath and North East Somerset (B&NES) Council about the proposed plant.
4	Bath city residents have formed a local campaign group in opposition to Green Treat's proposed plant, please indicate the likelihood that you would become a member of this group.
5	Please indicate the likelihood that you would participate in a protest against Green Treat's proposed waste plant.

Measured on 7 point scales anchored by "Likely" = 7 and "Unlikely" = 1.

PCA was used on 10 items that were included to measure opposition to the company's waste plant. Following oblique rotation (direct oblimin), a one factor structure emerged. 5 items loaded highly on the factor. It explained 72% of the variance. The Kaiser-Meyer-Okin value was .819, well in excess of the recommended value of .5 (Kaiser, 1974) and the Barlett's Test of Sphericity (Bartlett, 1954) was statistically significant ($p < 0.001$), supporting the factorability of the correlation matrix. The results of this PCA support a uni-dimensional scale as a measure of intent to oppose the company's plant.

Scale reliability (the extent to which the items/questions of the scale hang together), was assessed with a Cronbach's alpha, α (Field 2005, Pallant 2007). Ideally the overall α should be in the region between .7 and .8 (Pallant 2007). The scale has good internal consistency with a Cronbach alpha coefficient of .906.

Given the principal component and reliability analysis of independent and dependent measures, covariates – control variables of the study are discussed in the next section.

5.5 Covariates

When conducting an experiment, some factors already have an influence over the dependent variable (Field and Hole 2003, p. 223). Such variables are not part of the main experimental manipulations, but nevertheless have an effect on the dependent variable, and so should be included in statistical tests of the hypotheses (Field and Hole 2003, p. 223). These are ‘noisy’ or confounded variables, in that they are variables additional to manipulated variables that influence the dependent variable. To assess a ‘purer’ effect of the manipulations, these factors must be considered (controlled for) in statistical tests.

The choice of covariates for experiments should be guided by previous theory and research (Field and Hole 2003, Pallant 2007). From a review of the literature on frames and environmental concern: political ideology, knowledge about the issue (Environmental Knowledge (EK)) and prior opinion towards the disputed issue are all variables that have been widely and consistently found to confound the effects of value frames on individuals’ judgements (Nelson and Oxley 1999, Shen and Edwards 2005, Brewer 2001, Chong and Druckman 2007a, Druckman and Nelson 2003, Chong and Druckman 2007b). The questions to measure these variables are presented in Tables 5.28, 5.29 and 5.30 below (see also Appendix A for prior opinion and EK questions, and Appendix D for political ideology questions).

Table 5.28 Environmental Knowledge Scale Items

Number	Question
1	Deforestation is the only type of land use change that affects climate change.
2	The continuing rise in CO2 emissions will have an effect on plants but not on animals
3	CO2 is a greenhouse gas that contributes to ocean acidification
4	Nitrogen run off from agricultural fertilizers has an insignificant effect on global water supply.
5	The melting of arctic summer sea ice will improve the availability of seals for polar bears.
6	Biodiversity includes the diversity of plants but not animals.
7	Carbon dioxide has the longest atmospheric lifetime of all the greenhouse gasses.
8	Only industrial waste incinerators (furnaces for burning waste) emit dioxins.
9	Incinerators emit more methane gas than landfill.
10	Mercury can damage the human body's nervous system.

Measured as yes/no questions

Table 5.29 Prior Opinion Towards Waste Incineration

Number	Question
1	Do you support or oppose incineration (the burning of waste) as a method of treating household waste?

Measured on a 7 point Likert scale anchored by "Strongly support" = 7 and "Strongly oppose" = 1.

Table 5.30 Political Ideology Questions

Number	Question
2	Generally how would you describe your political views?

Q1: Measured on a 7 point Likert scale anchored by "Strongly liberal" = 7 and "Not at all liberal" = 1.

Q2: Measured on a 7 point Likert scale anchored by "Strongly conservative" = 7 and "Not at all conservative" = 1.

PCA was not conducted on these questions as EK was a based on the number of questions that participants answered correctly, rather than detecting 'latent variables'. With respect to prior opinion and political ideology, these measures did not comprise a set of questions measuring a latent variable, and so PCA is not appropriate for use. Reliability analysis is also not appropriate for these questions.

5.5.1 Preliminary Checks of Covariates

Preliminary checks were performed on these covariates to ensure that there was no violation of the assumptions in relation to correlation between covariates, and DV, linearity and homogeneity of regression slopes (Pallant 2007). Results of these checks are reported in Appendix M.

If using more than one covariate, they should not be too highly correlated with one another, $r = .8$ or above (Pallant 2007), in the case of the covariates of these studies, the highest correlation was between political ideology – liberal and political ideology – conservative, therefore, these correlations were well below 0.8 threshold.

Another requirement is that covariates should correlate with the dependent variable (but not too highly). However, EK did not correlate with the dependent variable: individual social legitimacy judgement. Covariates that do not correlate with the dependent variables should to be included in statistical tests (Mayers 2013), therefore EK was excluded as a control variable in statistical testing of the hypotheses.

The remaining covariates will be included in the statistical tests of the hypotheses, in order to gauge a more accurate effect of environmental value frames on individuals' social legitimacy judgements of organisational operations. In the next section, results from statistical tests of the hypotheses of the conceptual model will be presented.

5.6 Tests of Hypotheses

A branch of inferential statistics appropriate for experimental data: ANOVA is used. These statistical techniques are concerned with comparing differences (usually means) between groups (manipulations) (Pallant 2007, Field 2005, Field and Hole 2003). In the next section, the results from tests of the hypotheses will be presented. Hypotheses of the study are summarised in Table 5.31 below.

Table 5.31 Summary of Hypotheses

Number	Hypothesis
H1	In comparison with no frame, exposure to an environmental values frame in opposition to an organisation's operation will negatively influence individuals' social legitimacy judgements of the operation.
H2a	The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgements will be significantly mitigated when a biospheric value frame in support of the operation is present.
H2b	The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgements will be significantly mitigated when an altruistic value frame in support of the operation is present.
H2c	The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgements will be significantly mitigated when an egoistic value frame in support of the operation is present.
H3a	The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgments will be stronger for individuals who attach a high level of importance to the biospheric value invoked in the frame, than for individuals who attach a low level of importance to the value.
H3b	The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgments will be stronger for individuals who attach a high level of importance to the altruistic value invoked in the frame, than for individuals who attach a low level of importance to the value.
H3c	The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgments will be stronger for individuals who attach a high level of importance to the egoistic value invoked in the frame, than for individuals who attach a low level of importance to the value.
H4a	The mitigating effect of a biospheric value frame in support of an operation on individuals' social legitimacy judgements will be stronger for individuals who attach a high level of importance to biospheric value, than for individuals who attach a low level of importance to the value.
H4b	The mitigating effect of an altruistic value frame in support of an operation on individuals' social legitimacy judgements will be stronger for individuals who attach a high level of importance to altruistic value, than for individuals who attach a low level of importance to the value.
H4c	The mitigating effect of an egoistic value frame in support of an operation will be stronger on individuals' social legitimacy judgements for individuals who attach a high level of importance to egoistic value, than when individuals attach a low level of importance to the value.

H5a	The mitigating effect of a biospheric value frame in support of an operation on individuals' social legitimacy judgements will be stronger when the organisation transmitting the frame has high trust and expertise in the disputed issue, whereas, the mitigating effect will be weaker when the organisation has low trust and expertise in the issue.
H5b	The mitigating effect of an altruistic value frame in support of an operation on individuals' social legitimacy judgements will be stronger when the organisation transmitting the frame has high trust and expertise in the disputed issue, whereas, the mitigating effect will be weaker when the organisation has low trust and expertise in the issue.
H5c	The mitigating effect of an egoistic value frame in support of an operation on individuals' social legitimacy judgements will be stronger when the organisation transmitting the frame has high trust and expertise in the disputed issue, whereas, the mitigating effect will be weaker when the organisation has low trust and expertise in the issue.
H6	The positive influence of an environmental value frame in opposition to an operation on individual intention to oppose the operation will be mediated by individual social legitimacy judgement.
H7a	The mitigating effect of a biospheric value frame in support of an operation on individual intention to oppose the operation will be mediated by individual social legitimacy judgement of the operation.
H7b	The mitigating effect of an altruistic value frame in support of an operation on individual intention to oppose the operation will be mediated by individual social legitimacy judgement of the operation.
H7c	The mitigating effect of an egoistic value frame in support of an operation on individual intention to oppose the operation will be mediated by individual social legitimacy judgement of the operation.

In the next section, statistical testing for hypotheses 1 will be presented.

5.6.1 Test of Hypothesis One

In comparison with no frame, exposure to an environmental values frame in opposition to an organisation's operation will negatively influence individuals' social legitimacy judgements of the operation.

A one-way between groups analysis of covariance (ANCOVA)¹⁷ was conducted to compare the effect of the opposition environmental values frame with the no frame

¹⁷ When a covariate is included in an analysis of variance (ANOVA) test, the test is called analysis of covariance (ANCOVA). ANCOVA statistically removes the effects of covariates.

manipulation (control condition) on participants' social legitimacy judgements of the waste plant. The independent variable was the environmental value frame manipulations (opposition frame versus no frame) and the dependent variable (DV) was social legitimacy judgement of company's waste plant. The covariates (with the exception of environmental knowledge) were entered into the ANCOVA model to control for their effect on the dependent variable. The ANCOVA table is shown in Table 5.32 below.

Table 5.32 Tests of Between-Subjects Effects – H1

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	73.485 ^a	4	18.371	14.797	.000
Intercept	119.840	1	119.840	96.523	.000
Q25_Support_Oppose_Incineration (Prior Opinion)	.933	1	.933	.752	.387
Political Ideology – Liberal	7.072	1	7.072	5.696	.018
Political Ideology – Conserv	.097	1	.097	.078	.781
Frame Manipulations	65.986	1	65.986	53.148	.000
Error	193.684	156	1.242		
Total	3253.192	161			
Corrected Total	267.170	160			

a. R Squared = .275 (Adjusted R Squared = .256)

According to H1, exposure to an opposition environmental values frame will negatively affect individuals' social legitimacy judgement of the company's waste plant compared to exposure to no frame.

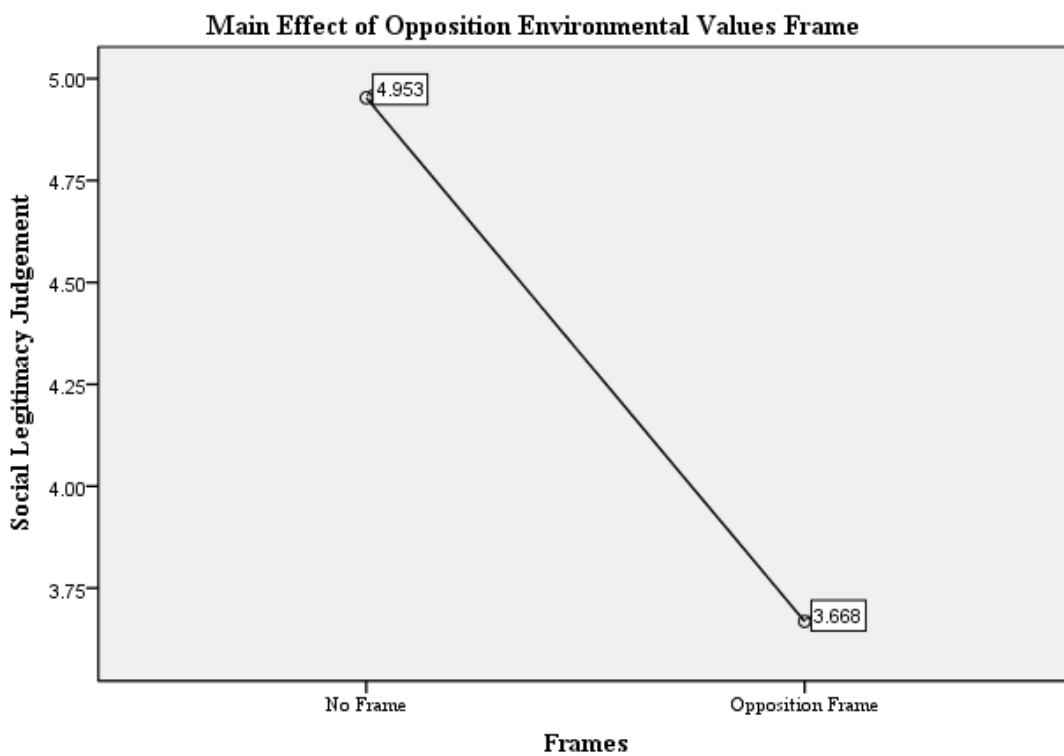
After adjusting for the prior opinion and political ideology covariates, there was a statistically significant main effect of the opposition environmental values frame on individual social legitimacy judgement of company's waste plant $F(1, 156) = 53.15, p < .001$, indicating that an opposition environmental value frame had a significantly negative effect ($M = 3.67, SE = 0.124$) on individuals' social legitimacy judgements of the waste plant, compared to exposure to no frame ($M = 4.95, SE = 0.125$).

There was also a significant effect of the covariate: political ideology – liberal on extent of social legitimacy judgement $F(1, 156) = 5.69, p < .05$. The other two covariates: prior opinion and political ideology – conservative were not significantly related to the dependent variable.

Levene's test was not significant, indicating that the assumption of homogeneity of variance had not been violated, $F(1, 159) = 1.997, p = .160$. This result demonstrates that variance of the independent variable is equal across groups. Overall, results of this test support H1.

This significant main effect of the opposition environmental values frame is depicted in the line graph presented in Figure 5.1 below.

Figure 5.1



Covariates appearing in the model are evaluated at the following values: SupportOpposeIncineration = 2.97, Generally how would you describe your political views (liberal) = 4.3043, Generally how would you describe your political views conservative = 3.7329

Next the results of tests of hypothesis 2 are reported.

5.6.2 Tests of Hypothesis Two

5.6.2.1 Test of Hypothesis 2a

The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgements will be significantly mitigated when a biospheric value frame in support of the operation is present.

A one-way between groups analysis of covariance (ANCOVA) was conducted to compare the effect of the opposition environmental values frame + biospheric value support frame manipulation with the opposition frame manipulation. The effects of these manipulations were tested on participants' social legitimacy judgements of the waste plant.

The independent variable was the environmental value frame manipulations (opposition + biospheric value support frames versus opposition frame) and the dependent variable was the social legitimacy judgement of company's waste plant. The covariates (with the exception of environmental knowledge) were entered into the model to determine their effect on the dependent variable. The results of the ANCOVA test are shown in Table 5.33 below.

Table 5.33 Tests of Between-Subjects Effects – H2a

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	17.241 ^a	4	4.310	3.478	.009
Intercept	50.414	1	50.414	40.680	.000
Frame Manipulations	2.776	1	2.776	2.240	.136
Q25_Support_Oppose_Incineration (Prior Opinion)	7.489	1	7.489	6.043	.015
Political Ideology – Liberal	1.037	1	1.037	.837	.362
Political Ideology – Conserv	2.548	1	2.548	2.056	.154
Error	195.805	158	1.239		
Total	2612.258	163			
Corrected Total	213.046	162			

a. R Squared = .081 (Adjusted R Squared = .058)

H2a predicted that the addition of the biospheric value support frame to the opposition frame will have a mitigating effect on individuals' social legitimacy judgement of the

company's waste plant (ascertained by comparison to participants who were only exposed to an opposition frame).

After adjusting for the prior opinion and political ideology covariates, there was not a statistically significant effect of the opposition frame + biospheric value support frame on individual social legitimacy judgement of company's waste plant $F(1, 158) = 2.24, p < .136$, indicating that accompaniment of a biospheric support frame with an opposition frame did not have a significantly mitigating effect ($M = 3.97, SE = .124$) on individuals' social legitimacy judgements of the waste plant, when compared to participants who were exposed to only an opposition frame ($M = 3.7, SE = .125$). Although the means were in the right direction, they did not approach statistical significance.

There was a significant effect of the covariate: prior opinion towards waste incineration on social legitimacy judgement of the waste plant $F(1, 158) = 6.04, p < .05$. The other two covariates: political ideology – liberal and conservative were not significantly related to the dependent variable.

Levene's test was not significant, indicating that the assumption of homogeneity of variance had not been violated, $F(1, 161) = 1.209, p = .273$. This result demonstrates that variance of the independent variable is equal across groups. Overall, results of this test do not support H2a.

5.6.2.2 Test of Hypothesis 2b

The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgements will be significantly mitigated when an altruistic value frame in support of the operation is present.

A one-way between groups analysis of covariance (ANCOVA) was conducted to compare the effect of the opposition environmental values frame + altruistic value support frame manipulation with the opposition frame manipulation. The effects of these manipulations were tested on participants' social legitimacy judgements of the waste plant.

The independent variable was the environmental value frame manipulations (opposition + altruistic value support frames versus opposition frame) and the

dependent variable was the social legitimacy judgement of company's waste plant. The covariates (with the exception of environmental knowledge) were entered into the model to determine their effect on the dependent variable. The ANCOVA results are shown in Table 5.34 below.

Table 5.34 Tests of Between-Subjects Effects –H2b

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	12.170 ^a	4	3.042	2.134	.079
Intercept	61.633	1	61.633	43.230	.000
Frame Manipulations	.570	1	.570	.399	.528
Q25_Support_Oppose_Incineration (Prior Opinion)	3.272	1	3.272	2.295	.132
Political Ideology – Liberal	3.429	1	3.429	2.405	.123
Political Ideology – Conserv	1.301	1	1.301	.912	.341
Error	223.835	157	1.426		
Total	2502.997	162			
Corrected Total	236.004	161			

a. R Squared = .052 (Adjusted R Squared = .027)

H2b predicted that the addition of the altruistic value support frame to the opposition frame will have a mitigating effect on individuals' social legitimacy judgement of the company's waste plant (ascertained by comparison to participants who were only exposed to an opposition frame).

After adjusting for the prior opinion and political ideology covariates, there was not a statistically significant effect of the altruistic value support + opposition frames on individual social legitimacy judgement of company's waste plant $F(1, 157) = 0.399, p < .528$, indicating that the accompaniment of an altruistic support frame with an opposition frame did not have a significantly mitigating effect ($M = 3.80, SE = .134$) on individuals' social legitimacy judgements of the waste plant, when compared to participants exposed to only the opposition frame ($M = 3.68, SE = .134$). Although the means were in the right direction, they did not approach statistical significance.

The covariates: prior opinion towards waste incineration and political ideology – liberal and conservative were not significantly related to the dependent variable.

Levene's test was not significant, indicating that the assumption of homogeneity of variance had not been violated, $F(1, 160) = .056, p = .813$. This result demonstrates that variance of the independent variable is equal across groups. Overall, results of this test do not support H2b.

5.6.2.3 Test of Hypothesis 2c

The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgements will be significantly mitigated when an egoistic value frame in support of the operation is present.

A one-way between groups analysis of covariance (ANCOVA) was conducted to compare the effect of the opposition environmental values frame + egoistic value support frame manipulation with the opposition frame manipulation. The effects of these manipulations were tested on participants' social legitimacy judgements of the waste plant. The independent variable was the environmental value frame manipulations (opposition frame versus opposition frame + egoistic value support frame) and the dependent variable was the social legitimacy judgement of company's waste plant. The covariates (with the exception of environmental knowledge) were entered into the model to determine their effect on the dependent variable. Results of the ANCOVA are shown in Table 5.35 below.

Table 5.35 Tests of Between-Subjects Effects – H2c

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	28.922 ^a	4	7.230	5.628	.000
Intercept	65.083	1	65.083	50.656	.000
Frame Manipulations	3.811	1	3.811	2.966	.087
Q25_Support_Oppose_Incineration (Prior Opinion)	10.595	1	10.595	8.246	.005
Political Ideology – Liberal	3.521	1	3.521	2.740	.100
Political Ideol – Conserv	2.575	1	2.575	2.004	.159
Error	204.283	159	1.285		
Total	2681.043	164			
Corrected Total	233.205	163			

a. R Squared = .124 (Adjusted R Squared = .102)

H2c predicted that the addition of the egoistic value support frame to the opposition frame will have a mitigating effect on individuals' social legitimacy judgement of the company's waste plant (when compared to participant only exposed to the opposition frame).

After adjusting for the prior opinion and political ideology covariates, there was not a statistically significant effect of the egoistic value support + opposition frames on individual social legitimacy judgement of company's waste plant $F(1, 159) = 2.966, p = .087$, indicating that the accompaniment of an egoistic support frame with an opposition frame ($M = 4.02, SE = .126$) did not have a significantly mitigating effect on individuals' social legitimacy judgements of the waste plant, compared to participants only exposed to an opposition frame ($M = 3.70, SE = .125$). Although the means were in the right direction, they did not approach statistical significance.

There was a significant effect of the covariate: prior opinion towards waste incineration on social legitimacy judgement of the waste plant $F(1, 159) = 8.25, p < .05$. The other covariates political ideology – liberal and conservative were not significantly related to the dependent variable.

Levene's test was not significant, indicating that the assumption of homogeneity of variance had not been violated, $F(1, 162) = 1.337, p = .249$. This result demonstrates that variance of the independent variable is equal across groups. Overall, results of this test do not support H2c.

5.6.3 Tests of Hypothesis Three

Results of Hypothesis 3 are presented next.

5.6.3.1 Test of Hypothesis 3a

The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgments will be stronger for individuals who attach a high level of importance to the biospheric value invoked in the frame, than for individuals who attach a low level of importance to the value.

A 2 by 2 between-groups ANCOVA was conducted to compare the effect of the opposition environmental values frame on social legitimacy judgement of company's waste plant for participants who attach a high level of importance to biospheric value compared to those who attach a low level of importance to the value. As discussed in Chapter 4 – Section 4.6.6, biospheric value importance was median split into high and low groups. With a value range running from 1 to 7, the median for this variable was 5.50, therefore individuals above the median were assigned to the high group, while individuals below this value were assigned to the low group. The independent variables were the environmental value frame manipulation (opposition frame versus no frame) and individual biospheric value importance (high versus low). The dependent variable was social legitimacy judgement. The ANCOVA results are shown in Table 5.36 below.

Table 5.36 Test of Between-Subjects Effects – H3a

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	76.239 ^a	6	12.707	10.249	.000
Intercept	114.361	1	114.361	92.241	.000
Frame Manipulations	60.435	1	60.435	48.746	.000
Individual Biospheric Value Importance (High v. Low)	.975	1	.975	.786	.377
Frame Manipulations * Individual Biospheric Value	1.827	1	1.827	1.473	.227
Q25_Support_Oppose_Incineration (Prior Opinion)	.945	1	.945	.762	.384
Political Ideology – Liberal	6.595	1	6.595	5.319	.022
Political Ideology – Conserv	.042	1	.042	.034	.854
Error	190.930	154	1.240		
Total	3253.192	161			
Corrected Total	267.170	160			

a. R Squared = .285 (Adjusted R Squared = .258)

H3a predicted that the negative effect of the opposition frame on social legitimacy judgement of the company's waste plant would be stronger for individuals with high biospheric value importance, than for those with low biospheric value importance. Results in Table 5.36 indicate that opposition environmental values frame had a significant main effect $F(1, 154) = 48.746, p < .000$ on social legitimacy judgement.

However the main effect of individual biospheric value importance on social legitimacy judgement was non-significant, $F(1, 154) = .786, p = .377$. There was no statistically significant interaction¹⁸ effect between the opposition environmental values frame and individual biospheric value importance $F(1, 154) = 1.473, p = .227$, indicating that the strength of the opposition frame effect was not significantly different between individuals with low and high biospheric value importance. Specifically, the negative effect of the opposition frame was similar for individuals with high biospheric value importance ($M = 3.70, SE = .181$) and for individuals with low biospheric value importance ($M = 3.64, SE = .171$). These findings indicate that the negative effect of the opposition environmental values frame was not stronger for participants who attached high importance to biospheric value compared to those who attached a low importance to the value.

There was a significant effect of the covariate: political ideology - liberal on social legitimacy judgement $F(1, 154) = 5.32, p < .05$. The other covariates political ideology –conservative and political opinion were not significantly related to the dependent variable.

Levene's test was not significant, indicating that the assumption of homogeneity of variance had not been violated, $F(1, 157) = 1.221, p = .304$. This result demonstrates that variance of the independent variable is equal across groups. Overall, results of this test do not support H3a.

5.6.3.2 Test of Hypothesis 3b

The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgments will be stronger for individuals who attach a high level of importance to the altruistic value invoked in the frame, than for individuals who attach a low level of importance to the value.

A 2 by 2 between-groups ANCOVA was conducted to compare the effect of the opposition environmental values frame on social legitimacy judgement of company's

¹⁸ In psychology, moderation is often referred to as interaction. Specifically, it was tested if the strength of the relationship between environmental value frames and social legitimacy judgement depends on the level of importance individuals attach to biosphere, altruist, and egoistic values. In words, if individual biospheric, altruistic and egoistic value importance are moderator variables.

waste plant for participants who attach a high level of importance to altruistic value compared to those who attach a low level of importance to the value. As discussed in Chapter 4 – Section 4.6.6, altruistic value importance was median split into high and low groups. With a value range running from 1 to 7, the median for this variable was 6.25, therefore individuals above the median were assigned to the high group, while individuals below this value were assigned to the low group. Altruistic value importance was median split into high and low groups. The independent variables were the environmental value frame manipulation (opposition frame versus no frame) and individual altruistic value importance (high versus low). The dependent variable was social legitimacy judgement. Results of the ANCOVA test are shown in Table 5.37 below.

Table 5.37 Test of Between-Subjects Effects – H3b

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	77.956 ^a	6	12.993	10.575	.000
Intercept	120.140	1	120.140	97.781	.000
Frame Manipulations	69.811	1	69.811	56.819	.000
Q25_Support_Oppose_Incineration (Prior Opinion)	.943	1	.943	.768	.382
Political Ideology – Liberal	7.621	1	7.621	6.202	.014
Political Ideology – Conserv	.095	1	.095	.077	.781
Individual Altruistic Value Importance (High v. Low)	.865	1	.865	.704	.403
Frame Manipulations*Individual Altruistic Value Importance	3.532	1	3.532	2.875	.092
Error	189.213	154	1.229		
Total	3253.192	161			
Corrected Total	267.170	160			

a. R Squared = .292 (Adjusted R Squared = .264)

H3b predicted that the negative effect of the opposition frame on social legitimacy judgement would be stronger for individuals with high altruistic value importance, than for those with low altruistic value importance. Results in Table 5.37 indicate that opposition environmental values frame had a significant main effect $F(1, 154) = 56.82, p < .000$ on social legitimacy judgement of the waste plant. However the main effect of individual altruistic value importance on social legitimacy judgement

was non-significant, $F(1, 154) = .704, p = .403$. There was no statistically significant interaction effect between the opposition environmental values frame and individual altruistic value importance $F(1, 154) = 2.88, p = .092$, indicating that the negative effect of the opposition frame was not different between individuals with low and high altruistic value importance. Specifically, the negative effect of the opposition frame was similar for individuals with high altruistic value importance ($M = 3.38, SE = .200$) and for individuals with low altruistic value importance ($M = 3.84, SE = .157$). These findings indicate that the negative effect of the opposition environmental values frame was not stronger for participants who attached high importance to altruistic value compared to those who attached a low importance to the value.

There was a significant effect of the covariate: political ideology - liberal on social legitimacy judgement $F(1, 154) = 6.20, p < .05$. The other covariates political ideology – conservative and political opinion were not significantly related to the dependent variable.

Levene's test was not significant, indicating that the assumption of homogeneity of variance had not been violated, $F(1, 157) = 0.936, p = .425$. This result demonstrates that variance of the independent variable is equal across groups. Overall, results of this test do not support H3b.

5.6.3.3 Test of Hypothesis 3c

The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgments will be stronger for individuals who attach a high level of importance to the egoistic value invoked in the frame, than for individuals who attach a low level of importance to the value.

A 2 by 2 between-groups ANCOVA was conducted to compare the effect of the opposition environmental values frame on social legitimacy judgement of company's waste plant for participants who attach a high level of importance to egoistic value compared to those who attach a low level of importance to the value. As discussed in Chapter 4 – Section 4.6.6, egoistic value importance was median split into high and low groups. With a value range running from 1 to 7, the median for this variable was 6.00, therefore individuals above the median were assigned to the high group, while

individuals below this value were assigned to the low group. The independent variables were the environmental value frame manipulation (opposition frame versus no frame) and individual altruistic value importance (high versus low). The dependent variable was social legitimacy judgement. Results of the ANCOVA test are shown in Table 5.38 below.

Table 5.38 Test of Between-Subjects Effects – H3c

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	77.970 ^a	6	12.995	10.577	.000
Intercept	118.290	1	118.290	96.283	.000
Frame Manipulations	65.219	1	65.219	53.085	.000
Q25_Support_Oppose_Incineration (Prior Opinion)	1.769	1	1.769	1.440	.232
Political Ideology – Liberal	7.141	1	7.141	5.813	.017
Political Ideology – Conserv	.102	1	.102	.083	.774
Individual Egoistic Value Importance (High v Low)	4.124	1	4.124	3.356	.069
Frame Manipulations * Individual Egoistic Value Importance	.371	1	.371	.302	.583
Error	189.200	154	1.229		
Total	3253.192	161			
Corrected Total	267.170	160			

a. R Squared = .292 (Adjusted R Squared = .264)

H3c predicted that the negative effect of the opposition frame on social legitimacy judgement would be stronger for individuals with high egoistic value importance, than for those with low egoistic value importance. Results in Table 5.38 indicate that opposition environmental values frame had a significant main effect $F(1, 154) = 53.09, p < .000$ on social legitimacy judgement. However the main effect of individual egoistic value importance on social legitimacy judgement was non-significant, $F(1, 154) = 3.36, p = .069$. There was no statistically significant interaction effect between the opposition environmental values frame and individual egoistic value importance $F(1, 154) = .302, p = .583$, indicating that the negative effect of the opposition frame was not different between individuals with low and high egoistic value importance. Specifically, the negative effect of the opposition frame was similar for individuals with high egoistic value importance ($M = 3.81, SE = .199$) and for individuals with low egoistic value importance ($M = 3.58, SE = .160$).

These findings indicate that the negative effect of the opposition environmental values frame was not stronger for participants who attached high importance to egoistic value compared to those who attached a low importance to the value.

There was a significant effect of the covariate: political ideology - liberal on social legitimacy judgement $F(1, 154) = 5.81, p < .05$. The other covariates political ideology – conservative and political opinion were not significantly related to the dependent variable.

Levene's test was not significant, indicating that the assumption of homogeneity of variance had not been violated, $F(1, 157) = 1.861, p = .138$. This result demonstrates that variance of the independent variable is equal across groups. Overall, results of this test do not support H3c.

5.6.3.4 Floodlight Analysis for H3

Given that individual biospheric, altruistic and egoistic values were measured as continuous moderator, a potential interaction was further probed using Johnson-Neyman point method (1936), performing a floodlight analysis to examine the influence of the opposition environmental values frame, on social legitimacy judgement across the range of individual value importance values. These tests were performed using a well established and used SPSS Macro: MODPROBE (Hayes and Matthes, 2009).

This allows for a more thorough testing for an interaction (moderation) effect than a median split approach. This is because, with floodlight analysis, the simple effects of the manipulation are checked for significance along all levels of the moderator variable, as opposed to just two (high and low), as is the case with the median split. However, the results of the floodlight analysis found no significant moderation effect with respect to H3a, b and c, i.e., the simple effects of the frame manipulations did not differ significantly on each level of the moderator variables: individual biospheric, altruistic, and egoistic value importance.

5.6.4 Tests of Hypothesis Four

Results from tests of hypothesis four are presented next.

5.6.4.1 Test of Hypothesis 4a

The mitigating effect of a biospheric value frame in support of an operation on individuals' social legitimacy judgements will be stronger for individuals who attach a high level of importance to biospheric value, than for individuals who attach a low level of importance to the value.

A 2 by 2 between-groups ANCOVA was conducted to compare the effect of the opposition frame + biospheric value frame on social legitimacy judgement of company's waste plant for participants who attach a high level of importance to biospheric value compared to those who attach a low level of importance to the value. Biospheric value importance was median split into high and low groups. The median for this variable was 5.50 therefore individuals above the median were assigned to the high group, while individuals below this value were assigned to the low group. The independent variables were the environmental value frame manipulation (opposition frame + biospheric value support frame versus opposition frame) and individual biospheric value importance (high versus low). The dependent variable was social legitimacy judgement. Results of the ANCOVA test are shown in Table 5.39 below.

Table 5.39 Test of Between-Subjects Effects – H4a

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	19.276 ^a	6	3.213	2.586	.020
Intercept	49.086	1	49.086	39.518	.000
Frame Manipulations	3.056	1	3.056	2.460	.119
Q25_Support_Oppose_Incineration (Prior Opinion)	7.380	1	7.380	5.942	.016
Political Ideology – Liberal	.877	1	.877	.706	.402
Political Ideology – Conserv	2.666	1	2.666	2.147	.145
Individual Biospheric Value Importance (High v. Low)	1.098	1	1.098	.884	.349
Frame Manipulations * Individual Biospheric Value Importance	.912	1	.912	.734	.393
Error	193.770	156	1.242		
Total	2612.258	163			
Corrected Total	213.046	162			

a. R Squared = .090 (Adjusted R Squared = .055)

H4a predicted that the mitigating effect of the opposition frame + biospheric value support frame on social legitimacy judgement would be stronger for individuals with high biospheric value importance, than for those with low biospheric value importance. Results in Table 5.39 indicate that opposition environmental values frame + biospheric value support frame did not have a significant main effect $F(1, 156) = 2.25, p < .001$. $p = .119$ on social legitimacy judgement. The main effect of individual biospheric value importance on social legitimacy judgement was non-significant, $F(1, 156) = .884, p = .349$. There was no statistically significant interaction effect between the opposition frame + biospheric value support frame and individual biospheric value importance $F(1, 156) = .734, p = .393$. Specifically, the effect of the opposition + biospheric value support frames was statistically similar for individuals with high biospheric value importance ($M = 4.14, SE = .184$) and for individuals with low biospheric value importance ($M = 3.83, SE = .168$). The findings indicate that the strength of the mitigating effect was not different between individuals with low and high biospheric value importance.

There was a significant effect of the covariate: prior opinion towards waste incineration on social legitimacy judgement of the waste plant $F(1, 156) = 5.19, p < .05$. The other covariates political ideology – conservative and liberal were not significantly related to the dependent variable.

Levene's test was not significant, indicating that the assumption of homogeneity of variance had not been violated, $F(3, 159) = 1.218, p = .305$. This result demonstrates that variance of the independent variable is equal across groups. Overall, results of this test do not support H4a.

5.6.4.2 Test of Hypothesis 4b

The mitigating effect of an altruistic value frame in support of an operation on individuals' social legitimacy judgements will be stronger for individuals who attach a high level of importance to altruistic value, than for individuals who attach a low level of importance to the value.

A 2 by 2 between-groups ANCOVA was conducted to compare the effect of the opposition frame + altruistic value frame on social legitimacy judgement of

company's waste plant for participants who attach a high level of importance to altruistic value compared to those who attach a low level of importance to the value. Altruistic value importance was median split into high and low groups. The median for this variable was 6.25 therefore individuals above the median were assigned to the high group, while individuals below this value were assigned to the low group. The independent variables were the environmental value frame manipulation (opposition frame + altruistic value support frame versus opposition frame) and individual altruistic value importance (high versus low). The dependent variable was social legitimacy judgement. Results of the ANCOVA test are shown in Table 5.40 below.

Table 5.40 Test of Between-Subjects Effects – H4b

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	16.156 ^a	6	2.693	1.898	.084
Intercept	60.414	1	60.414	42.594	.000
Frame Manipulations	1.159	1	1.159	.817	.367
Q25_Support_Oppose_Incineration (Prior Opinion)	3.138	1	3.138	2.212	.139
Political Ideology – Liberal	3.563	1	3.563	2.512	.115
Political Ideology – Conserv	1.304	1	1.304	.919	.339
Individual Altruistic Value Importance (High v. Low)	1.163	1	1.163	.820	.367
Frame Manipulations * Individual Altruistic Value Importance	2.882	1	2.882	2.032	.156
Error	219.848	155	1.418		
Total	2502.997	162			
Corrected Total	236.004	161			

a. R Squared = .068 (Adjusted R Squared = .032)

H4b predicted that the mitigating effect of the opposition frame + altruistic value support frame on social legitimacy judgement would be stronger for individuals with high altruistic value importance, than for those with low altruistic value importance. Results in Table 5.40 indicate that opposition environmental values frame + altruistic value support frame did not have a significant main effect $F(1, 155) = .817, p = .367$ on social legitimacy judgement. The main effect of individual altruistic value importance on social legitimacy judgement was non-significant, $F(1, 155) = .820, p = .367$. There was no statistically significant interaction effect between the opposition

frame + altruistic value support frame and individual altruistic value importance $F(1, 155) = 2.03, p = .156$. Specifically, the effect of the opposition + altruistic value support frames was statistically similar for individuals with high altruistic value importance ($M = 3.85, SE = .190$) and for individuals with low altruistic value importance ($M = 3.75, SE = .189$). The findings indicate that the strength of the altruistic value support frame's mitigating effect was not different between individuals with low and high altruistic value importance.

The covariates: prior opinion and political ideology – conservative and liberal were not significantly related to the dependent variable.

Levene's test was not significant, indicating that the assumption of homogeneity of variance had not been violated, $F(3, 158) = 1.381, p = .250$. This result demonstrates that variance of the independent variable is equal across groups. Overall, results of this test do not support H4b.

5.6.4.3 Test of Hypothesis 4c

The mitigating effect of an egoistic value frame in support of an operation will be stronger on individuals' social legitimacy judgements for individuals who attach a high level of importance to egoistic value, than when individuals attach a low level of importance to the value.

A 2 by 2 between-groups ANCOVA was conducted to compare the effect of the opposition frame + egoistic value frame on social legitimacy judgement of company's waste plant for participants who attach a high level of importance to egoistic value compared to those who attach a low level of importance to the value. Egoistic value importance was median split into high and low groups. The median for this variable was 6.00, therefore individuals above the median were assigned to the high group, while individuals below this value were assigned to the low group. The independent variables were the environmental value frame manipulation (opposition frame + egoistic value support frame versus opposition frame) and individual egoistic value importance (high versus low). The dependent variable was social legitimacy judgement. The main ANCOVA summary table is shown in Table 5.41 below.

Table 5.41 Test of Between-Subjects Effects – H4c

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	30.029 ^a	6	5.005	3.937	.001
Intercept	65.058	1	65.058	51.175	.000
Frame Manipulations	3.396	1	3.396	2.671	.104
Q25_Support_Oppose_Incineration (Prior Opinion)	10.411	1	10.411	8.189	.005
Political Ideology – Liberal	3.680	1	3.680	2.894	.091
Political Ideology – Conserv	1.930	1	1.930	1.518	.220
Individual Egoistic Value Importance (High v. Low)	.039	1	.039	.031	.861
Frame Manipulations * Individual Egoistic Value Importance	2.688	1	2.688	2.114	.148
Error	198.321	156	1.271		
Total	2678.266	163			
Corrected Total	228.350	162			

a. R Squared = .132 (Adjusted R Squared = .098)

H4c predicted that the mitigating effect of the opposition frame + egoistic value support frame on social legitimacy judgement would be stronger for individuals with high egoistic value importance, than for those with low egoistic value importance. Results in Table 5.41 indicate that opposition environmental values frame + egoistic value support frame did not have a significant main effect $F(1, 156) = 2.671, p = .104$ on social legitimacy judgement. The main effect of individual egoistic value importance on social legitimacy judgement was non-significant, $F(1, 156) = .031, p = .861$. There was no statistically significant interaction effect between the opposition frame + egoistic value support frame and individual egoistic value importance $F(1, 156) = 2.114, p = .148$. Specifically, the effect of the opposition + egoistic value support frames was statistically similar for individuals with high altruistic value importance ($M = 3.92, SE = .180$) and for individuals with low altruistic value importance ($M = 4.15, SE = .175$). The findings indicate that the strength of the egoistic value support frame's mitigating effect was not different between individuals with low and high egoistic value importance.

There was a significant effect of the covariate: prior opinion on social legitimacy judgement $F(1, 156) = 8.19, p < .01$. The other covariates political ideology – conservative and liberal were not significantly related to the dependent variable.

Levene's test was not significant, indicating that the assumption of homogeneity of variance has not been violated, $F(3, 159) = 3.324, p < .05$. This result demonstrates that variance of the independent variable was equal across groups. Overall, results of this test do not support H4c.

5.6.4.4 Floodlight Analysis for H4

Given that individual biospheric, altruistic and egoistic values were measured as a continuous moderator, a potential interaction was further probed using Johnson-Neyman point method (1936), performing a floodlight analysis to examine the influence of each of the opposition + support frame manipulations, on social legitimacy judgement across the range of individual value importance values. These tests were performed using a well-established and used SPSS Macro: MODPROBE (Hayes and Matthes, 2009).

This allows for a more thorough testing for an interaction (moderation) effect than a median split approach. This is because, with floodlight analysis, the simple effects of the manipulation are checked for significance along all levels of the moderator variable, as opposed to just two (high and low), as is the case with the median split. However, the results of the floodlight analysis found no significant moderation effect with respect to H4a, b and c, i.e., the simple effects of the frame manipulations did not differ significantly on each level of the moderator variables: individual biospheric, altruistic, and egoistic value importance.

5.6.5 Tests of Hypothesis Five

Results from tests of Hypothesis 5 are presented next.

5.6.5.1 Test of Hypothesis 5a

The mitigating effect of a biospheric value frame in support of an operation on individuals' social legitimacy judgements will be stronger when the organisation transmitting the frame has high trust and expertise in the disputed issue, whereas, the mitigating effect will be weaker when the organisation has low trust and expertise in the issue.

A mixed (between and within subjects) analysis of variance (ANOVA) was conducted to compare the effect of the opposition frame + biospheric value frame on social legitimacy judgement when the source of the biospheric value frame is a company with high credibility versus when it is a company with low credibility. The independent variables were the environmental value frame manipulation (opposition frame + biospheric value support frame versus opposition frame) and company credibility in waste plant issue (high versus low). The dependent variable was social legitimacy judgement.

Covariate variables were excluded from the mixed ANOVA, as they represented between-subjects covariates, i.e., variables that differ between participants, not variables that differ between particular time points, therefore they were not expected to provide any meaningful control to the within-subjects component of the mixed ANOVA. Results of the mixed ANOVA test are shown in Tables 5.42 and 5.43 below.

Table 5.42 Tests of Within-Subjects Effects – H5a

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Company Credibility in Dispute	Sphericity Assumed	13.969	1	13.969	31.342	.000
	Greenhouse-Geisser	13.969	1.000	13.969	31.342	.000
	Huynh-Feldt	13.969	1.000	13.969	31.342	.000
	Lower-bound	13.969	1.000	13.969	31.342	.000
Company Credibility * Frame Manipulations	Sphericity Assumed	13.969	1	13.969	31.342	.000
	Greenhouse-Geisser	13.969	1.000	13.969	31.342	.000
	Huynh-Feldt	13.969	1.000	13.969	31.342	.000
	Lower-bound	13.969	1.000	13.969	31.342	.000
Error(Credibility)	Sphericity Assumed	72.202	162	.446		
	Greenhouse-Geisser	72.202	162.000	.446		
	Huynh-Feldt	72.202	162.000	.446		
	Lower-bound	72.202	162.000	.446		

Table 5.43 Tests of Between-Subjects Effects – H5a

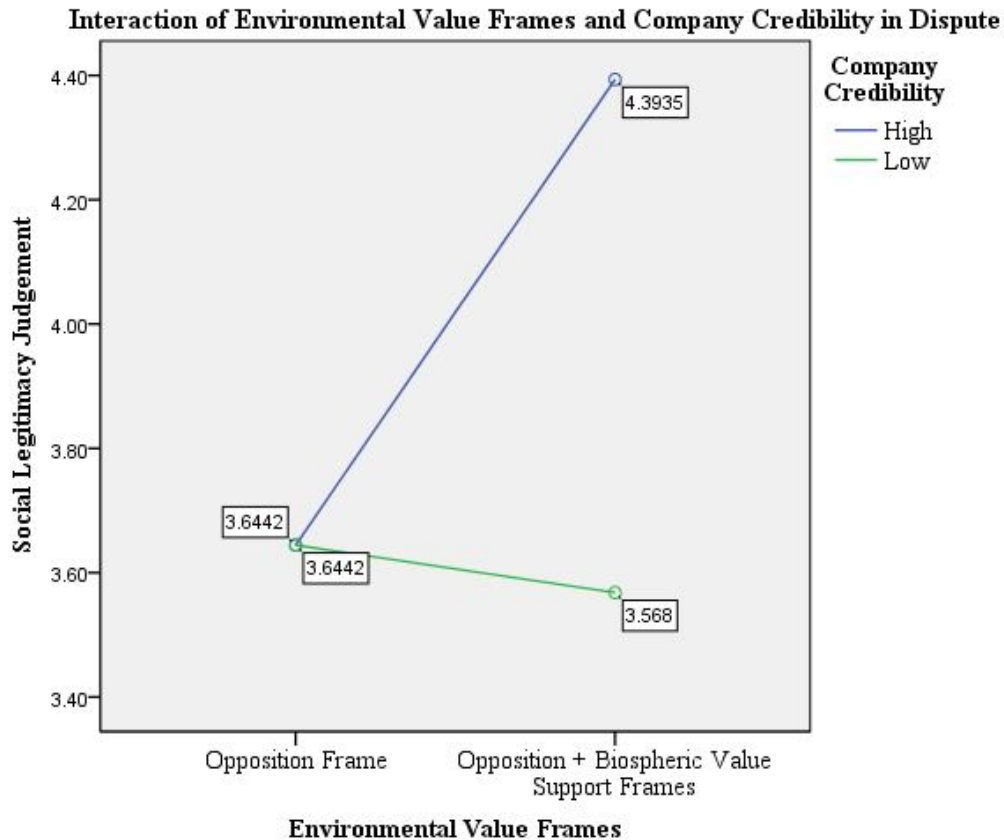
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	4766.810	1	4766.810	1822.540	.000
Frame Manipulations	9.284	1	9.284	3.550	.061
Error	423.707	162	2.615		

H5a predicted that the mitigating effect of the opposition frame + biospheric value support frame on social legitimacy judgement would be stronger when the company source of the frame had high credibility compared to when it had low credibility in the dispute. Results in Table 5.42 indicate that the company credibility in the dispute had a significant main effect $F(1, 162) = 31.34, p < .001$ on social legitimacy judgement of the waste plant. This indicates that high company credibility in the dispute had a significantly more positive effect ($M = 4.02, SE = .091$) on social legitimacy judgement than low company credibility in the dispute ($M = 3.61, SE = .102$). Results in Table 5.43 indicate that the main effect of opposition + biospheric value frame (when compared to opposition frame) on social legitimacy judgement was non-significant, $F(1, 162) = 3.55, p = .061$. However results in Table 5.42 indicate that there was a statistically significant interaction effect between the opposition frame + biospheric value support frame and company credibility $F(1, 162) = 31.34, p < .001$. This indicates that the mitigating effect of the biospheric value support frame was significantly stronger when it was transmitted by a company with high credibility in the dispute ($M = 4.39, SD = 1.13$), compared to when it was transmitted by a company with low credibility in the dispute ($M = 3.57, SD = 1.40$).

Levene's test (for high credibility manipulation) was not significant, indicating that the assumption of homogeneity of variance had not been violated, $F(1, 162) = .958, p = .329$. Levene's test (for low credibility manipulation) was not significant, indicating that the assumption of homogeneity of variance had not been violated, $F(1, 162) = 2.71, p = .101$. This result demonstrates that variance of the independent variable was equal across groups. Overall, results of this test support H5a.

This significant interaction between environmental value frames and company credibility in the dispute is depicted in the line graph presented in Figure 5.2 below.

Figure 5.2



5.6.5.2 Test of Hypothesis 5b

The mitigating effect of an altruistic value frame in support of an operation on individuals' social legitimacy judgements will be stronger when the organisation transmitting the frame has high trust and expertise in the disputed issue, whereas, the mitigating effect will be weaker when the organisation has low trust and expertise in the issue.

A mixed (between and within subjects) analysis of variance (ANOVA) was conducted to compare the effect of the opposition frame + altruistic value frame on social legitimacy judgement when the source of the biospheric value frame is a company with high credibility versus a company with low credibility in the dispute. The independent variables were the environmental value frame manipulation (opposition frame + altruistic value support frame versus opposition frame) and company

credibility in waste plant issue (high versus low). The dependent variable was social legitimacy judgement. Results of the mixed ANOVA are shown in Tables 5.44 and 5.45 below.

Table 5.44 Tests of Within-Subjects Effects – H5b

Source		Type III Sum of Squares	Df	Mean Square	F	Sig.
Company Credibility in Dispute	Sphericity Assumed	15.610	1	15.610	38.566	.000
	Greenhouse-Geisser	15.610	1.000	15.610	38.566	.000
	Huynh-Feldt	15.610	1.000	15.610	38.566	.000
	Lower-bound	15.610	1.000	15.610	38.566	.000
Company Credibility * Frame Manipulations	Sphericity Assumed	15.610	1	15.610	38.566	.000
	Greenhouse-Geisser	15.610	1.000	15.610	38.566	.000
	Huynh-Feldt	15.610	1.000	15.610	38.566	.000
	Lower-bound	15.610	1.000	15.610	38.566	.000
Error(Credibility)	Sphericity Assumed	66.783	165	.405		
	Greenhouse-Geisser	66.783	165.000	.405		
	Huynh-Feldt	66.783	165.000	.405		
	Lower-bound	66.783	165.000	.405		

Table 5.45 Tests of Between-Subjects Effects – H5b

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	4601.804	1	4601.804	1562.372	.000
Frame Manipulations	1.530	1	1.530	.519	.472
Error	485.990	165	2.945		

H5b predicted that the mitigating effect of the opposition frame + altruistic value support frame on social legitimacy judgement would be stronger when the company source of the frame had high credibility compared to when it had low credibility. Results in Table 5.44 indicate that the company credibility did have a significant main effect $F(1, 165) = 38.57, p < .001$ on social legitimacy judgement of the waste plant.

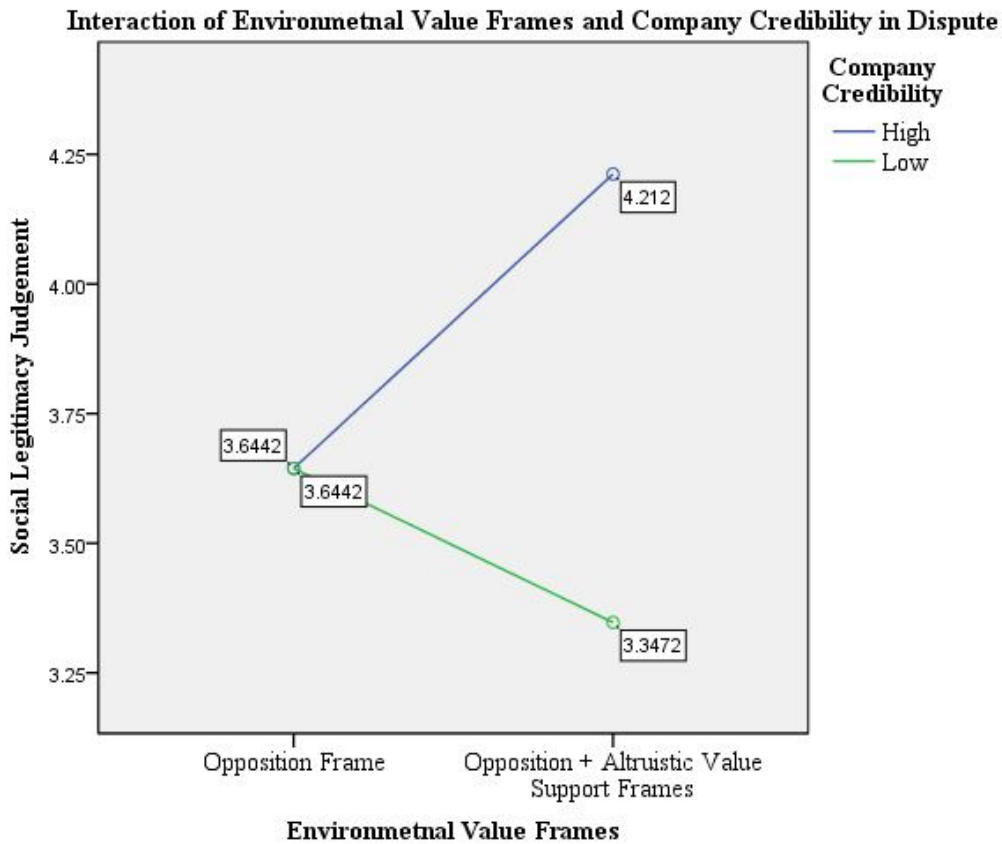
This indicates that high company credibility in the dispute had a significantly more positive effect ($M = 3.93$, $SE = .096$) on social legitimacy judgement than low company credibility in the dispute ($M = 3.5$, $SE = .105$).

Results in Table 5.45 indicate that the main effect of opposition + altruistic value frame (when compared to opposition frame) on social legitimacy judgement was non-significant, $F(1, 165) = .519$, $p = .472$. However results indicate that there was a statistically significant interaction effect between the opposition frame + altruistic value support frame and company credibility $F(1, 165) = 38.57$, $p < .001$. This indicates that the mitigating effect of the altruistic value support frame was significantly stronger when it was transmitted by a company with high credibility in the dispute ($M = 4.21$, $SD = 1.27$), compared to when it was transmitted by a company with low credibility in the dispute ($M = 3.35$, $SD = 1.48$).

Levene's test (for high credibility manipulation) was not significant, indicating that the assumption of homogeneity of variance had not been violated, $F(1, 165) = .273$, $p = .602$. Levene's test (for low credibility manipulation) was significant, indicating that the assumption of homogeneity of variance had been violated, $F(1, 165) = 3.95$, $p = .048$. However, it is contended that the significance value was just below significance criterion of .05 (.048), and also the Levene's test for the main effect of the opposition + altruistic value support frame when tested in a one way ANCOVA was not significant. Overall, results of this test support H5b.

This significant interaction effect between environmental value frames and company credibility in the dispute is depicted in the line graph presented below in Figure 5.3

Figure 5.3



5.6.5.3 Test of Hypothesis 5c

The mitigating effect of an egoistic value frame in support of an operation on individuals' social legitimacy judgements will be stronger when the organisation transmitting the frame has high trust and expertise in the disputed issue, whereas, the mitigating effect will be weaker when the organisation has low trust and expertise in the issue.

A mixed (between and within subjects) analysis of variance (ANOVA) was conducted to compare the effect of the opposition frame + egoistic value frame on social legitimacy judgement when the source of the egoistic value frame is a company with high credibility versus a company with low credibility in the dispute. The independent variables were the environmental value frame manipulation (opposition frame + egoistic value support frame versus opposition frame) and company credibility in waste plant issue (high versus low). The dependent variable was social legitimacy judgement. Results of the mixed ANOVA are shown in Tables 5.46 and 5.47 below.

Table 5.46 Tests of Within-Subjects Effects – H5c

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Company Credibility in Dispute	Sphericity Assumed	11.238	1	11.238	22.538	.000
	Greenhouse-Geisser	11.238	1.000	11.238	22.538	.000
	Huynh-Feldt	11.238	1.000	11.238	22.538	.000
	Lower-bound	11.238	1.000	11.238	22.538	.000
Company Credibility * Frame Manipulations	Sphericity Assumed	11.238	1	11.238	22.538	.000
	Greenhouse-Geisser	11.238	1.000	11.238	22.538	.000
	Huynh-Feldt	11.238	1.000	11.238	22.538	.000
	Lower-bound	11.238	1.000	11.238	22.538	.000
Error(Credibility)	Sphericity Assumed	81.778	164	.499		
	Greenhouse-Geisser	81.778	164.000	.499		
	Huynh-Feldt	81.778	164.000	.499		
	Lower-bound	81.778	164.000	.499		

Table 5.47 Tests of Between-Subjects Effects – H5c

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	4906.494	1	4906.494	1737.297	.000
Frame Manipulations	13.287	1	13.287	4.705	.032
Error	463.171	164	2.824		

H5c predicted that the mitigating effect of the opposition frame + egoistic value support frame on social legitimacy judgement would be stronger when the company source of the frame had high credibility compared to when it had low credibility. Results in Table 5.46 indicate that the company credibility did have a significant main effect $F(1, 164) = 22.54, p < .001$ on social legitimacy judgement of the waste plant. This indicates that high company credibility in the dispute had a significantly more positive effect ($M = 4.03, SE = .101$) on social legitimacy judgement than low company credibility in the dispute ($M = 3.66, SE = .099$).

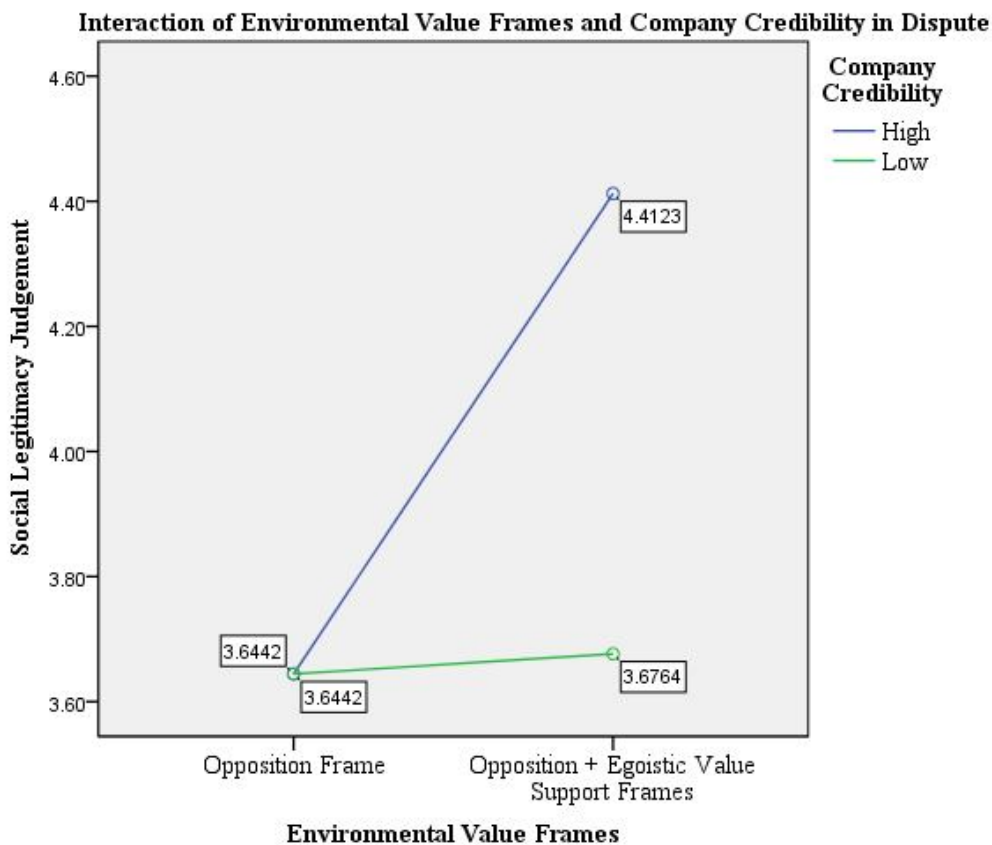
Results in Table 5.47 indicate that the main effect of opposition + egoistic value frame (when compared to opposition frame) on social legitimacy judgement was significant, $F(1, 164) = 4.71, p = .032$. However, as per Hypothesis 2c above, when

the covariates are included, this main effect becomes insignificant. Results in Table 5.46 indicate that there was a statistically significant interaction effect between the opposition frame + egoistic value support frame and company credibility $F(1, 164) = 22.54, p < .001$. This indicates that the mitigating effect of the egoistic value support frame was significantly stronger when it was transmitted by a company with high credibility in the dispute ($M = 4.41, SD = 1.38$), compared to when it was transmitted by a company with low credibility in the dispute ($M = 3.68, SE = 1.35$).

Levene's test (for high credibility manipulation) was not significant, indicating that the assumption of homogeneity of variance had not been violated, $F(1, 164) = .631, p = .428$. Levene's test (for low credibility manipulation) was not significant, indicating that the assumption of homogeneity of variance had not been violated, $F(1, 164) = 2.45, p = .119$. This result demonstrates that variance of the independent variable was equal across groups. Overall, results of this test support H5c.

This significant interaction effect between environmental value frames and company credibility in the dispute is depicted in the line graph presented below in Figure 5.4

Figure 5.4



5.6.6 Test of Hypothesis Six

The positive influence of an environmental values frame in opposition to an operation on individual intention to oppose the operation will be mediated by individual social legitimacy judgement.

Hypothesis 6 posited that social legitimacy judgement will mediate individual intention to oppose the waste plant, in other words, it is hypothesised that social legitimacy judgement acts as a mediating variable between the opposition environmental values frame and individual intention to oppose the waste plant.

Social legitimacy judgement of company's waste plant as a mediator of the impact of opposition environmental values frame on behavioural opposition of waste plant was tested by following the steps outlined by (Baron and Kenny 1986).

To test this hypothesis, a bootstrapping analysis for mediation developed by Preacher and Hayes (2008) using the INDIRECT macro in SPSS. Mediation is tested according to the steps outlined by Baron and Kenny (1986). In this analysis the opposition environmental values frame was the independent variable, social legitimacy judgement was the mediator and behavioural intention was the dependent variable. The number of iterations for the bootstrap was set at 5,000, and the confidence interval was set at 95%. Further the MACRO allows for the inclusion of covariates, and therefore, prior opinion and political ideology variables were input as covariates into the analysis.

The effect of the opposition frame on individual intention to oppose the operation after controlling for social legitimacy judgement (path c) was not statistically significant ($\beta = .2127, SE = .2491, t = .8541, p = .3944$). The effect of the opposition frame on social legitimacy judgement (path a) was statistically significant ($\beta = -1.2847, SE = .1762, t = -7.2903, p < .001$). The effect of social legitimacy judgement on intention to oppose the waste plant after controlling for the opposition frame, (path b) was statistically significant ($\beta = -.4376, SE = .0977, t = -4.4775, p < .001$). The model was significant $F(5, 155) = .2365$.

A Sobel test of the mediation was significant $z = 3.82, p < .001$. The 95 percent bias corrected bootstrap confidence interval (5000 trials) is from .2994 to .9102, and because zero is not in the confidence interval, it is concluded that the indirect effect is different from zero. Results of the model confirm that social legitimacy judgement acts as a mediating variable between an opposition frame and individual intention to oppose the waste plant. These results support hypothesis 6.

5.6.7 Tests of Hypothesis Seven

Results from tests of hypothesis seven will be presented next.

Similar to Hypothesis 6 test this hypothesis, a bootstrapping analysis for mediation developed by Preacher and Hayes (2008) using the INDIRECT macro in SPSS. In this analysis the biospheric, altruistic or egoistic value support frames with the opposition frame were the independent variable, social legitimacy judgement was the mediator and behavioural intention was the dependent variable. The number of

iterations for the bootstrap was set at 5,000, and the confidence interval was set at 95%.

5.6.7.1 Test of Hypothesis 7a

The mitigating effect of a biospheric value frame in support of an operation on individual intention to oppose the operation will be mediated by individual social legitimacy judgement of the operation.

The analysis tested if the mitigating effect an opposition + biospheric value support frames (when compared to an opposition frame) had an indirect effect on behavioural intention to oppose the waste plant. Further the MACRO allows for the inclusion of covariates, and therefore, prior opinion and political ideology variables were input as covariates into the analysis.

The overall effect of opposition + biospheric value support frames manipulation on individual intention to oppose the waste plant (c path) was not statistically significant ($\beta = -.0568$., $SE = .1130$, $t = .5030$, $p = .6157$). The effect of this frame manipulation on individual intention to oppose the waste plant after controlling for social legitimacy judgement (path c') was not statistically significant ($\beta = -.0130$., $SE = .1102$, $t = .1175$, $p = .9066$). The effect of the frame manipulation on social legitimacy judgement (path a) was not statistically significant ($\beta = .1334$, $SE = .0891$, $t = 1.4968$, $p = .1364$). The effect of social legitimacy judgement on intention to oppose the waste plant after controlling for the frame manipulations, (path b) was statistically significant ($\beta = -.3289$, $SE = .0977$, $t = -3.3661$, $p < .05$). The model was significant $F(5, 157) = .1167$. A Sobel test of the mediation was non-significant $z = -1.37$, $p = .171$.

The 95 percent bias corrected bootstrap confidence interval (5000 trials) is from .0037 to -.1303, and because zero is not in the confidence interval, it is concluded that the indirect effect is different from zero. Because the c path of the model was not significant, results of the model indicate that social legitimacy judgement did not act as a mediating variable between the opposition frame + biospheric value support frames and individual intention to oppose an waste plant. These results do not support hypothesis 7(a).

5.6.7.2 Test of Hypothesis 7b

The mitigating effect of an altruistic value frame in support of an operation on individual intention to oppose the operation will be mediated by individual social legitimacy judgement of the operation.

Next, the analysis tested if the mitigating effect an opposition + altruistic value support frames (when compared to an opposition frame) had an indirect effect on behavioural intention to oppose the waste plant. Similar to H7a, covariates were included in the analysis.

The overall effect of the opposition + altruistic value support frames manipulation on individual intention to oppose the waste plant (c path) was not statistically significant ($\beta = .0362$, $SE = .2307$, $t = .1570$, $p = .8754$). The effect of this frame manipulation on individual intention to oppose the waste plant after controlling for social legitimacy judgement (path c') was not statistically significant ($\beta = .0732$, $SE = 2.242$, $t = .3268$, $p = .7443$). The effect of the frame manipulation on social legitimacy judgement (path a) was not statistically significant ($\beta = .1211$, $SE = .1915$, $t = .6321$, $p = .5283$). The effect of social legitimacy judgement on intention to oppose the waste plant after controlling for the frame manipulations, (path b) was statistically significant ($\beta = .3058$, $SE = .0933$, $t = -3.2779$, $p < .01$). The model was significant $F(5, 156) = .1072$. A Sobel test of the mediation was non-significant $z = -.621$, $p = .535$.

The 95 percent bias corrected bootstrap confidence interval (5000 trials) is from $-.1822$ to $.0729$, and because zero is not in the confidence interval, it is concluded that the indirect effect is different from zero. Because the c path of the model was not significant, results of the model indicate that social legitimacy judgement did not act as a mediating variable between the opposition + altruistic value frame manipulation and individual intention to oppose the waste plant. These results do not support hypothesis 7(b).

5.6.7.3 Test of Hypothesis 7c

The mitigating effect of an egoistic value frame in support of an operation on individual intention to oppose the operation will be mediated by individual social legitimacy judgement of the operation.

Next, the analysis tested if the mitigating effect an opposition + egoistic value support frames (when compared to an opposition frame) had an indirect effect on behavioural intention to oppose the waste plant. Similar to H7a and b, covariates were included in the analysis.

The overall effect of opposition + egoistic value support frames manipulation on individual intention to oppose the waste plant (c path) was not statistically significant ($\beta = -.0170$, $SE = .0761$, $t = -.2238$, $p = .8232$). The effect of this frame manipulation on individual intention to oppose the waste plant after controlling for social legitimacy judgement (path c') was not statistically significant ($\beta = .0317$, $SE = .0716$, $t = .4428$, $p = .6585$). The effect of the frame manipulation on social legitimacy judgement (path a) was not statistically significant ($\beta = .1024$, $SE = .0594$, $t = 1.7223$, $p = .0870$). The effect of social legitimacy judgement on intention to oppose the waste plant after controlling for the frame manipulations, (path b) was statistically significant ($\beta = -.4760$, $SE = .0946$, $t = -5.0309$, $p < .01$). The model was significant $F(5, 158) = .1922$. A Sobel test of the mediation was non-significant $z = -1.63$, $p = 0.103$.

The 95 percent bias corrected bootstrap confidence interval (5000 trials) is from $-.1177$ to $.0046$, and because zero is not in the confidence interval, it is concluded that the indirect effect is different from zero. Because the c path of the model was not significant, results of the model indicate that social legitimacy judgement did not act as a mediating variable between the opposition + egoistic value support frames and individual intention to oppose the waste plant. These results do not support hypothesis 7(c).

5.7 Conclusion

In summary, an analysis of the experimental data was presented in this chapter. Hypotheses developed from the conceptual model were subject to ANOVA tests. These hypotheses sought to address the neglect of individuals, their agency and cognition in organisational legitimacy theory perspectives which are employed in SEA research.

Results of the ANOVA tests provided mixed results. Specifically, the main effect of the opposition environmental values frame on individuals' social legitimacy judgement of the waste plant was found to be statistically significant (H1). However, the main effect of the waste company's biospheric (H2a), altruistic (H2b) or egoistic value frame (H2c) in support of the waste plant (in accompaniment to the opposition frame) on social legitimacy judgement was not statistically significant.

With respect to individual value bases of environmental concern: biospheric, altruistic, and egoistic: a moderation (interaction) effect of this personality characteristic on the strength of the environmental value frame effects was not detected as was predicted by H3 and H4. Results of H5 indicate that company credibility in the waste plant dispute had a significant main effect. Specifically, high company credibility had a significant mitigating effect on judgement of the waste plant compared to low company credibility. The prediction of an interaction effect was also supported, in particular the mitigating effect of biospheric (H5a), altruistic (H5b) and egoistic support frames (H5c) on social legitimacy judgement of the waste plant were significantly stronger when the waste company transmitting them was perceived to have high credibility in the disputed issue, compared to when the waste company was perceived to have low credibility.

Results for H6 indicate that the opposition environmental values frame had an indirect effect on behavioural intention to oppose the waste plant. In other words, social legitimacy judgement mediated the effect of the frame on behavioural intention. However, results of hypothesis 7 were not supported. In the next chapter, these results will be discussed in the context of the organisational legitimacy theory perspectives which are employed in the SEA literature.

Chapter Six

Discussion of Results

6.1 Introduction

In this chapter, results from testing of hypotheses derived from the conceptual model, will be discussed. In the next section - Section 6.2, the results for each hypothesis will be discussed. Following on from this, in Section 6.3, contribution of the results on a broad basis is outlined. In Section 6.3.1, the theoretical contributions of the results are discussed. Specifically theoretical contributions will be discussed in terms of the strategic and institutional perspective of the theory. This consists of three parts: the type of influence of different environmental disclosure media in defending social legitimacy will be discussed in Section 6.3.1.1, the method by which organisations' successfully defend their social legitimacy will be outlined in Section 6.3.1.2, and company credibility and news media frame attributes will be discussed in Section 6.3.1.3. Following this, the empirical contribution of the results are outlined in Section 6.3.2

6.2 Results of Hypotheses

In this section, results of tests of hypotheses are presented and discussed. In Tables 6.1, 6.2, 6.3, 6.4 and 6.5 below, the overall result for each hypothesis are outlined, based on the statistical tests in Chapter 5.

Table 6.1 Summary of Results from Test of H1

Number	Hypothesis	Result
H1	In comparison with no frame, exposure to an environmental values frame in opposition to an organisation's operation will negatively influence individuals' social legitimacy judgements of the operation.	Supported

Results from testing of the model indicate that H1 was supported. After controlling for covariates, the main effect of the opposition environmental values frame on social legitimacy judgement of the waste plant was significant. This indicates that an opposition environmental values frame ($M = 3.67$) had a significantly negative effect on individuals' social legitimacy judgement of the waste plant compared to no frame

($M = 4.95$). The results suggest that when these particular frames from environmental groups are reproduced in news media they can have a ‘de-legitimizing effect’ on organisations’ operations. Results from test of Hypothesis 2 are discussed next.

Table 6.2 Summary of Results from Tests of H2

Number	Hypothesis	Result
H2a	The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgements will be significantly mitigated when a biospheric value frame in support of the operation is present.	Rejected
H2b	The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgements will be significantly mitigated when an altruistic value frame in support of the operation is present.	Rejected
H2c	The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgements will be significantly mitigated when an egoistic value frame in support of the operation is present.	Rejected

With respect to Hypotheses 2a, b, and c although means were in the correct direction, they were not supported. Specifically, (after controlling for covariates), results of H2a indicated that the opposition + biospheric value support frames ($M = 3.97$) did not have a significantly more positive effect on social legitimacy judgement, compared to the effect of an opposition frame ($M = 3.70$). Similarly for H2b, the opposition + altruistic value support frames ($M = 3.80$) did not have a significantly more positive effect on social legitimacy judgement compared to the opposition frame ($M = 3.68$). Lastly, with respect to H2c, the opposition + egoistic value support frames ($M = 4.02$) also had a non-significant effect compared to the opposition frame ($M = 3.70$). Although not significant, the egoistic value support frame manipulation had the largest effect on individuals’ social legitimacy judgements. The results suggest that these news media frames employed by companies do not significantly mitigate the effects of an oppositional frame in the news media. Hypothesis 3 and 4 results are discussed next.

Table 6.3 Summary of Results from Tests of H3 and H4

Number	Hypothesis	Result
H3a	The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgments will be stronger for individuals who attach a high level of importance to the biospheric value invoked in the frame, than for individuals who attach a low level of importance to the value.	Rejected
H3b	The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgments will be stronger for individuals who attach a high level of importance to the altruistic value invoked in the frame, than for individuals who attach a low level of importance to the value.	Rejected
H3c	The negative effect of an environmental values frame in opposition to an operation on individuals' social legitimacy judgments will be stronger for individuals who attach a high level of importance to the egoistic value invoked in the frame, than for individuals who attach a low level of importance to the value.	Rejected
H4a	The mitigating effect of a biospheric value frame in support of an operation on individuals' social legitimacy judgements will be stronger for individuals who attach a high level of importance to biospheric value, than for individuals who attach a low level of importance to the value.	Rejected
H4b	The mitigating effect of an altruistic value frame in support of an operation on individuals' social legitimacy judgements will be stronger for individuals who attach a high level of importance to altruistic value, than for individuals who attach a low level of importance to the value.	Rejected
H4c	The mitigating effect of an egoistic value frame in support of an operation will be stronger on individuals' social legitimacy judgements for individuals who attach a high level of importance to egoistic value, than when individuals attach a low level of importance to the value.	Rejected

Hypotheses 3 and 4 tested if different levels (high versus low) of individual biospheric, altruistic, and egoistic value importance affected the strength of influence of the environmental value frames on social legitimacy judgement of the waste plant. Contrary to expectations, results of H3a found that the strength of influence that the opposition frame had on individuals' social legitimacy judgement did not significantly differ between individuals who had high biospheric value importance ($M = 3.70$) and

those that had low biospheric value importance ($M = 3.64$). With respect to H3b, the strength of influence was not significantly different between those who had high altruistic value importance ($M = 3.38$) and those who had low altruistic value importance ($M = 3.84$). Finally, results for H3c were also not significant, there was no significant difference in the strength of the opposition environmental values frame between those who had high egoistic value importance ($M = 3.81$) and those who had low egoistic value importance ($M = 3.58$).

Related to this H4a did not find the strength of the mitigating effect of opposition + biospheric value support frames to vary between participants who had high biospheric values ($M = 4.14$) and those who had low biospheric values ($M = 3.83$). With respect to H4b, the strength of the effect was not significantly different for those who had high altruistic value importance ($M = 3.85$) and those who had low altruistic value importance ($M = 3.75$). Finally, results of H4c were also non-significant; there was no significant difference in the strength of the effect between those who had high egoistic value importance ($M = 3.92$) and those who had low egoistic value importance ($M = 4.15$).

A potential reason is offered as to why individual level of biospheric, altruistic or egoistic value importance did not moderate the strength of the frames invoking such values. Descriptive statistics reveal that the majority of participants in the study indicated that they held strong biospheric, altruistic and egoistic values. It is contended that this likely reduced the chance of finding a conditional effect of varying individual strength in these values. This reasoning is supported by persuasion research which indicates that because everyone holds, to some extent, these commonly held values, popular values (Verplanken 2002), individual differences are hard to detect among individuals. Sniderman and Theriault (2004, p. 143) note this with popular values “... how can one tell how much importance people attach” to a value “since nearly all principles or values ... are of importance to most people”. Results from tests of hypotheses of hypothesis 5 are outlined next.

Table 6.4 Summary of Results from Tests of H5

Number	Hypothesis	Result
H5a	The mitigating effect of a biospheric value frame in support of an operation on individuals' social legitimacy judgements will be stronger when the organisation transmitting the frame has high trust and expertise in the disputed issue, whereas, the mitigating effect will be weaker when the organisation has low trust and expertise in the issue.	Supported
H5b	The mitigating effect of an altruistic value frame in support of an operation on individuals' social legitimacy judgements will be stronger when the organisation transmitting the frame has high trust and expertise in the disputed issue, whereas, the mitigating effect will be weaker when the organisation has low trust and expertise in the issue.	Supported
H5c	The mitigating effect of an egoistic value frame in support of an operation on individuals' social legitimacy judgements will be stronger when the organisation transmitting the frame has high trust and expertise in the disputed issue, whereas, the mitigating effect will be weaker when the organisation has low trust and expertise in the issue.	Supported

Results of hypotheses 5a, b, and c, indicate that the mitigating effect of the biospheric, altruistic and egoistic support frames were all significantly stronger when company transmitting them was perceived to have high credibility in the disputed issue, than when the company was perceived to have low credibility.

Results of H5a found that high company credibility in the dispute had a significantly more positive effect ($M = 4.02$) on social legitimacy judgement than low company credibility in the dispute ($M = 3.61$). It also found that the mitigating effect of the biospheric value support frame (when it accompanied the opposition frame) was significantly stronger when it was transmitted by a company with high credibility in the dispute ($M = 4.39$), compared to when it was transmitted by a company with low credibility in the dispute ($M = 3.57$).

Results of H5b again found that high company credibility in the dispute had a significantly more positive effect ($M = 3.93$) on social legitimacy judgement than low company credibility in the dispute ($M = 3.50$). It also found that the mitigating effect

of the altruistic value support frame (when it accompanied the opposition frame) was significantly stronger when it was transmitted by a company with high credibility in the dispute ($M = 4.21$), compared to when it was transmitted by a company with low credibility in the dispute ($M = 3.35$).

Results of H5c again found that high company credibility in the dispute had a significantly more positive effect ($M = 4.03$) on social legitimacy judgement than low company credibility in the dispute ($M = 3.66$). It also found that the mitigating effect of the egoistic value support frame (when it accompanied the opposition frame) was significantly stronger when it was transmitted by a company with high credibility in the dispute ($M = 4.41$), compared to when it was transmitted by a company with low credibility in the dispute ($M = 3.68$).

Taken together, the results of H2 and H5 suggest that when these frames from companies are reproduced in news media, their mitigating effect on individuals' social legitimacy judgement is dependent upon perceived company credibility in the dispute. Results from tests of hypotheses 6 and 7 are discussed next.

Table 6.5 Summary of Results from Tests of H6 and H7

Number	Hypothesis	Result
H6	The positive influence of an environmental value frame in opposition to an operation on individual intention to oppose the operation will be mediated by individual social legitimacy judgement.	Supported
H7a	The mitigating effect of a biospheric value frame in support of an operation on individual intention to oppose the operation will be mediated by individual social legitimacy judgement of the operation.	Rejected
H7b	The mitigating effect of an altruistic value frame in support of an operation on individual intention to oppose the operation will be mediated by individual social legitimacy judgement of the operation.	Rejected
H7c	The mitigating effect of an egoistic value frame in support of an operation on individual intention to oppose the operation will be mediated by individual social legitimacy judgement of the operation.	Rejected

With respect to behavioural intention, results of hypothesis 6 indicate that the opposition frame had an indirect effect on behavioural intention to oppose the waste plant. In other words, results indicated that social legitimacy judgement mediated the effect of the frame on behavioural intention. Results of hypothesis 7a, b and c were not supported. Results of H7a indicated that an opposition + biospheric value support frame was not found to have an indirect [mitigating] effect on behavioural intention to oppose the waste plant. Similar non-significant results were found with respect to opposition + altruistic value support frames (H7b) and opposition + egoistic value support frames (H7c).

These results indicated when these particular frames of companies are reproduced in news media, they do not mitigate (indirectly) the effect of the opposition frame on behavioural intention to oppose a disputed operation. Next, contribution of these hypothesis results to organisational legitimacy theory will be discussed.

6.3 Contribution to Literature

This study offered a model of the conditions under which individuals and news media information successfully interact with respect to a disputed organisational operation. Thus, the results from statistical testing of the hypotheses make a theoretical contribution - both the institutional and strategic perspectives of organisational legitimacy theory (see Figure 6.1 below), and also an empirical contribution. The theoretical contributions will be discussed next.

6.3.1 Theoretical Contributions

Figure 6.1 Contribution to Organisational Legitimacy Theory from Testing of Conceptual Model



The strategic perspective of organisational legitimacy theory which is employed in SEA research, does not allow for a consideration of the effects of organisations' disclosures on individuals – the beholders of social legitimacy (c.f. Ashforth and Gibbs 1990, Milne and Patten 2002, O'Dwyer 2002, Deegan 2007). Because of this theoretical view individuals in receipt of these disclosures are ignored; they are allotted a role of passive consumers of the information (Ashforth and Gibbs 1990, Bitektine 2011). Owing to the interests of the SEA field with its orientation towards accounting reports, organisations' disclosures via one media: annual reports are assumed to successfully influence social legitimacy of operations implicated in environmental disputes (Deegan 2007, Brown and Deegan 1998, O'Donovan 2002). Because the conceptual model of this study focused on the conditions under which individuals are influenced by environmental disclosures, results make contributions to primarily the strategic view of organisational legitimacy theory. However because of the focus of the model on individual judgements, a contribution to the institutional view is also made.

As indicated in Figure 6.1 above, the overall contribution can be subdivided into three distinct parts. With respect to the first part, results of testing of the hypotheses contribute to the strategic perspective. Specifically the results furnish a more complete and accurate view, than is held in the literature, regarding the influence of different environmental disclosures and disclosure media in instances when an organisational operation is challenged. Secondly, results also challenge the current view of the strategic perspective about the mechanisms or methods by which organisations' environmental disclosures successfully defend social legitimacy of a challenged operation.

With respect to the third part in Figure 6.1, results enhance current understanding regarding the organisational credibility and news media frame attributes that successfully influence social legitimacy judgements, and behaviour towards a disputed operation. They also improve knowledge of the conditions under which news media frames from companies have successful influence. These results contribute to both institutional and strategic perspective of the theory. These contributions will be discussed in more detail next.

6.3.1.1 Influence of different Environmental Disclosures and Disclosure Media in Defending Social Legitimacy

Findings of H2, and H5, explicitly focus on particular attributes of organisations' disclosures reproduced in news media – environmental values frames, and results indicated that when these environmental value (biospheric, altruistic or egoistic) frames are attributed to companies with high credibility in an environmental dispute, they can mitigate the effect of an opposition frame on social legitimacy, but not when these frames are attributed to companies with low credibility in an environmental dispute.

These results challenge the current view of the strategic perspective about the type of influence that news media and annual/corporate reports have in situations when particular operations come to be disputed. Specifically, it continues to be assumed, that the news media only has a negative or 'de-legitimizing' influence on social legitimacy of organisations' operations (Brown and Deegan 1998, Deegan et al. 2000, Islam and Deegan 2010, Deegan et al. 2002). But results of H5 indicate that news media can also contain information which mitigates (reduces) this 'de-legitimizing'

effect. This result thus challenges the current view in the literature regarding the type of influence that news media has, suggesting that it can have more than simply a negative influence on social legitimacy when operations are disputed.

This result also has consequences in relation to the current view in the literature regarding the influence of annual/corporate reports.

News media are more timely and more accessible to individual members of the public, than corporate reports (Zeghal and Ahmed 1990), and the findings of H5 would suggest that the current view of theory about the influence of annual/corporate reports in these instances may be different than is currently understood (Aerts and Cormier 2009, Suchman 1995).

The results suggest that the influence of annual reports in instances when operations are disputed, may not entail the defence of social legitimacy (Lindblom 1994, Islam and Deegan 2010, Deegan et al. 2000). Although not directly examined, the results suggest that the role of annual and corporate reports in such instances may be to compliment other disclosures like those in the news media that have ‘mitigating influence’. This complimentary role has been suggested by other scholars, who maintain that annual report disclosures are more supplementary to other ‘defending’ disclosures; their influence may be more likely to maintain the more broader social legitimacy judgement of the organisation itself (for a similar argument, see Suchman 1995, Aerts and Cormier 2009), because their general disclosures convey on an overall basis, its consistency with widely held environmental values.

Findings from tests of the model also challenge and refine current views about mechanisms or methods by which social legitimacy is defended in these situations. This will be discussed in the next section.

6.3.1.2 Method by which Organisations Defend Social Legitimacy

Because the model identifies conditions under which environmental disclosures successfully affect the judgements of individuals, findings from testing of the hypotheses, challenge current understanding in the strategic literature, about the mechanism or method by which disclosures affect social legitimacy. Current beliefs about methods of defence emanate from the assumption that organisations’ environmental disclosures always successfully influence (collective) judgement of their legitimacy (Deegan 2007, Gray et al. 1995, Deegan et al. 2002, O’Donovan 2002).

Based on this assumption, defence of social legitimacy is believed to occur through two methods:

- Organisations, through communication, can seek to *change* perceptions that ‘relevant publics’ have of an organisation’s actual behaviour (Lindblom 1994).
- Or that they can manipulate perception by *deflecting* attention from the issue of concern onto other related issues through an appeal to, for example, emotive symbols, thus seeking to demonstrate how the organisation has fulfilled social expectations in other areas of its activities (Lindblom 1994).

The strategic perspective assumes that both of these methods: ‘change’ or ‘deflecting’ occur through corporate/annual reports disclosures (Deegan 2007, Deegan et al. 2000, Islam and Deegan 2010). With regard to the ‘change’ method i.e., changing collective judgement with regard to a challenged operation, it is widely contended as a method by which social legitimacy is successfully defended (Lindblom 1994, Deegan 2007, Gray et al. 1995). But it is the ‘deflecting’ method which is the most widely cited method through which organisations are believed to successfully defend social legitimacy of a challenged operation.

With this method it is contended in the literature that the general positive performance information contained in annual or corporate reports defends an organisation’s legitimacy by collectively deflecting the attention of the social system, from news media information which portrays a specific operation of the organisation as inconsistent with widely held environmental values. By virtue of this deflection, it is assumed that the social system will only evaluate those features of an organisation that are consistent with widely held environmental values (Kuruppu and Milne 2010, Milne and Patten 2002, Deegan et al. 2000).

But findings from tests of the hypotheses (H2a, b and c and H5a, b and c) suggest that to some extent, defence of social legitimacy occurs through a mitigating effect of environmental frames attributed to companies who have high credibility in the dispute. Specifically, such frames were found to mitigate the negative effects of challenges on social legitimacy judgement of operations. Because of this mitigation

effect that was found to occur via environmental disclosures (frames) in news media, the findings challenge current beliefs about the deflection effect produced by annual report disclosures (Lindblom 1994, Deegan 2007, Deegan et al. 2000, Islam and Deegan 2010).

They challenge the long held assumption that organisations' environmental disclosures (in annual or corporate reports) work by "deflecting" attention from the challenged operation so only legitimate actions (operations) of an organisation are interpreted by the social system (Lindblom 1994). Results of the study suggest that instead of this deflection effect, organisations' disclosures in other media can, under certain conditions, have a mitigating effect with respect to the negative influence of a challenge to an organisational operation. Next, the contribution of the findings with respect to company credibility and frames is discussed.

6.3.1.3 Information Attributes in News Media that Influence Individuals' Social Legitimacy Judgements

Findings of the hypotheses contribute to both the strategic and institutional perceives, by clarifying and enhancing understanding of the elements of organisational credibility and frames that are and are not, influential when organisational operations are the subject of environmental disputes. They also improve knowledge about the precise influence of these information attributes.

6.3.1.3.1 Organisational Credibility in Disputed Issue

Results of the hypotheses add to current understanding of organisational/company credibility in the strategic perspective, by illustrating particular elements of company credibility which have an effect on social legitimacy judgements of individuals. There continues to be ambiguity in the literature about what constitutes company credibility with respect to these disputes (Elsbach 1994, Ashforth and Gibbs 1990), and its role in the influence of social legitimacy (Ashforth and Gibbs 1990, Suchman 1995). Regarding the existing views of credibility, Elsbach (1994, p. 65) asserts that references to institutionalised structures and programs and "institutional characteristics" in reactive communications improves credibility of organisations and supports their claims.

... references to institutional characteristics may have been used to improve the credibility of spokespersons and thus increase the believability of their accounts (Elsbach 1994, p. 66).

Second, references to widely institutionalized structures and programs may have been a form of social proof that an organization was credible and rational. (Elsbach 1994, p. 74).

It is also suggested that a history or reputation of legitimate behaviour acts as credibility (Suchman 1995) and makes organisations' reactions in disputes more credible (Ashforth and Gibbs 1990). Vanhamme and Grobben (2009, p. 275) suggest "companies with a long history of CSR involvement" such that they can deviate occasionally from social norms without seriously damaging their reputation. They argue that, a long history of "good" actions should provide leverage for defending the company against challenges to its legitimacy (Vanhamme and Grobben 2009). However, the particular elements of reputation which comprise company credibility when there is an environmental value challenge are unknown.

Results of H5a, b and c suggest that when information conveys companies' reputation for *trustworthiness* and *expertise* in the environmental issue under dispute, high trust and expertise in a dispute mitigates the negative influence of a challenge on social legitimacy, compared to low trust and expertise in a dispute.

This finding enhances current understanding in the strategic perspective of the particular reputational features that represent company credibility when an operation is the subject of an environmental dispute. Next the contribution of the findings with respect to frames is discussed.

6.3.1.3.2 Value Frames

It is maintained by the institutional perspective of organisational legitimacy theory that frames in the news media successfully impact collective judgement of organisations and their operations (Deephouse and Carter 2005, Pollock and Rindova 2003). It is also maintained that frames are employed by organisations and successfully influence legitimacy (Neu et al. 1998, Ashforth and Gibbs 1990). However, the particular elements of frames that successfully affect social legitimacy judgement have not been identified by legitimacy scholars.

Results from tests of H2 suggested that environmental value (biospheric, altruistic or egoistic) frames in support of a challenged operation, which are attributed to the organisation, do not significantly mitigate the negative effect of an opposition frame on individual judgements of an operation. In other words, they indicate that value frames from organisations whose operations are disputed, may not be effective in the defence of legitimacy. This is contrary to the longstanding view held by the strategic and institutional perspectives, that organisations' frames do influence legitimacy (Ashforth and Gibbs, 1990, Neu et al., 1998, Pollock and Rindova 2003, Deephouse and Carter 2005).

6.3.1.3 Organisational Credibility and Value Frames

Results of H5a, b and c, find that strength of companies' environmental value frames on social legitimacy judgements is moderated by companies' trust and expertness in the dispute. Environmental value frames attributed to a company only mitigate an opposition frames' negative influence on social legitimacy judgment, when the company has high trust and expertness in a dispute, not when it has low trust and expertness.

These findings provide some refinement to the current view of strategic legitimacy theory regarding the influence of news media frames and companies' frames on legitimacy (Elsbach 1994, Pollock and Rindova 2003). They indicate that particular frames from companies – environmental value frames, influence social legitimacy when companies have high credibility (trustworthiness and expertness in the dispute) in a dispute, but not when they have low credibility. Such a result also provides a more precise understanding about how company credibility influences social legitimacy when a challenge arises, suggesting that high company credibility in a dispute has a mitigating effect on the negative influence of a challenge, and also that company credibility interacts with companies' environmental value frames to produce a mitigating effect.

6.3.2 Empirical Contribution

From an empirical perspective, the study adds to the paucity of organisational legitimacy studies that have employed the experimental method (Vanhamme and Grobbsen 2009, Elsbach 1994, Milne and Patten 2002, Kuruppu and Milne 2010). In this respect, it makes a number of significant empirical contributions.

6.3.2.1 Indirect Influence on Individual Intention to Oppose a Disputed Operation

Existing experimental studies have empirically tested the direct effect of disclosures on individual legitimacy perceptions and decisions (Vanhamme and Grobben 2009, Milne and Patten 2002, Kuruppu and Milne 2010, Elsbach 1994), but not on individual behaviour. But legitimacy judgement has behavioural consequences - tolerance, opposition, and support of an organisation and its actions (Hybels 1995), the very actions that ensure the allocation or withdrawal of resources needed for an organisation to continue and survive (Hybels 1995).

The public as an external constituency control resources crucial to an organisation's establishment, growth and survival (Hybels 1995, Elsbach 2003). This represents many important types of behaviour, they buy goods, supply labour and affect legislation via its lobbying (Hybels 1995). Sanctions, tolerance or support of an organisations' operations represents the behaviour of social actors, as a result of the legitimacy judgements they make (Hybels 1995).

Therefore this study represents the first experiment in organisational legitimacy to test the effects of disclosure on individual behaviour. Findings of H6, indicate that an environmental value frame in opposition to an organisational operation has a negative or 'de-legitimizing' effect on individual intention to oppose the operation, - the effect was mediated by its effect on individual legitimacy judgement of the operation. However, findings of H7a, b and c, indicate that environmental value frame from companies which supporting their operations, do not significantly mitigate the effect of the opposition frame on social legitimacy. The study makes other significant empirical contributions and these are discussed next.

6.3.2.2 Other Empirical Contributions

It is the first experimental study to test the effects of organisations' environmental disclosure in disclosure media other than corporate reports. Given the variety of environmental disclosure media used by organisations, this is significant (Zeghal and Ahmed 1990, Tilt 2004).

Further, the experiment is novel in examining effects of disclosure on the moral or normative dimension which underlies social legitimacy judgement. Other studies focused on other dimensions of legitimacy, such as the economic dimension (Milne

and Patten 2002) or simply general legitimacy judgement (Vanhamme and Grobбен 2009, Kuruppu and Milne 2010). Given that social legitimacy judgement is generally viewed as the type of organisational legitimacy affected by environmental disputes (Patten 1992, Patten 2002), this is a significant empirical contribution.

Related to this, it is the first study to concentrate on legitimacy judgement of a particular means of operation, rather than the organisation itself. Despite the fact that organisations' means of operation are frequently organisational features subjected to social legitimacy judgements (Dowling and Pfeffer 1975, Zimmerman and Zeitz 2002), experimental studies in organisational legitimacy theory have not focused on this organisational feature as the object of legitimacy judgements.

The experimental design itself is significant, as it compares reactions of individuals exposed to both a challenge and organisational defence with reactions of individuals only exposed to a challenge. This simultaneous comparison of a challenge and defence in an experiment with that of a challenge facilitates a test of a mitigating/defending effect of environmental disclosures. The designs of the other experimental studies did not examine individual reactions to legitimacy challenges, and therefore provide no conclusive evidence if environmental disclosures mitigated/defended legitimacy (Elsbach 1994, Vanhamme and Grobбен 2009, Milne and Patten 2002, Kuruppu and Milne 2010)

6.4 Conclusion

In summary, results of hypotheses tests were discussed in the context of the organisational legitimacy theory perspectives which are employed in SEA research. Contributions related to individuals, their agency and cognition with respect to the effects of organisations' environmental disclosures. These contributions were explicated by reference to the existing body of SEA literature. Regarding theoretical contributions, it was outlined how results furnished a more accurate view about the influence of the different disclosures and disclosure media when organisational operations are the subject of an environmental dispute. In this respect, it was contented that annual and corporate reports do not have an exclusively defensive influence as is conveyed in the literature (Lindblom 1994, Deegan 2007, Islam and Deegan 2010, Deegan et al. 2000). Related to this, it was explained that results challenge current understanding of the method by which organisations successfully defend/protect a challenged operation. Rather than the current view that

environmental disclosures ‘deflect’ attention (Lindblom 1994, Deegan 2007, Gray et al. 1995, Islam and Deegan 2010), it was contended that that environmental disclosures in news media can have a ‘mitigating effect’ on a legitimacy challenge. Thirdly, it was explained how results of the study clarify the company credibility and frame attributes which successfully influence social legitimacy. It was also explained how results enhance understanding about the influence that company credibility and news media frames have on social legitimacy when organisational operations are disputed (Suchman 1995, Ashforth and Gibbs 1990, Vanhamme and Grobbsen 2009). Finally, the empirical contributions of the results of the hypotheses were made clear. This study was the first experimental study in the SEA field to test the effects of disclosure on individual behavioural intention (see, Milne and Patten 2002, Vanhamme and Grobbsen 2009, Elsbach 1994, Kuruppu and Milne 2010). It was also novel in examining the effects on the moral/normative dimension which underlies social legitimacy, and for focusing on organisational means of operation as a feature of social legitimacy judgement, rather than the organisation itself (see, Milne and Patten 2002, Elsbach 1994, Vanhamme and Grobbsen 2009, Kuruppu and Milne 2010). In the next chapter, the study is summarised, limitations are outlined, and recommendations for future research are made.

Chapter Seven

Conclusion

7.1 Introduction

In this chapter, aims and background of the study are briefly discussed in Section 7.2, the research method that was employed to test the conceptual model of the study is outlined in Section 7.3. In this section, details about the experimental scenario, design and participants are outlined. Following this, results of the study will be summarised in Section 7.4. Theoretical and empirical contributions of the study to organisational legitimacy literature are outlined in Sections 7.5.1 and 7.5.2 respectively. Practical implications of the study results are discussed in Section 7.6. Subsequently, generalizability of the experimental findings is discussed in Section 7.7. Finally, limitations of the findings and directions for future research are presented in Sections 7.8 and 7.9 respectively.

7.2 Background and Aim of the Study

Organisations' social legitimacy is based on individual actors' perceptions that their operations are consistent with social [environmental] values and norms (Dowling and Pfeffer 1975). This consistency generates a positive normative evaluation of the organisation's operations in the eyes of actors, because they judge a given operation as proper, appropriate and desirable (Suchman 1995, Chen and Roberts 2010).

According to the SEA literature, organisations' social legitimacy is 'challenged' when some aspect of their operations become the subject of an environmental dispute. Typically this is triggered by allegations appearing in news media reports (Brown and Deegan 1998, Sethi 1978, Aerts and Cormier 2009). A prominent belief in the literature is that organisations respond by disclosing environmental performance information via their corporate report media. This is assumed to 'deflect' the negative attention of society (the social system) to other more positive aspects of organisations' environmental performance (Deegan et al. 2000). These disclosures are assumed to defend the collective perception of organisations' social legitimacy in the face of challenges. But whether organisations' environmental disclosures have the intended effect on individuals, in the face of legitimacy challenges, has remained relatively

unexplored in the SEA literature. This is because dominance of the strategic perspective in the SEA field, has driven research to so that there is an almost exclusive focus on organisations' disclosures, rather than the reactions of the individuals at the receiving end of disclosures (Milne and Patten 2002, O'Dwyer 2002, Deegan et al. 2002, Kuruppu and Milne 2011).

Acknowledging individuals as the 'beholders of legitimacy', an institutional view of legitimacy theory would suggest that organisations' disclosures in news media rather than corporate reports affect individuals who comprise the social system. When disputes occur, individuals' interaction with news media information is believed to be important aspect of how the disputes affect social legitimacy of operations (Bitektine 2011, Brown and Deegan 1998, Lamertz and Baum 1998). This is because this media is more widely available to individual members of the public who rely on the news media information when social legitimacy challenged (Zeghal and Ahmed 1990, Sethi 1978, Brown and Deegan 1998, Aerts and Cormier 2009), rather than corporate report mediam, which suffers from a degree of "socially inaccessibility" (Zeghal and Ahmed 1990, p. 39). But institutional perspective assumes that effectiveness occurs because individuals are exposed to news media information (Ashforth and Gibbs 1990, Deephouse and Carter 2005, Bitektine 2011, Deephouse and Suchman 2008).

Such a view assigns individuals to a role of "passive consumers" of the media information (c.f. Ashforth and Gibbs 1990, p. 186). Thus this perspective of legitimacy omits individual agency or cognition (George et al. 2006). Drawing from the psychology literatures, individuals do not invariably accept information that they receive or are exposed to (Petty et al. 2002) – there are conditions under which information has the intended effect on individuals. But these conditions remain unaddressed in SEA reserach. In other words, the question of when organisations' disclosures in news media affect individual members of the public, has not been the subject of SEA research.

Much psychology research in political communication has concentrated on the influence of news media information on individual judgements, in particular the influence of information about social disputes on individual judgements (for example, Chong and Druckman 2007b, Nelson et al. 1997a, Brewer and Gross 2005, Brewer

2001, Chong and Druckman 2007a, Nelson et al. 1997b). This work illuminates conditions under which these judgements are influenced: information attributes and personality characteristics that successfully influence individual judgements and behaviour (Petty et al. 2002).

Drawing from the political communication, persuasion and marketing literatures, a model was developed of the attributes of news media information, and an individual characteristic which were predicted to influence individuals' social legitimacy judgments and behaviour with respect to disputed organisational operations (Eagly and Kulesa 1997, Verplanken 2002, Petty et al. 2002).

The information attributes predicted to influence these judgements were: environmental value frames in opposition to, and support of, an organisational operation, and company credibility in the disputed issue. The individual characteristic was the level of importance of the environmental values – biospheric, altruistic and egoistic values to individuals.

7.3 Research Method

Given that this model makes predictions about particular information attributes and a personality characteristic that affect individual social legitimacy judgement and behaviour, an experimental method was the most appropriate method (Aronson et al. 1998). The method used to test the hypotheses of the conceptual model was a mixed between- and within-subjects experiment

7.3.1 Scenario Employed

To operationalize the independent variables - environmental value frames and company credibility in an environmental dispute, a fictional scenario was used, based on a real environmental dispute over the means of operation being employed by waste companies around the UK, in order to deal with the UK's growing rubbish mountain. All over the UK, the legitimacy of waste companies' operations is being challenged, at both a local and national level, as they increasingly adopt new waste incineration technologies in their operations to treat municipal waste, rather than sending it to landfill. Companies are increasingly employing new and politically sensitive incineration technologies in their waste plants. Legitimacy studies have demonstrated

that company operations in a technological area that is politically sensitive present legitimacy challenges (Allen and Caillouet 1994, Beelitz and Merkl-Davies 2012), because they are frequently the subject of environmental disputes (Gamson and Modigliani 1987).

Based on a content analysis of media coverage of planned waste plants for Derby, Nottinghamshire and other locations, environmental value frames in opposition to, and in support of the waste plants, were found. The stimulus material developed for the experiment employed frame manipulations based on this content analysis, with the particular details of the dispute changed so that it would be perceived as a local dispute in BANES for the experiment participants.

7.3.2 Experimental Design

Specifically the design of the experiment involved the environmental value frames measured as a between-subjects variable with 5 manipulations (No frame/Environmental values frame in opposition of waste plant “Opposition Frame”/“Opposition Frame” + Biospheric value frame in support of waste plant/“Opposition Frame” + Altruistic value frame in support of waste plant/“Opposition Frame” + Egoistic frame in support of waste plant). Company credibility was measured as a within-subjects variable with 2 manipulations (High/Low company credibility in environmental dispute). The personality characteristic variable was included as a between-subjects variable with 2 levels (High/Low individual biospheric, altruistic, and egoistic value importance).

The fictional location of the proposed waste plant was chosen in order that the participant pool for the experiment perceived it to be in their local vicinity. Because University of Bath students were source of the participant pool and they mostly live in Bath city. Timsbury - an area in the environs of Bath city was chosen as the fictional location. So individual prior knowledge of companies would not contaminate responses, the name of the waste company was changed from RRS to: Green Treat Waste Company Ltd/Green Bin Waste Company Ltd.

7.3.3 Participants

Four hundred and thirteen University of Bath students participated in the experiment between September and November, 2013. Given that students in this experiment

were attached to the BANES area, i.e., they were studying and living in Bath city; this provided some indication of their suitability as individual residents who have the capacity to participate in local efforts to withdraw or confer legitimacy on the company's waste plant. Therefore it is contended that it bolsters the 'psychological realism' of the study. Next the results from testing of the model will be summarised.

7.4 Results

Results of the experiment indicate that H1 was supported. After controlling for covariates, the main effect of the opposition environmental values frame on social legitimacy judgement of the waste plant was significant. H2 was not supported, the main effect of either a biospheric (H2a), altruistic (H2b) or egoistic value frame (H2c) in support of the waste plant (when accompanying the opposition frame) on social legitimacy judgement was not significant. This indicates these frames did not significantly mitigate the effects of the opposition environmental values frame, but was in the right direction.

With respect to individual value bases of environmental concern: biospheric, altruistic, and egoistic: a moderation effect of this personality characteristic on the strength of the environmental value frames' effect on social legitimacy judgement was not detected by H3 or H4.

Results of H5 indicate that company credibility in the waste plant dispute had a significant main effect. In other words, high company credibility had a significant mitigating effect on judgement of the waste plant compared to low company credibility. The prediction of an interaction (moderation) effect was also supported. Specifically, the mitigating effects of biospheric (H5a), altruistic (H5b) and egoistic value support frames (H5c) on social legitimacy judgement of the waste plant were significantly stronger when the company transmitting them was perceived to have high credibility in the disputed issue, compared to when the company was perceived to have low credibility.

Results for H6 indicate, that as hypothesised, the opposition environmental values frame had an indirect effect on behavioural intention to oppose the waste plant. In other words, social legitimacy judgement mediated the effect of the frame on behavioural intention. However, results of hypothesis 7 were not supported. Specifically, when accompanying the opposition frame: the biospheric (H7a),

altruistic (H7b) or egoistic value support frames (H7c) were not found to have an indirect effect of behavioural intention to oppose the waste plant.

7.5 Contribution of Results

Results from statistical testing of the hypotheses make a theoretical contribution - both the institutional and strategic perspectives of organisational legitimacy theory, and also an empirical contribution.

7.5.1 Theoretical Contributions

Specifically the results furnish a more accurate view of the influence of different environmental disclosures and disclosure media in defending social legitimacy of a challenged means of operation. Results of H5a, b and c, challenge the current view that is currently held in the literature regarding the type of influence that news media has, demonstrating that it can have more than simply a negative influence on social legitimacy (which is currently the view) (Brown and Deegan 1998, Deegan 2007). It indicates that news media can also contain information (supplied by organisations) which mitigates (reduces) the negative effect of a legitimacy challenge (Aerts and Cormier 2009, Vanhamme and Grobben 2009, Milne and Patten 2002, Kuruppu and Milne 2010, Gray et al. 1995, Deegan et al. 2002). This result also has implications for beliefs in the literature regarding the influence of annual reports – they may not have as large a role in defending social legitimacy, which they are currently assumed to have (Lindblom 1994, Islam and Deegan 2010, Deegan et al. 2000). Based on the results, it is contended that their role is more likely to compliment other disclosures with respect to disputes (in the news media) that defend social legitimacy.

Results from testing of the hypotheses also refine the strategic perspective with respect to the methods by which organisations' environmental disclosures successfully defend social legitimacy of a challenged operation (Lindblom 1994, Gray et al. 1995, Deegan 2007). Results of H5a, b, and c challenge the long held assumption that environmental disclosures “deflect” society's attention from the disputed operation so only legitimate actions (operations) of an organisation are interpreted by the social system (Lindblom 1994). Instead of this deflection effect, results indicate that organisations' disclosures in news media can mitigate the negative effect of a legitimacy challenge.

Findings also contribute to both the strategic and institutional perceives, by clarifying the attributes of organisational credibility and news media frames that successfully influence social legitimacy.

Specifically, results of H5a, b, and c indicate that an organisation's credibility in the dispute— its reputation for *trustworthiness* and *expertness* mitigates the negative effect of a challenge on social legitimacy (Vanhamme and Grobbsen 2009, Suchman 1995, Ashforth and Gibbs 1990). This result clarifies current understanding in the strategic perspective regarding credibility in organisational legitimacy by delineating particular reputational features that represent company credibility in an environmental dispute.

These results of H2a, b and c and H5a, b and c, provide some clarity to understanding in legitimacy theory about news media frame attributes and their influence on social legitimacy. Results from tests of H2 suggest that environmental value frames from organisations whose operations are disputed, may not be effective in the defence of legitimacy. This is contrary to the longstanding view held by the strategic and institutional perspectives, that organisations' frames and frames in the news media invariably influence legitimacy (Ashforth and Gibbs, 1990, Neu et al. 1998, Pollock and Rindova 2003, Deephouse and Carter 2005).

These findings of H2 and H5 also provide some refinement to the current view of strategic legitimacy theory regarding the influence of news media frames and companies' frames on legitimacy. They indicate that particular frames from companies – environmental value frames, influence social legitimacy when companies have high credibility (trustworthiness and expertness) in a dispute, but not when they have low credibility. Such a result also provides a more precise understanding about how company credibility influences social legitimacy, suggesting that high company credibility in a dispute has a mitigating effect on the negative influence of a challenge, and also that company credibility interacts with companies' environmental value frames to produce a mitigating effect.

7.5.2 Empirical Contributions

From an empirical perspective, the study adds to the paucity of organisational legitimacy studies that have employed the experimental method (Vanhamme and Grobbsen 2009, Elsbach 1994, Milne and Patten 2002, Kuruppu and Milne 2010, Cho et al. 2009). In this respect, it makes a number of significant empirical contributions. It was the first to test the effects of disclosure on individual behavioural intention. It

was also novel in examining the effects of disclosure on the moral/normative dimension which underlies social legitimacy, and which is the dimension of organisational legitimacy affected by environmental disputes (Patten 1992, Patten 2002) and for focusing on judgement of an organisational operation rather than the organisation itself, given that organisations' means of operations are frequently the subject of social legitimacy judgement (Dowling and Pfeffer 1975, Zimmerman and Zeitz 2002). Next implications of the findings are discussed.

7.6 Implications of Study Findings

Knowing the conditions under which individual members of the public are successfully influenced by organisations' disclosures, is important from a public policy perspective. This is because successful public disclosures may ensure continued support and tolerance of disputed operations, thereby enabling organisations to proceed with operations that are not in the interests of particular groups within society (Deegan et al., 2002). They may negatively contribute to social welfare, and the ecosphere (Deegan 2002, Cooper and Sherer 1984, Unerman et al. 2007), In other words, social progress and environmental protection could be hindered by 'legitimising' disclosures (Puxty 1991). As Puxty (1991, p. 39) states:

I do not accept that I see legitimisation as innocuous. It seems to me that legitimisation can be very harmful indeed, insofar as it acts as a barrier to enlightenment and hence progress.

Thus disclosures may benefit the economic pursuits of organisations, at the expense of other groups in society. In this respect, they may be contributing to an unequal distribution of power among the social actors in society (Gray et al. 1987) by sustaining or extending control organisations' over natural resources, while depriving other groups of their use.

Results of this study identify conditions under which environmental disclosures mitigate the 'de-legitimising' effect of a challenge with respect to an organisational operation i.e., conditions under which disclosures contribute to successful defence of legitimacy. The research finds that environmental value frames and company credibility (trustworthiness and expertness) in the disputed issue can contribute to successful legitimisation. Based on this, these disclosure attributes potentially contribute to an unequal distribution of power among actors in society (Gray et al.

1987). Hence, it is argued that these attributes can play a key part in hindering social progress, they can help organisations with their agendas about how legitimacy is determined (Deephouse and Suchman 2008), to continue with operations that have negative environmental or social consequences. Given the findings of the study in relation to companies' environmental value frames, the powerfulness of these frames is further elaborated upon.

Because environmental value frames are disseminated via news and other mass media outlets, they are particularly powerful tools for distributing power to organisations, sustaining their actions and thereby enabling power away from groups in society with regard to these actions (c.f., Eagly and Kulesa, 1997; Nelson et al., 1997b, Gray et al., 1996). Therefore results of this study indicate that companies' environmental value frames, which end up in news media, can potentially enable and sustain an exercise of unequal power in society.

Because of this, it is argued that, environmental value frames, as an attribute of organisations' public disclosures, are more powerful and potentially more socially damaging than the other 'legitimising' attributes of organisations' environmental disclosures, such as positive tone commonly found in press releases and annual reports or quantitative data found in annual reports (see for example, Deegan and Rankin 1996, Harte and Owen 1991, Deegan and Gordon 1996). Primarily because frames are carried in news media outlets.

7.7 Generalizability of the Results

Essentially the goal of the experiment used in this study, like all experiments is the generalizability of cause-effect relationships (Lynch 1982). In this case, the relationship between environmental value frames, company credibility and individual social legitimacy judgements. Experiments are concerned with testing the implication of such theoretical propositions, of theoretical statements of universalistic nature (Berkowitz and Donnerstein 1982). Because of this goal, a central concern was not with the representativeness of the subjects and settings in a laboratory or controlled experiment (Berkowitz and Donnerstein 1982, p. 248), as these relationships apply to humans everywhere, and so the method gave little attention to particularistic reports

of the behaviour of certain groups in limited situations. The theoretical application is generalizable rather than population estimates (Berkowitz and Donnerstein 1982).

Because of this, the method employed homogenous subject samples and only used research settings, stimuli, and so on that allow unambiguous operationalization of the theoretical constructs being tested (Lynch 1982, p. 232) Homogenous convenience samples are necessary to permit precise predictions (Calder et al. 1981).

This means that use of student representatives is warranted as the goal of this method is to test theoretical relationships, and not research subjects or settings which are representative of the real world (Calder et al. 1981). Laboratory or highly controlled settings generally are desirable in theory testing research (to maximise internal validity - the confidence about cause-effect claims). The controlled environment for the experiment in this study permitted employment of a true experimental design minimising extraneous sources of variations (Calder et al. 1981, p. 204). While the advantages inherent in this method are claimed, there are shortcomings, which are discussed next.

7.8 Limitations

Limitations include the experimental scenario, the stimulus material, and participants used.

7.8.1 Experimental Scenario

The findings of the study are limited to a specific type of legitimacy challenge – environmental disputes that involve some organisational operation. Typically social and environmental disputes are characterised by the presence of confusion over cause and effect, and so there is latitude for labelling (Ashforth and Gibbs 1990).

For companies with operations in a “politically sensitive technological area” (Allen and Caillouet 1994, p. 48), legitimacy challenges often occur when a technology is newly developed, because the technology’s cause-effect relationship is unsubstantiated, the organisation’s means or ends are questioned (Allen and Caillouet 1994, p. 49, Ashforth and Gibbs 1990). Technologies may not be institutionally defined and means-ends chains may not be specified. The expectations of actors, about what constitutes legitimate means and ends are often vague and in flux (Elsbach

and Sutton 1992, Meyer and Rowan 1977), and are susceptible to messages which make sense of the operations for them.

This represents only one type of dispute that gives rise to legitimacy challenges, many legitimacy challenges occur where there is less ambiguity and so less opportunity to manipulate meaning of events, less opportunity to use value frames e.g., the Exxon Valdez oil spill.

Similarly, the experimental context involved one type of dispute and one industry. Replication of this study with other social disputes in which organisations' operations are implicated, and other industries other than the waste industry would add further evidence that value frames and company credibility are information attributes that significantly affect individuals' legitimacy judgements.

7.8.2 Stimulus Material

While confidence can be expressed about the effects of value frames, these frame manipulations were purified creations of, not entirely naturally occurring phenomena. While there was an effort to remain faithful to real-world frames, some simplification was necessary in order to achieve a minimal level of experimental control. Because the research design focused on achieving a sufficient level of internal validity with the frame conditions this required certain trade-offs with external validity. However, because the environmental value frames designed for use in the study were based on content analysis of real news media coverage, it is believed the study's external validity is strengthened.

7.8.3 Participants

In addition, recommendations of the study are based on the reactions of students as residents in the locality of an operation; other stakeholders' points of view (e.g., employees, shareholders) were not investigated. The implications of this study are thus confined to the effects of local news media on the judgements of people in a community, as opposed to the wider public. It would be interesting to test whether the model also applies to other stakeholders, which would extend its generalizability as well. The participant pool did not always faithfully represent what might be found in communities around the UK, as it was a convenience sample of university students.

For example, many of the participants did not have previous work experience, their average age was 23, and many were from countries outside of the UK.

7.9 Future Research

Keeping in mind the limitations, the findings of this study point to a number of potential avenues for future research. Many other information attributes and personality characteristics have a bearing on peoples' judgements and behaviour (Pornpitakpan 2004, Petty and Cacioppo 1986, McGuire 1985). Further research which draws from psychology research in political communication, persuasion and marketing could provide further clarity to the still muddy picture regarding the conditions under which organisations' environmental disclosures have an impact on social and other types of legitimacy judgement. Indeed the use of this research in the development of organisational legitimacy theory has been noted by scholars such as Suchman (1995) and Deephouse and Suchman (2008).

Given that legitimacy resides in the eyes of the beholders - the individuals who comprise the social system, this research could integrate and advance the 'disparate' strategic and institutional perspectives of organisational legitimacy theory.

Specifically, future research could explore the precise influence of different environmental disclosure media on stakeholders. For example repeated measures experiments could be used to expose individuals to news media reports containing a legitimacy challenge, and to subsequent annual or corporate report disclosures to ascertain the precise effect of annual report disclosures when an organisational operation has been challenged.

Future research could also employ different experimental designs which could provide fruitful results regarding the understanding of reframes/counter frames in legitimacy related disputes. For example, the effect of reframes which exactly mirror the opposition frame or which employ more values or have more credible sources (compared to the opposition frame). This would improve understanding about frame attributes which successfully defend legitimacy of operations against challenges. It would also provide a better understanding about the exact influence of news media in these situations.

Further experiments with other stakeholder types, with other disputes, or legitimacy challenges, and with different aspects of stakeholder behaviour, can all add to these initial findings on the variables that impact the legitimacy judgements of individuals.

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Appendix A

Pre-Test Questions – All Manipulations

Italicised Questions are fake questions, inserted to prevent demand effects

Questions in this study are not a test of your ability. There are no right or wrong answers. All we seek is your honest opinion.

1. People around the world are generally concerned about the environment because of different consequences. However, people differ in the consequences that concern them the most. In relation to the following question, please indicate the importance of each item by checking a box.

I am concerned about the environment because of the consequences for ...

	Not important						Supreme importance
	1	2	3	4	5	6	7
Plants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marine Life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Birds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Animals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My lifestyle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People in the community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Future generations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

We would like to assess your knowledge about student roles in local democracy and environmental and waste issues....

2. *University of Bath Students' Union represents students in the local community.*

Yes No Don't know

3. Deforestation is the only type of land use change that affects climate change.

Yes No Don't know

4. *University of Bath students have a representative on Bath and North East Somerset (B&NES) Council.*

Yes No Don't know

5. The continuing rise in CO₂ emissions will have an effect on plants but not on animals.

Yes No Don't know

6. *The member of Parliament for Bath holds regular surgeries for university students resident (living) in Bath.*

Yes No Don't know

7. *townandgown.org.uk is the name of the student community partnership website for Bath.*

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
------------------------------	-----------------------------	-------------------------------------

8. CO₂ is a greenhouse gas that contributes to ocean acidification

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
------------------------------	-----------------------------	-------------------------------------

9. *Students can make their concerns known to the Council by using the Student Action Line.*

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
------------------------------	-----------------------------	-------------------------------------

10. Nitrogen run off from agricultural fertilizers has an insignificant effect on global water supply.

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
------------------------------	-----------------------------	-------------------------------------

11. *University of Bath Students' Union has a community officer.*

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
------------------------------	-----------------------------	-------------------------------------

12. The melting of arctic summer sea ice will improve the availability of seals for polar bears.

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
------------------------------	-----------------------------	-------------------------------------

13. *The Council operates a Housing Accreditation Scheme for student rented properties.*

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
------------------------------	-----------------------------	-------------------------------------

14. Biodiversity includes the diversity of plants but not animals.

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
------------------------------	-----------------------------	-------------------------------------

15. *Bath residents' recycling and waste is collected on a weekly basis.*

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
------------------------------	-----------------------------	-------------------------------------

16. Carbon dioxide has the longest atmospheric lifetime of all the greenhouse gasses.

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
------------------------------	-----------------------------	-------------------------------------

17. Only industrial waste incinerators (furnaces for burning waste) emit dioxins.

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
------------------------------	-----------------------------	-------------------------------------

18. *University students resident in Bath are given a special residency category by the Council.*

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
------------------------------	-----------------------------	-------------------------------------

19. Incinerators emit more methane gas than landfill.

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
------------------------------	-----------------------------	-------------------------------------

20. *The recycling centre for Bath city is located on Midland Road.*

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
------------------------------	-----------------------------	-------------------------------------

21. Mercury can damage the human body's nervous system.

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
------------------------------	-----------------------------	-------------------------------------

22. *University students in Bath need to apply for a residents' permit to use the recycling centre.*

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
------------------------------	-----------------------------	-------------------------------------

23. *Do you support or oppose the right of local university students having a vote in an area's local elections? (Please tick one box only)*

Strongly oppose							Strongly support
1	2	3	4	5	6	7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

24. Do you support or oppose university students in the Bath & North East Somerset (B&NES) area having a say in decisions that affect the local environment? (Please tick one box only)

Strongly oppose							Strongly support
1	2	3	4	5	6	7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

25. Do you support or oppose incineration (the burning of waste) as a method of treating household waste? (Please tick one box only)

Strongly oppose							Strongly support
1	2	3	4	5	6	7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thank you for completing these questions, next you will see a fictitious news report about a proposed waste plant for Bath city and its environs.

When reading the news report, please imagine that you are resident (living) in Bath city now and for the next few years.

Appendix B

No Frame Stimulus Material

Frames are in bold.

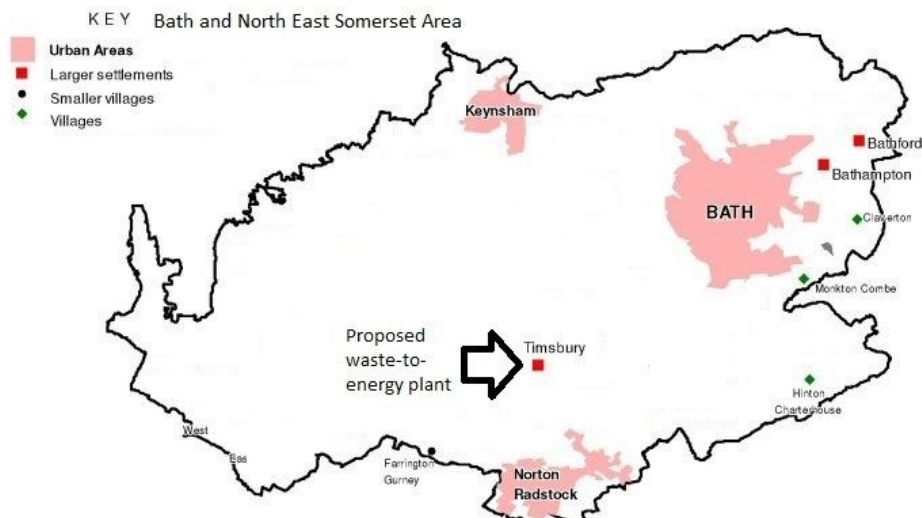
The Bath Chronicle

Waste Plant Dispute

Environmental Groups and Company clash over Bath Waste Plant

For years councils and environmentalists have been at loggerheads over what should be done with Bath's growing rubbish mountain. A waste disposal company —Green Treat—was revealed last week as the preferred bidders for a contract to deal with Bath's waste for the next 20 years. The company proposes to deal with Bath's rubbish by building a pioneering waste-to-energy plant at a site in Timsbury - a local area south west of Bath city (see map below). The proposed plant will treat about 180,000 tons of Bath's waste each year through a relatively new waste treatment process known as gasification. This process treats waste that cannot be recycled by burning it at a low temperature and turning it into ash. This process will produce gas which can be burned to produce electricity. The company plans to sell this to a local utility firm. If approved, it will be the largest plant of its type in the United Kingdom and will be running by the middle of next year - 2014.

Green Treat is currently considering two different design options for the plant - a high chimney plant design where the chimney stack would be high above ground level, or a low chimney plant design where the chimney stack would be close to ground level.



Proposed waste-to-energy plant to be built at Timsbury

Green Treat's application to build the waste plant is being considered by Bath and North East Somerset council. The dispute is likely to continue in the coming weeks and months as both sides battle to win the hearts and minds of people in Bath and North East Somerset.

*****End of news report*****

Appendix C

Environmental Values Opposition Frame

Stimulus Material

Frames are in bold.

When reading the news report, please imagine that you are resident (living) in Bath city now and for the next few years.

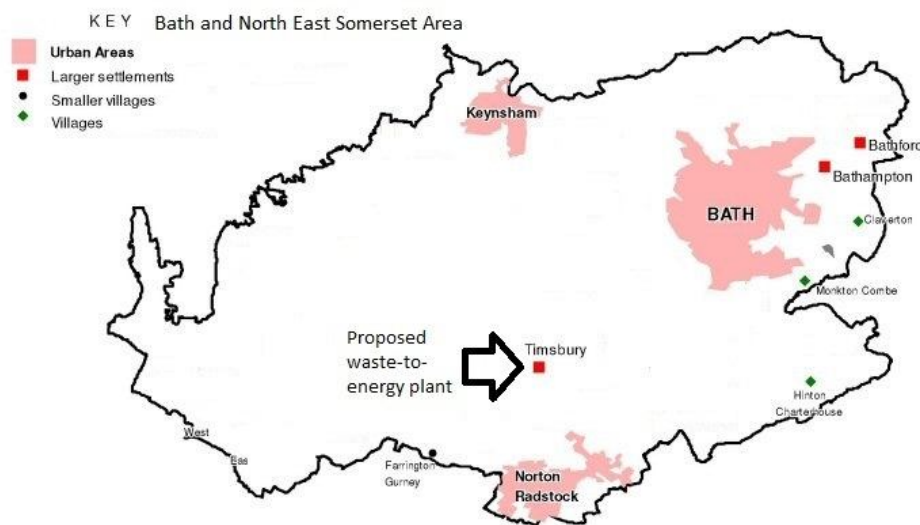
The Bath Chronicle

Waste Plant Dispute

Environmental Groups and Company clash over Bath Waste Plant

For years councils and environmentalists have been at loggerheads over what should be done with Bath's growing rubbish mountain. A waste disposal company —Green Treat—was revealed last week as the preferred bidders for a contract to deal with Bath's waste for the next 20 years. The company proposes to deal with Bath's rubbish by building a pioneering waste-to-energy plant at a site in Timsbury - a local area south west of Bath city (see map below). The proposed plant will treat about 180,000 tons of Bath's waste each year through a relatively new waste treatment process known as gasification. This process treats waste that cannot be recycled by burning it at a low temperature and turning it into ash. This process will produce gas which can be burned to produce electricity. The company plans to sell this to a local utility firm. If approved, it will be the largest plant of its type in the United Kingdom and will be running by the middle of next year - 2014.

Green Treat is currently considering two different design options for the plant - a **high** chimney plant design where the chimney stack would be high above ground level, or a **low** chimney plant design where the chimney stack would be close to ground level. **Previous studies have showed that emissions from plants similar to the one proposed by Green Treat release emissions, including nitrogen dioxide, nano-particles and dioxins into the air that are harmful to health.**



Proposed waste-to-energy plant to be built at Timsbury

Environmental groups believe that a high chimney plant at Timsbury would leave the Timsbury area unaffected. They claim emissions released from a high chimney stack, will be carried by prevailing winds, from the area, into Bath city. Such a design will result in emissions from the plant causing respiratory diseases and shorter life expectancy of you and other people living within Bath city. Due to the likely effects on you and other city residents, environmental groups believe the company should not be allowed to build a plant at the proposed site.

Environmental groups believe that a low chimney plant at Timsbury would result in only the Timsbury area being affected. They claim emissions released from a low chimney stack will not be carried away by prevailing winds, and so will not reach Bath city. Such a design, they say will result in emissions from the plant causing respiratory diseases and shorter life expectancy of people living within the Timsbury area. Due to the likely effects on Timsbury's residents, environmental groups believe the company should not be allowed to build a plant at the proposed site.

In addition, environmental groups believe that a low chimney plant design will have a negative impact on the health of species in the Timsbury area. Timsbury hosts 150 different species of birds every year and is home to one of the largest populations of red squirrels in the UK. Such a design, they say will result in emissions from the plant causing respiratory diseases and shorter life expectancy of these and other species. Due to the negative impact on wildlife in Timsbury, they believe the company should not be allowed to build a plant at the proposed site.

Green Treat's application to build the waste plant is being considered by Bath and North East Somerset council. The dispute is likely to continue in the coming weeks and months as both sides battle to win the hearts and minds of people in Bath and North East Somerset.

*****End of news report*****

Appendix D

Opposition + Biospheric Value Support Frame

Stimulus Material and Post-Stimulus Questions

Frames are in bold.

When reading the news report, please imagine that you are resident (living) in Bath city now and for the next few years.

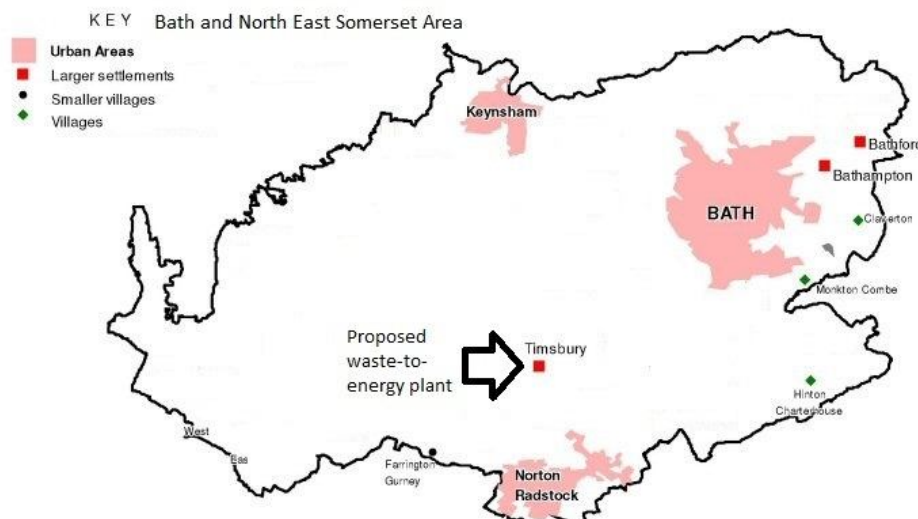
The Bath Chronicle

Waste Plant Dispute

Environmental Groups and Company clash over Bath Waste Plant

For years councils and environmentalists have been at loggerheads over what should be done with Bath's growing rubbish mountain. A waste disposal company —Green Treat—was revealed last week as the preferred bidders for a contract to deal with Bath's waste for the next 20 years. The company proposes to deal with Bath's rubbish by building a pioneering waste-to-energy plant at a site in Timsbury - a local area south west of Bath city (see map below). The proposed plant will treat about 180,000 tons of Bath's waste each year through a relatively new waste treatment process known as gasification. This process treats waste that cannot be recycled by burning it at a low temperature and turning it into ash. This process will produce gas which can be burned to produce electricity. The company plans to sell this to a local utility firm. If approved, it will be the largest plant of its type in the United Kingdom and will be running by the middle of next year - 2014.

Green Treat is currently considering two different design options for the plant - a high chimney plant design where the chimney stack would be high above ground level, or a low chimney plant design where the chimney stack would be close to ground level. **Previous studies have showed that emissions from plants similar to the one proposed by Green Treat release emissions, including nitrogen dioxide, nano-particles and dioxins into the air that are harmful to health.**



Proposed waste-to-energy plant to be built at Timsbury

Environmental groups believe that a high chimney plant at Timsbury would leave the Timsbury area unaffected. They claim emissions released from a high chimney stack, will be carried by prevailing winds, from the area, into Bath city. Such a design will result in emissions from the plant causing respiratory diseases and shorter life expectancy of you and other people living within Bath city. Due to the likely effects on you and other city residents, environmental groups believe the company should not be allowed to build a plant at the proposed site.

Environmental groups believe that a low chimney plant at Timsbury would result in only the Timsbury area being affected. They claim emissions released from a low chimney stack will not be carried away by prevailing winds, and so will not reach Bath city. Such a design, they say will result in emissions from the plant causing respiratory diseases and shorter life expectancy of people living within the Timsbury area. Due to the likely effects on Timsbury’s residents, environmental groups believe the company should not be allowed to build a plant at the proposed site.

In addition, environmental groups believe that a low chimney plant design will have a negative impact on the health of species in the Timsbury area. Timsbury hosts 150 different species of birds every year and is home to one of the largest populations of red squirrels in the UK. Such a design, they say will result in emissions from the plant causing respiratory diseases and shorter life expectancy of these and other species. Due to the negative impact on wildlife in Timsbury, they believe the company should not be allowed to build a plant at the proposed site.

Green Treat’s application to build the waste plant is being considered by Bath and North East Somerset council. The dispute is likely to continue in the coming weeks and months as both sides battle to win the hearts and minds of people in Bath and North East Somerset.

*****End of news report*****

From reading the “Waste Plant Dispute” news report, can you tell us...

26. to what extent did environmental groups convey that the waste plant in Timsbury will have negative environmental effects? *(Please tick one box only)*

Not at all							Very much so
1	2	3	4	5	6	7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

To what extent did environmental groups convey that a waste plant in Timsbury could have negative environmental effects on:

27. you and others in Bath city?

Not at all							Very much so
1	2	3	4	5	6	7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

28. wildlife in the Timsbury area?

Not at all							Very much so
1	2	3	4	5	6	7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

29. people living in the Timsbury area?

Not at all							Very much so
1	2	3	4	5	6	7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

30. To what extent did the news report convey that Green Treat Waste Company will be responsible for the environmental effects of the waste plant? (Please tick one box only)

Not at all							Very much so
1	2	3	4	5	6	7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Continue to imagine that you are resident in Bath city for the next few years.

Please read the following additional news report about the waste plant.

The Bath Chronicle

Green Treat Responds

Company responds to environmental groups' claims

Green Treat has indicated that it will build a **low** chimney plant at the Timsbury site.

Green Treat was established in 1992 and is headquartered in Derby, UK. It has been named by The Times as one of British Top 100 socially conscious corporate citizens. Since its establishment, the company has maintained a good environmental performance record. It has never breached Environment Agency permitted emission levels in the operation of its waste plants, and the company's claims that it operates its plants in an environmentally responsible manner have consistently been validated by reports in local and national media. In addition, it has always demonstrated its expertness in environment issues. The data that it discloses about its future environmental performance, including projected emission levels of its waste plants is always consistent with its own performance data and with Environmental Agency monitoring data.

In response to the environmental groups' claims, Green Treat's communication manager indicated:

"Our company will use a technology in our low chimney waste plant called gasification, which is different from incineration. One reason for choosing this technology is its low emission levels, which is just a fraction of the limits permitted by the European Union. We have also provided extra information to the council which demonstrates that the facility will only make a very small contribution to nitrogen dioxide, nano-particle, and dioxin levels".

The communication manager further said: "We will use the latest environmentally-sensitive technology in our low chimney waste plant which will ensure that emissions will not be harmful to the health of local wildlife in Timsbury. We will also open a veterinary clinic in Timsbury giving free health checks and providing treatment to the local wildlife on a regular basis". The company also indicates they will continue to work with environmental organisations and landowners to ensure the appropriate steps are taken to preserve local wildlife.

*****End of news report*****

Based on your reading of this news report...

Italicised Questions are fake questions, inserted to prevent demand effects

31. Please indicate your agreement, or disagreement with the following statements:

	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
Green Treat Waste Company has a great amount of experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Green Treat Waste Company is skilled at what they do	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Green Treat Waste Company has great expertise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Green Treat Waste Company does not have much experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I trust Green Treat Waste Company	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Green Treat Waste Company makes truthful claims	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Green Treat Waste Company is honest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do not believe what Green Treat Waste Company tells me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

32. To what extent did Green Treat’s communication manager convey that the waste plant will have negative environmental effects? *(Please tick one box only)*

Not at all						Very much so
1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

33. To what extent did Green Treat’s communication manager convey that the waste plant will have negative environmental effects on wildlife in the Timsbury area?

Not at all						Very much so
1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Now, considering both “Waste Plant Dispute” AND “Green Treat Responds” reports...

34. How easy or difficult did it feel to read the news reports? *(Please tick one box only)*

Very difficult to read						Very easy to read
1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

35. How did reading the news reports make you feel?

Very unpleasant						Very pleasant
1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Continue to imagine that you are resident in Bath city for the next few years.

Thinking about both “Waste Plant Dispute” AND “Green Treat Responds” reports...

36. Do you oppose, or support, Green Treat’s proposed waste plant?

Strongly oppose								Strongly support
1	2	3	4	5	6	7		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>

37. In deciding whether you opposed or supported Green Treat’s proposed waste plant, we’d like you to write down what things went through your mind as you were answering that question?

38. Considering the news reports, please rate Bath and North East Somerset (B&NES) Council on each of the following attributes:

Passive	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Active
Undependable	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Dependable
Undemocratic	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Democratic
Closed	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Open

39. As a resident of Bath city, how interested are you about the proposed waste-to-energy plant? *(Please tick one box only)*

Not at all interested								Extremely interested
1	2	3	4	5	6	7		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>

Continue to imagine that you are resident in Bath city for the next few years.

Based on both the “Waste Plant Dispute” and “Green Treat Responds” reports...

40. tick a box on each line that best represents your evaluation of the proposed waste plant.

Unacceptable	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Acceptable
Improper	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Proper
Immoral	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Moral
Undersirable	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Desirable
Bad	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Good
Inappropriate	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Appropriate
Wrong	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Right
Unethical	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Ethical
Incorrect	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Correct

41. tick a box on each line that best represents your evaluation of Green Treat Waste Company.

Unacceptable	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Acceptable
Improper	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Proper
Immoral	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Moral
Undersirable	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Desirable
Bad	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Good
Inappropriate	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Appropriate
Wrong	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Right
Unethical	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Ethical
Incorrect	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Correct

42. Based on both news reports, please indicate your agreement or disagreement with the following statements:

	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
Green Treat sets an example for how other waste companies should conduct their activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Green Treat is committed to meeting the standards that people expect of waste companies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Green Treat genuinely listens to the demands that people put on it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Green Treat sets an example for how waste companies should behave.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please rate your agreement or disagreement with the following statements:

43. Bath city residents have a say in decisions about the proposed waste-to-energy plant. (Please tick one box only)

Strongly disagree							Strongly agree
1	2	3	4	5	6	7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

44. Participation of Bath city residents in community organisations about the proposed waste-to-energy plant, is important no matter how much or how little is accomplished.

Strongly disagree							Strongly agree
1	2	3	4	5	6	7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

45. As a resident, how interested are you in news stories about local waste issues? (Please tick one box only)

Not at all interested							Extremely interested
1	2	3	4	5	6	7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Continue to imagine that you are resident in Bath city for the next few years.

Imagine that you need to get a job locally, and have completed an interview with Green Treat Waste Company. The company has a range of different job opportunities and has offered you a job that matches your available time, interests, degree discipline, and salary desires.

46. Having read both news reports, please indicate the likelihood that you would accept this offer.

Unlikely	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Likely
----------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	--------

Now imagine that all future collections of household waste in Bath will be done by Green Treat. Green Treat plans to keep the waste for supply to its waste plant in Timsbury. Remember there is only one household waste collection service in Bath. Instead of having their waste collected, residents can take their waste to a waste site in Bath city. Waste taken to this site will not be supplied to Green Treat's waste plant in Timsbury.

Considering both news reports...

47. please indicate the likelihood that you would take your waste to the waste site.

Unlikely	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Likely
----------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	--------

48. please indicate the likelihood that you would ask your friends living in Bath to take their waste to the waste site.

Unlikely	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Likely
----------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	--------

Imagine now that instead of one waste collection service, different companies will be offering waste collection services in Bath. Green Treat will be one of these companies. Bath city residents will have to become customers of their chosen company and pay a waste collection charge. Only household waste collected by Green Treat will be supplied to its proposed waste plant in Timsbury. There is little difference between prices or services offered.

Considering both news reports...

49. please indicate the likelihood that you would not become a customer of Green Treat.

Unlikely	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Likely
----------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	--------

50. please indicate the likelihood that you would ask your friends living in Bath not to become customers of Green Treat.

Unlikely	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Likely
----------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	--------

Hard copies of a petition against Green Treat Waste Company's proposed plant have been made available at various locations around Bath (such as Bath Central Library and Post Office).

51. Please indicate the likelihood that you would sign this petition.

Unlikely	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Likely
----------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	--------

52. An online copy of the petition is also available, please indicate the likelihood that you would sign this petition.

Unlikely	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Likely
----------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	--------

53. Please indicate the likelihood that you would object to Bath and North East Somerset (B&NES) Council about the proposed plant.

Unlikely	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Likely
----------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	--------

54. Bath city residents have formed a local campaign group in opposition to Green Treat's proposed plant, please indicate the likelihood that you would become a member of this group.

Unlikely	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Likely
----------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	--------

55. Please indicate the likelihood that you would participate in a protest against Green Treat's proposed waste plant.

Unlikely	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Likely
----------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	--------

56. *If you complained about the proposed plant to B&NES Council, how much attention do you think the Council would pay to your complaint? (Please tick one box only)*

Not at all							Very much so	
1	2	3	4	5	6	7		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Thank you for completing these questions.

Now, imagine that Green Treat has withdrawn its waste plant proposal, but a new company: Clean Bin Waste Company plans to continue with exactly the same waste plant proposal.

The companies are in no way related.

Continuing to imagine that you are resident in Bath city for the next few years, please read the following news report

The Bath Chronicle

Clean Bin Responds

Company responds to environmental groups' claims

Clean Bin has indicated that it will build a **low** chimney plant at the Timsbury site.

Clean Bin was established in 1992 and is headquartered in Birmingham, UK. It has been named by The Times as one of 100 British companies that need to improve their social consciousness. Since its establishment, the company has maintained a bad environmental performance record. It has regularly breached Environment Agency permitted emission levels in the operation of its waste plants, and the company's claims that it operates its plants in an environmentally responsible manner have been consistently contradicted by reports in local and national media. In addition, it lacks knowledge in environment issues. The data that it discloses about its future environmental performance, including projected emission levels of its waste plants, is rarely consistent with its own performance data and with Environment Agency monitoring data.

In response to the environmental groups' claims, Clean Bin's communication manager indicated:

"Our company will use a technology in our low chimney waste plant called gasification, which is different from incineration. One reason for choosing this technology is its low emission levels, which is just a fraction of the limits permitted by the European Union. We have also provided extra information to the council which demonstrates that the facility will only make a very small contribution to nitrogen dioxide, nano-particle, and dioxin levels".

The communication manager further said: "We will use the latest environmentally-sensitive technology in our low chimney waste plant which will ensure that emissions will not be harmful to the health of local wildlife in Timsbury. We will also open a veterinary clinic in Timsbury giving free health checks and providing treatment to the local wildlife on a regular basis". The company also indicates they will continue to work with environmental organisations and landowners to ensure the appropriate steps are taken to preserve local wildlife.

*****End of news report*****

Thank you for reading this news report.

Considering the "Clean Bin Responds" news report...

Italicised Questions are fake questions, inserted to prevent demand effects

57. Please indicate your agreement, or disagreement with the following statements:

	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
Clean Bin Waste Company has a great amount of experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clean Bin Waste Company is skilled at what they do	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clean Bin Waste Company has great expertise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clean Bin Waste Company does not have much experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I trust Clean Bin Waste Company	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clean Bin Waste Company makes truthful claims	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clean Bin Waste Company is honest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do not believe what Clean Bin Waste Company tells me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

58. To what extent did Clean Bin’s communication manager convey that the waste plant will have negative environmental effects? *(Please tick one box only)*

Not at all							Very much so
1	2	3	4	5	6	7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

59. To what extent did Clean Bin’s communication manager convey that the waste plant will have negative environmental effects on wildlife in the Timsbury area?

Not at all							Very much so
1	2	3	4	5	6	7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

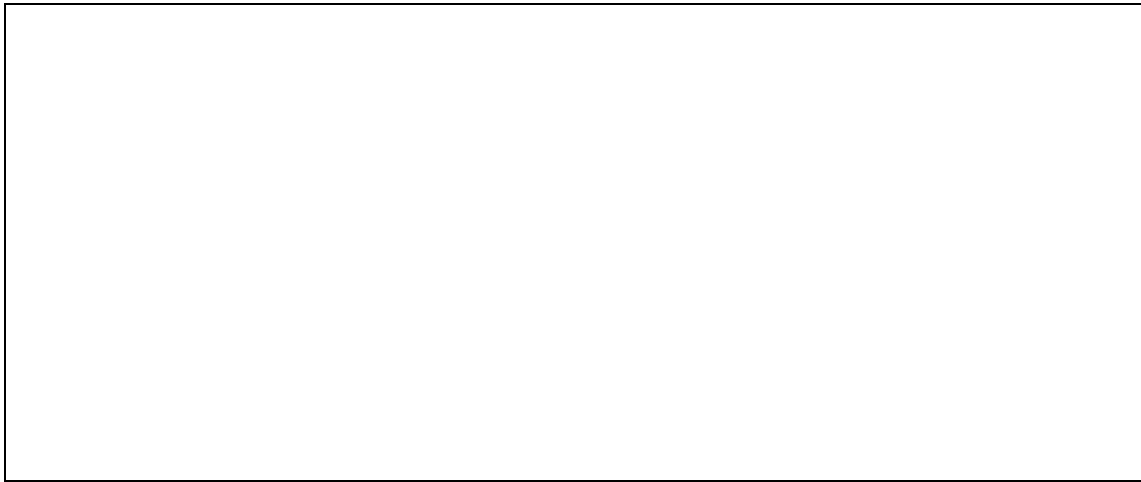
Continue to imagine that you are resident in Bath city for the next few years.

Thinking about both “Waste Plant Dispute” AND the “Clean Bin Responds” reports

60. Do you oppose, or support, Clean Bin’s proposed waste plant?

Strongly oppose						Strongly support
1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

61. In deciding whether you opposed or supported Clean Bin’s proposed waste plant, we’d like you to write down what things went through your mind as you were answering that question?



Continue to imagine that you are resident in Bath city for the next few years.

Thinking about both “Waste Plant Dispute” and “Clean Bin Responds” reports...

62. tick a box on each line that best represents your evaluation of the proposed waste plant.

Unacceptable	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Acceptable
Improper	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Proper
Immoral	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Moral
Undersirable	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Desirable
Bad	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Good
Inappropriate	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Appropriate
Wrong	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Right
Unethical	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Ethical
Incorrect	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Correct

63. tick a box on each line that best represents your evaluation of Clean Bin Waste Company.

Unacceptable	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Acceptable
Improper	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Proper
Immoral	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Moral
Undersirable	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Desirable
Bad	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Good
Inappropriate	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Appropriate
Wrong	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Right
Unethical	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Ethical
Incorrect	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Correct

64. Based on both news reports, please indicate your agreement or disagreement with the following statements:

	Strongly disagree							Strongly agree
	1	2	3	4	5	6	7	
Clean Bin sets an example for how other waste companies should conduct their activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clean Bin is committed to meeting the standards that people expect of waste companies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clean Bin genuinely listens to the demands that people put on it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clean Bin sets an example for how waste companies should behave.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

65. As a resident, how interested are you in the waste recycling rates for Bath city?

Not at all interested							Extremely interested
1	2	3	4	5	6	7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Continue to imagine that you are resident in Bath city for the next few years.

Imagine that you need to get a job locally, and have completed an interview with Clean Bin Waste Company. The company has a range of different job opportunities and has offered you a job that matches your available time, interests, degree discipline, and salary desires.

66. Having read the news reports, please indicate the likelihood that you would accept this offer.

Unlikely	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Likely
----------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	--------

Now imagine that all future collections of household waste in Bath will be done by Clean Bin. Clean Bin plans to keep the waste for supply to its waste plant in Timsbury. Remember there is only one household waste collection service in Bath. Instead of having their waste collected, residents can take their waste to a waste site in Bath city. Waste taken to the site will not be supplied to Clean Bin's waste plant in Timsbury.

Considering the news reports...

67. please indicate the likelihood that you would take your waste to the waste site.

Unlikely	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Likely
----------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	--------

68. please indicate the likelihood that you would ask your friends living in Bath to take their waste to the waste site.

Unlikely	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	Likely
----------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	----------------------------	--------

Imagine now that instead of one waste collection service, different companies will be offering waste collection services in Bath. Clean Bin will be one of these companies. Bath city residents will have to become customers of their chosen company and pay a waste collection charge. Only household waste collected by Clean Bin will be supplied to its proposed waste plant in Timsbury. There is little difference between prices or services offered.

Considering the news reports...

69. please indicate the likelihood that you would not become a customer of Clean Bin.

Unlikely	<input type="checkbox"/>	1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>	6	<input type="checkbox"/>	7	Likely
----------	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------

70. please indicate the likelihood that you would ask your friends living in Bath not to become customers of Clean Bin.

Unlikely	<input type="checkbox"/>	1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>	6	<input type="checkbox"/>	7	Likely
----------	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------

Hard copies of a petition against Clean Bin Waste Company's proposed plant have been made available at various locations around Bath (such as Bath Central Library and Post Office).

71. Please indicate the likelihood that you would sign this petition.

Unlikely	<input type="checkbox"/>	1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>	6	<input type="checkbox"/>	7	Likely
----------	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------

72. An online copy of the petition is also available, please indicate the likelihood that you would sign this petition.

Unlikely	<input type="checkbox"/>	1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>	6	<input type="checkbox"/>	7	Likely
----------	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------

73. Please indicate the likelihood that you would object to Bath and North East Somerset (B&NES) Council about the proposed plant.

Unlikely	<input type="checkbox"/>	1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>	6	<input type="checkbox"/>	7	Likely
----------	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------

74. Bath city residents have formed a local campaign group in opposition to Clean Bin's proposed plant, please indicate the likelihood that you would become a member of this group.

Unlikely	<input type="checkbox"/>	1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>	6	<input type="checkbox"/>	7	Likely
----------	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------

75. Please indicate the likelihood that you would participate in a protest against Clean Bin's proposed waste plant.

Unlikely	<input type="checkbox"/>	1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>	6	<input type="checkbox"/>	7	Likely
----------	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	---	--------

Appendix E

Opposition + Altruistic Value Support Frame

Stimulus Material

Frames are in bold.

When reading the news report, please imagine that you are resident (living) in Bath city now and for the next few years.

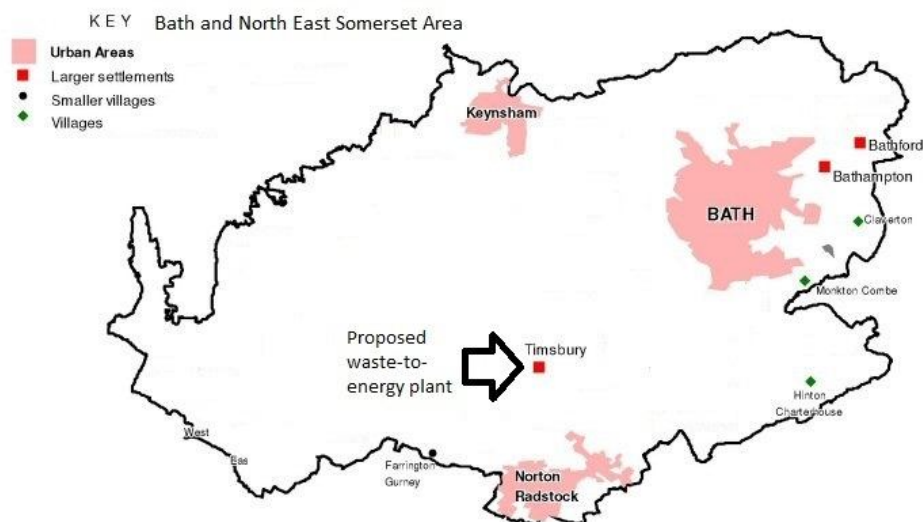
The Bath Chronicle

Waste Plant Dispute

Environmental Groups and Company clash over Bath Waste Plant

For years councils and environmentalists have been at loggerheads over what should be done with Bath's growing rubbish mountain. A waste disposal company—Green Treat—was revealed last week as the preferred bidders for a contract to deal with Bath's waste for the next 20 years. The company proposes to deal with Bath's rubbish by building a pioneering waste-to-energy plant at a site in Timsbury - a local area south west of Bath city (see map below). The proposed plant will treat about 180,000 tons of Bath's waste each year through a relatively new waste treatment process known as gasification. This process treats waste that cannot be recycled by burning it at a low temperature and turning it into ash. This process will produce gas which can be burned to produce electricity. The company plans to sell this to a local utility firm. If approved, it will be the largest plant of its type in the United Kingdom and will be running by the middle of next year - 2014.

Green Treat is currently considering two different design options for the plant - a high chimney plant design where the chimney stack would be high above ground level, or a low chimney plant design where the chimney stack would be close to ground level. **Previous studies have showed that emissions from plants similar to the one proposed by Green Treat release emissions, including nitrogen dioxide, nano-particles and dioxins into the air that are harmful to health.**



Proposed waste-to-energy plant to be built at Timsbury

Environmental groups believe that a high chimney plant at Timsbury would leave the Timsbury area unaffected. They claim emissions released from a high chimney stack,

will be carried by prevailing winds, from the area, into Bath city. Such a design will result in emissions from the plant causing respiratory diseases and shorter life expectancy of you and other people living within Bath city. Due to the likely effects on you and other city residents, environmental groups believe the company should not be allowed to build a plant at the proposed site.

Environmental groups believe that a low chimney plant at Timsbury would result in only the Timsbury area being affected. They claim emissions released from a low chimney stack will not be carried away by prevailing winds, and so will not reach Bath city. Such a design, they say will result in emissions from the plant causing respiratory diseases and shorter life expectancy of people living within the Timsbury area. Due to the likely effects on Timsbury's residents, environmental groups believe the company should not be allowed to build a plant at the proposed site.

In addition, environmental groups believe that a low chimney plant design will have a negative impact on the health of species in the Timsbury area. Timsbury hosts 150 different species of birds every year and is home to one of the largest populations of red squirrels in the UK. Such a design, they say will result in emissions from the plant causing respiratory diseases and shorter life expectancy of these and other species. Due to the negative impact on wildlife in Timsbury, they believe the company should not be allowed to build a plant at the proposed site.

Green Treat's application to build the waste plant is being considered by Bath and North East Somerset council. The dispute is likely to continue in the coming weeks and months as both sides battle to win the hearts and minds of people in Bath and North East Somerset.

*****End of news report*****

Continue to imagine that you are resident in Bath city for the next few years.

Please read the following additional news report about the waste plant.

The Bath Chronicle

Green Treat Responds

Company responds to environmental groups' claims

Green Treat has indicated that it will build a **low** chimney plant at the Timsbury site.

Green Treat was established in 1992 and is headquartered in Derby, UK. It has been named by The Times as one of 100 British companies that need to improve their social consciousness. Since its establishment, the company has maintained a bad environmental performance record. It has regularly breached Environment Agency permitted emission levels in the operation of its waste plants, and the company's claims that it operates its plants in an environmentally responsible manner have been consistently contradicted by reports in local and national media. In addition, it lacks knowledge in environment issues. The data that it discloses about its future environmental performance, including projected emission levels of its waste plants, is rarely consistent with its own performance data and with Environment Agency monitoring data.

In response to the environmental groups' claims, Green Treat's communication manager indicated:

"Our company will use a technology in our low chimney waste plant called gasification, which is different from incineration. One reason for choosing this technology is its low emission

levels, which is just a fraction of the limits permitted by the European Union. We have also provided extra information to the council which demonstrates that the facility will only make a very small contribution to nitrogen dioxide, nano-particle, and dioxin levels”.

The communication manager further said: “We will use the latest environmentally-sensitive technology in our low chimney waste plant which will ensure that emissions will not be harmful to the health of local people in Timsbury. We will also open a clinic in Timsbury offering free health check and treatment for the local residents living in Timsbury on a regular basis”. The company also indicates they will continue to work with those who have a responsibility for safeguarding public health to ensure the appropriate steps are taken to avoid any damage.

*****End of news report*****

Now, imagine that Green Treat has withdrawn its waste plant proposal, but a new company: Clean Bin Waste Company plans to continue with exactly the same waste plant proposal.

The companies are in no way related.

Continuing to imagine that you are resident in Bath city for the next few years, please read the following news report

The Bath Chronicle

Clean Bin Responds

Company responds to environmental groups’ claims

Clean Bin has indicated that it will build a **low** chimney plant at the Timsbury site.

Clean Bin was established in 1992 and is headquartered in Birmingham, UK. It has been named by The Times as one of British Top 100 socially conscious corporate citizens. Since its establishment, the company has maintained a good environmental performance record. It has never breached Environment Agency permitted emission levels in the operation of its waste plants, and the company’s claims that it operates its plants in an environmentally responsible manner have consistently been validated by reports in local and national media. In addition, it has always demonstrated its expertness in environment issues. The data that it discloses about its future environmental performance, including projected emission levels of its waste plants is always consistent with its own performance data and with Environmental Agency monitoring data.

In response to the environmental groups’ claims, Clean Bin’s communication manager indicated:

“Our company will use a technology in our low chimney waste plant called gasification, which is different from incineration. One reason for choosing this technology is its low emission levels, which is just a fraction of the limits permitted by the European Union. We have also provided extra information to the council which demonstrates that the facility will only make a very small contribution to nitrogen dioxide, nano-particle, and dioxin levels”.

The communication manager further said: “We will use the latest environmentally-sensitive technology in our low chimney waste plant which will ensure that emissions will not be harmful to the health of local people in Timsbury. We will also open a clinic

in Timsbury offering free health check and treatment for the local residents living in Timsbury on a regular basis". The company also indicates they will continue to work with those who have a responsibility for safeguarding public health to ensure the appropriate steps are taken to avoid any damage.

*****End of news report*****

Thank you for reading this news report.

Appendix F

Opposition + Egoistic Value Support Frames

Stimulus Material

Frames are in bold.

Thank you for completing these questions, next you will see a fictitious news report about a proposed waste plant for Bath city and its environs.

When reading the news report, please imagine that you are resident (living) in Bath city now and for the next few years.

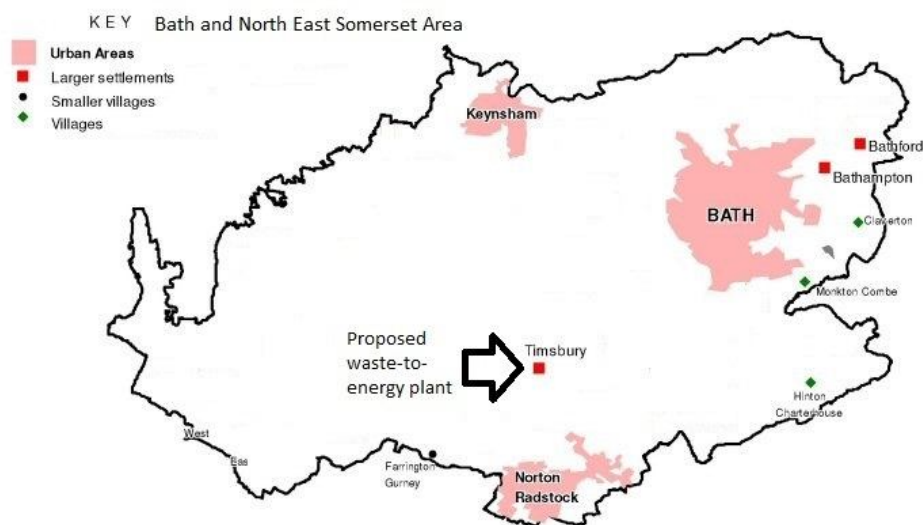
The Bath Chronicle

Waste Plant Dispute

Environmental Groups and Company clash over Bath Waste Plant

For years councils and environmentalists have been at loggerheads over what should be done with Bath's growing rubbish mountain. A waste disposal company —Green Treat—was revealed last week as the preferred bidders for a contract to deal with Bath's waste for the next 20 years. The company proposes to deal with Bath's rubbish by building a pioneering waste-to-energy plant at a site in Timsbury - a local area south west of Bath city (see map below). The proposed plant will treat about 180,000 tons of Bath's waste each year through a relatively new waste treatment process known as gasification. This process treats waste that cannot be recycled by burning it at a low temperature and turning it into ash. This process will produce gas which can be burned to produce electricity. The company plans to sell this to a local utility firm. If approved, it will be the largest plant of its type in the United Kingdom and will be running by the middle of next year - 2014.

Green Treat is currently considering two different design options for the plant - a high chimney plant design where the chimney stack would be high above ground level, or a low chimney plant design where the chimney stack would be close to ground level. **Previous studies have showed that emissions from plants similar to the one proposed by Green Treat release emissions, including nitrogen dioxide, nano-particles and dioxins into the air that are harmful to health.**



Proposed waste-to-energy plant to be built at Timsbury

Environmental groups believe that a high chimney plant at Timsbury would leave the Timsbury area unaffected. They claim emissions released from a high chimney stack, will be carried by prevailing winds, from the area, into Bath city. Such a design will result in emissions from the plant causing respiratory diseases and shorter life expectancy of you and other people living within Bath city. Due to the likely effects on you and other city residents, environmental groups believe the company should not be allowed to build a plant at the proposed site.

Environmental groups believe that a low chimney plant at Timsbury would result in only the Timsbury area being affected. They claim emissions released from a low chimney stack will not be carried away by prevailing winds, and so will not reach Bath city. Such a design, they say will result in emissions from the plant causing respiratory diseases and shorter life expectancy of people living within the Timsbury area. Due to the likely effects on Timsbury's residents, environmental groups believe the company should not be allowed to build a plant at the proposed site.

In addition, environmental groups believe that a low chimney plant design will have a negative impact on the health of species in the Timsbury area. Timsbury hosts 150 different species of birds every year and is home to one of the largest populations of red squirrels in the UK. Such a design, they say will result in emissions from the plant causing respiratory diseases and shorter life expectancy of these and other species. Due to the negative impact on wildlife in Timsbury, they believe the company should not be allowed to build a plant at the proposed site.

Green Treat's application to build the waste plant is being considered by Bath and North East Somerset council. The dispute is likely to continue in the coming weeks and months as both sides battle to win the hearts and minds of people in Bath and North East Somerset.

*****End of news report*****

Continue to imagine that you are resident in Bath city for the next few years.

Please read the following additional news report about the waste plant.

The Bath Chronicle

Green Treat Responds

Company responds to environmental groups' claims

Green Treat has indicated that it will build a **high** chimney plant at the Timsbury site.

Green Treat was established in 1992 and is headquartered in Derby, UK. It has been named by The Times as one of British Top 100 socially conscious corporate citizens. Since its establishment, the company has maintained a good environmental performance record. It has never breached Environment Agency permitted emission levels in the operation of its waste plants, and the company's claims that it operates its plants in an environmentally responsible manner have consistently been validated by reports in local and national media. In addition, it has always demonstrated its expertness in environment issues. The data that it discloses about its future environmental performance, including projected emission levels of its waste plants is always consistent with its own performance data and with Environmental Agency monitoring data.

In response to the environmental groups' claims, Green Treat's communication manager indicated:

“Our company will use a technology in our high chimney waste plant called gasification, which is different from incineration. One reason for choosing this technology is its low emission levels, which is just a fraction of the limits permitted by the European Union. We have also provided extra information to the council which demonstrates that the facility will only make a very small contribution to nitrogen dioxide, nano-particle, and dioxin levels”.

The communication manager further said: “We will use the latest environmentally-sensitive technology in our high chimney waste plant which will ensure that emissions, will not be harmful to the health of you and other people in Bath city. We will also open a clinic at Bath city offering free health check and treatment for you and other local residents on a regular basis”. The company also indicates that they will continue to work with you and other individuals who have concerns about their health to ensure the appropriate steps are taken to avoid any damage.

*****End of news report*****

Now, imagine that Green Treat has withdrawn its waste plant proposal, but a new company: Clean Bin Waste Company plans to continue with exactly the same waste plant proposal.

The companies are in no way related.

Continuing to imagine that you are resident in Bath city for the next few years, please read the following news report

The Bath Chronicle

Clean Bin Responds

Company responds to environmental groups’ claims

Clean Bin has indicated that it will build a **high** chimney plant at the Timsbury site.

Clean Bin was established in 1992 and is headquartered in Birmingham, UK. It has been named by The Times as one of 100 British companies that need to improve their social consciousness. Since its establishment, the company has maintained a bad environmental performance record. It has regularly breached Environment Agency permitted emission levels in the operation of its waste plants, and the company’s claims that it operates its plants in an environmentally responsible manner have been consistently contradicted by reports in local and national media. In addition, it lacks knowledge in environment issues. The data that it discloses about its future environmental performance, including projected emission levels of its waste plants, is rarely consistent with its own performance data and with Environment Agency monitoring data.

In response to the environmental groups’ claims, Clean Bin’s communication manager indicated:

“Our company will use a technology in our high chimney waste plant called gasification, which is different from incineration. One reason for choosing this technology is its low emission levels, which is just a fraction of the limits permitted by the European Union. We have also provided extra information to the council which demonstrates that the facility will only make a very small contribution to nitrogen dioxide, nano-particle, and dioxin levels”.

The communication manager further said: “We will use the latest environmentally-sensitive technology in our high chimney waste plant which will ensure that emissions, will not be harmful to the health of you and other people in Bath city. We will also open

a clinic at Bath city offering free health check and treatment for you and other local residents on a regular basis". The company also indicates that they will continue to work with you and other individuals who have concerns about their health to ensure the appropriate steps are taken to avoid any damage.

*****End of news report*****

Thank you for reading this news report.

Appendix G

Post-Test Questionnaire – All Manipulations

Thank you for completing these questions. You are at the final section of this questionnaire. In this section, we would like to know a little about your background so we can see how different people perceive democracy in a local waste issue.

76. Please indicate your attachment to the Bath and North East Somerset (B&NES) area?
(Please tick more than one box if applicable)

<input type="checkbox"/> Study
<input type="checkbox"/> Family
<input type="checkbox"/> Work
<input type="checkbox"/> No attachment
<input type="checkbox"/> Other
If other (please write in)

77. Do you currently live (reside) in the B&NES area?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

78. Please indicate the area that you currently live in

<input type="checkbox"/> Bath city
<input type="checkbox"/> Timsbury
<input type="checkbox"/> Other area in B&NES

79. How long have you lived in the B&NES area?

<input type="text"/>	years	<input type="text"/>	months
----------------------	-------	----------------------	--------

80. In the past, have you lived in the B&NES area?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

81. Please indicate the area that you have lived in

<input type="checkbox"/> Bath city
<input type="checkbox"/> Timsbury
<input type="checkbox"/> Other area in B&NES

82. How long did you live in the B&NES area?

years months

83. Have you ever arranged a waste collection service for your household waste?

Yes No

Have you ever lived in a residential property where:

84. Your household waste was collected by a local authority (e.g., council)?

Yes No Don't know

85. Your household waste was collected by a private waste company?

Yes No Don't know

86. Have you ever paid a waste collection charge for the collection of your household waste?

Yes No

87. What is your gender? *(Please tick one box only)*

Male Female

88. In the past, have you had a:

Part-time job

Full-time job

Never had a job

89. In what country were you born? *(Please tick one box only)*

United Kingdom Other country

If Other country (please write in)

90. Before starting your course at the University of Bath, what country did you reside in?

United Kingdom Other country

If Other country (please write in)

91. How old are you? *(Please write in your age)*

92. What is the **highest** level of education you have completed so far? *(Please tick the highest level that you have completed)*

<input type="checkbox"/> A Levels/Equivalent
<input type="checkbox"/> Certificate
<input type="checkbox"/> Diploma
<input type="checkbox"/> Bachelor's degree
<input type="checkbox"/> Master's degree
<input type="checkbox"/> PhD
<input type="checkbox"/> Other
If other (please write in)

93. Are you currently enrolled on a:

<input type="checkbox"/> Bachelor's degree
<input type="checkbox"/> Master's degree
<input type="checkbox"/> PhD
<input type="checkbox"/> Other
If other (please write in)

94. Could you please tell us the title of course that you are enrolled in? *(Please write in course title)*

95. What year of the course are you in? *(Please write in your course year)*

96. Generally how would you describe your political views? *(Please tick one box only)*

Not at all liberal							Strongly liberal
1	2	3	4	5	6	7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Not at all conservative							Strongly conservative
1	2	3	4	5	6	7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

97. To your knowledge, have you ever lived near an incineration (the burning of waste) waste treatment plant?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

Please tell us, have you ever done the following? Have you ever . . .

98. Attended a council meeting about an environmental issue in your community?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

99. Circulated a petition about an environmental issue in your community?

Yes

No

**Please look back to check that you have answered all of the questions.
After you've checked, PLEASE REMAIN SEATED AND RAISE YOUR
HAND.**

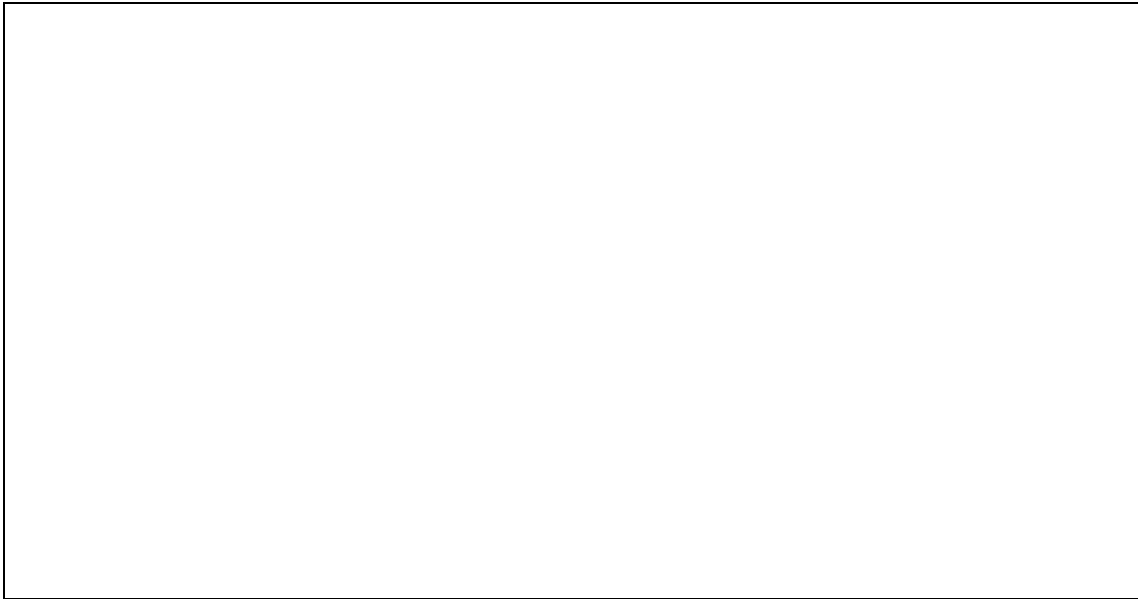
You will receive two further questions from the researcher.

Code No.

100. Please write down everything that you can remember about the news reports.



101. Please write down what you think the purpose of this experiment is?



**This is the end of the study.
Please hand this sheet back to the researcher and you will receive your
payment.**

Appendix H

Content Analysis for Experimental Scenario –

Value Frame Content Analysis and Treatment variables.xlsx

Joseph D Neill

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DEVELOPER

Clipboard Paste Copy Paste Format Painter Font Alignment Merge & Center Wrap Text

Normal Bold Good Input Linked Cell Note Calculation

Cells Editing

	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD		
16																					
17																					
18	Frame Position	Frame	Value Involved	Source	Spokesperson	Frame Descriptor	Frame	Content													
19	Anti	Altruistic	Friends of the Earth	Councillor	Dorothy Skrytek	Deprivation	Deprivation	Dorothy Skrytek, Friends of the Earth representative for Derby, has written to councillors urging them not to proceed with the plans. Ms Skrytek Councillor Baggy, Sharker, who organised the meeting with fellow councillor Robin Turner, is against the plans. He said: "As far as I can see, R													
20	Anti	Altruistic	Resident	Resident	Bill Mansden	Health	Health	Mind you, as all the people in the city live within three miles of the site, they are all potential victims. The cost of building the plant will be the s													
21	Anti	Altruistic	Friends of the Earth	Friends of the Earth	Co-ordinator, Dorothy Skrytek	Health	Health	We must remember that this does go ahead, it is set in stone for generations of our children and also leads the way for further abuse of the ar													
22	Anti	Altruistic	Friends of the Earth	Friends of the Earth	Co-ordinator, Dorothy Skrytek	Deprivation	Deprivation	It seems that the easy option is being taken of subjecting Derby people to hundreds of lorry-loads of sludge rubbish and ash being transporte													
23	Anti	Altruistic	Friends of the Earth	Friends of the Earth	Co-ordinator, Dorothy Skrytek	Deprivation	Deprivation	Has Osmaston been picked because literacy rates are approximately 50% and not many people will be able to object, even if they want to?													
24	Anti	Altruistic	Friends of the Earth	Friends of the Earth	Co-ordinator, Dorothy Skrytek	Deprivation	Deprivation	The wood-waste burning incinerator in Victory Park is already worsening air quality (nitrogen dioxide) in an Air Quality Management Area, so pec													
25	Anti	Altruistic	Resident	Resident	Gary Woolley	Deprivation	Deprivation	"People think of this as an industrial area but it's residential as well. It is an example, once again, of the council plugging unpopular things in a pc													
26	Anti	Altruistic	Resident	Resident	Stuart Doon	Health	Health	Stuart Doon, 25, of Victory Road, Sfrin, said he believed the plant would badly affect the health of locals. He said: "They say they will be burnt													
27	Anti	Altruistic	Derby Evening Telegraph	Derby Evening Telegraph	Blair Marnitt	Health	Health	Adverse health impacts on families living within the vicinity. Surely this is adding to wider aspects of social exclusion also?													
28	Anti	Altruistic	Derby Evening Telegraph	Derby Evening Telegraph	Blair Marnitt	Deprivation	Deprivation	but are also potentially compounding social exclusion by erecting some thing that will blight already-challenged areas of our city.													
29	Anti	Altruistic	Resource Recovery Solutions	Resource Recovery Solutions	Blair Marnitt	Employment	Employment	No thought has been given to the people living within the immediate vicinity or to the residents of Derby as a whole.													
30	Anti	Altruistic	Resident	Resident	Gary Woolley	Deprivation	Deprivation	He added there would be benefits for the community. "Our plans include a visitor centre which would be open to the public. Also it will create a													
31	Pro	Altruistic	Resident	Resident	Gary Woolley	Health	Health	Gary Woolley, 51, of Victory Road, said: "Sfrin and Osmaston are considered the most deprived areas in the city and the council thinks it can't													
32	Anti	Altruistic	No Incinerator on Sfrin Lane	No Incinerator on Sfrin Lane	Simon Bacon	Health	Health	Simon Bacon, who runs the No Incinerator on Sfrin Lane - Our Health Matters Facebook group, also spoke out against the project following the													
33	Anti	Altruistic	Resident	Resident	Ann Crosby	Health	Health	The wards affected already have poor air quality, a higher incidence of respiratory diseases and cancer, a shorter life expectancy and a higher ra													
34	Anti	Altruistic	Resident	Resident	Ann Crosby	Sustainability	Sustainability	Recycling, rather than polluting the air we and future generations breathe, is the most sustainable and environmentally friendly way forward for w													
35	Anti	Altruistic	Resource Recovery Solutions	Resource Recovery Solutions	Professor Paul Cornett	Sustainability	Sustainability	He said "it simply does not make sense to spend so much money destroying resources we should be sharing with other for the future. The mo													
36	Anti	Altruistic	Resource Recovery Solutions	Resource Recovery Solutions	Blair Marnitt	Employment	Employment	He said the plant would create 31 permanent positions and another 60 to 80 local jobs during the construction phases.													
37	Pro	Altruistic	Cyclamax	Cyclamax	Mike Carr	Health	Health	Cyclamax has insisted it would "make only a small contribution to local concentrations of air pollutants", and has denied these would have impac													
38	Pro	Altruistic	Councillor	Councillor	Mike Carr	Health	Health	Councillor Mike Carr, city council cabinet member for technology and recycling, said people had no reason to worry about the gasification plant.													
39	Pro	Altruistic	Spondon and Sfrin and All Aga Baggy Sharker and Robin Turner	Spondon and Sfrin and All Aga Baggy Sharker and Robin Turner	Mike Carr	Health	Health	It is being organised by campaign group Spondon and Sfrin Against Incineration (SSANI) and Sfrin councillors Baggy Sharker and Robin Tum													
40	Anti	Altruistic	Councillor	Councillor	Baggy Sharker	Deprivation	Deprivation	Councillor Baggy Sharker, who asked for the Secretary of State's intervention along with fellow Sfrin councillor Robin Turner and Derby South N													
41	Anti	Altruistic	Resident	Resident	M. Wilson	Health	Health	My objections were because of the effects on health in the area - how many planners or councillors can really put hands on heads and say that													
42	Anti	Altruistic	Councillor	Councillor	Robin Turner	Health and Deprivation	Health and Deprivation	He added: "There is general public and commercial business apprehension and concern about the plant being located within a heavily populat													
43	Anti	Altruistic	Spondon and Sfrin and All Aga Simon Bacon	Spondon and Sfrin and All Aga Simon Bacon	Robin Turner	Health and Deprivation	Health and Deprivation	He added: "There is general public and commercial business apprehension and concern about the plant being located within a heavily populat													
44	Anti	Altruistic	Resource Recovery Solutions	Resource Recovery Solutions	Marin Kingston QC, for RSS	Health	Health	Mr Kingston also denied Mr Bacon's claims that the plant would be sited in an area of "poor health". He said: "There is no evidence that people													
45	Pro	Altruistic	Resident	Resident	Faisal Hussain	Deprivation	Deprivation	A waste treatment plant proposed for Sfrin should not be built within the city boundaries, people in the area told a public inquiry. Some includ													
46	Anti	Altruistic	Resident	Resident	Faisal Hussain	Health and Deprivation	Health and Deprivation	He said "it is scientifically proven that people living in deprived areas are more likely to die ten years earlier than others.													
47	Anti	Altruistic	Resident	Resident	Ken Lewis	People	People	"They may try to excuse that it's not going to affect anyone - but it would. If we are going to have it let's have it in an area where it's not going													
48	Anti	Altruistic	Professor	Professor	Debbie Wigley	Sustainability	Sustainability	She said: "RSS want to make their profits by burning resources that are running out and they are proposing to destroy the potential for a sustain													
49	Anti	Altruistic	Councillor	Councillor	Robin Turner	People	People	THE company behind a proposed controversial waste treatment plant has been accused of making people living nearby feel "unimportant". . H													
50	Anti	Altruistic	Resource Recovery Solutions	Resource Recovery Solutions	Jonathan Standen, planning expert	People	People	Mr Standen replied: "No, not at all. There will be an education centre as part of the plans and the project itself will provide more jobs."													
51	Pro	Altruistic	Spondon and Sfrin and All Aga Simon Bacon	Spondon and Sfrin and All Aga Simon Bacon	Simon Bacon	Sustainability	Sustainability	In 2010 we are constantly being told we are using up the world's resources as global population expands. Common sense should tell us to red													
52	Anti	Altruistic	Spondon and Sfrin and All Aga Simon Bacon	Spondon and Sfrin and All Aga Simon Bacon	Simon Bacon	Sustainability	Sustainability	In 2010 we are constantly being told we are using up the world's resources as global population expands. Common sense should tell us to red													

Content Analysis: Altruistic

Content Analysis: Biospheric

Content Analysis: Epistemic

Content Analysis: Egotistic

Background text

Sides Derbyshire

Sides Nottingham

Altruistic Value Frames

Content Analysis for Experimental Scenario – Biospheric Value Frames

Value Frame Content Analysis and Treatment spreadsheet - Excel

Joseph O'Veil

	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD
13																			
14																			
15																			
16																			
17																			
18	Frame Position	Value involved	Source	Spokesperson	Frame Descriptor	Frame Text													
19	Anti	Biospheric	People Against Incinerator (PAI)	Linda Tilt, PAN member and Cou Environment	Environment	Coun Tilt said, "It highlights the environmental impact we feel it is going to bring about. Hopefully we will be able to get him up here to visit us" bosses at the company insist they will work to limit the effect of the incinerator on the environment and local wildlife habitats.													
20	Pro	Biospheric	Veolia		Land	David Bellamy has blasted plans to build a £30m incinerator near Rainworth as "an act of environmental vandalism in the making". Veolia Enviro													
21	Anti	Biospheric	People Against Incineration (PAI)	Linda Tilt, Campaign organiser	Land	David Bellamy has blasted plans to build a £30m incinerator near Rainworth as "an act of environmental vandalism in the making". Veolia Enviro													
22	Anti	Biospheric	Veolia Environmental Services	Rhodie Price Lewis QC	Habitat	Rhodie Price Lewis QC, representing Veolia, said, "The position is, the application site is not within any core area identified by Natural England fi													
23	Pro	Biospheric	Notis Wildlife Trust	Graham Machin	Habitat	Graham Machin, representing Notis Wildlife Trust, claimed granting permission for the incinerator would contravene habitat protection laws for sika													
24	Anti	Biospheric	Veolia Environmental Services	Rhodie Price Lewis QC	Habitat	New habitats will be created for protected birds to fly to "offset" the loss of their territory at the site of a proposed incinerator, a public inquiry has													
25	Pro	Biospheric	Notis Wildlife Trust	Graham Machin	Habitat	Graham Machin, of the Notis Wildlife Trust, claimed granting permission for the incinerator would contravene habitat protection laws for sites of E													
26	Anti	Biospheric	Resident	Iris Matthews	Wildlife	the effort from an unsightly, 120 metres high stack causing the loss and wild destruction of natural habitat on Cross Moor hosting several protect													
27	Anti	Biospheric	Covanta	Elizabeth Speedling, senior eook	Wildlife	But Elizabeth Speedling, a senior ecologist, representing Covanta, said the receptors site's boundaries were necessary to prevent rewild migrat													
28	Pro	Biospheric	Notis Wildlife Trust	John Ewett, Chief executive	Habitat	Chief executive John Ewett said, "The Secretary of State's decision is wonderful news for wildlife and hopefully marks a new beginning for effor													
29	Anti	Biospheric	Council	Council Chief executive Anthony	Habitat and Wildlife	But he said the possibility of eight noisy freight train jurneys daily between midnighr and dawn, poorer air quality, pollutants, a loss of wildlife hat													
30	Anti	Biospheric	Environ Daily Press	Residents	Habitat	The new report also sets out the council's objections to the incinerator in detail. They include claims that the incinerator proposal is contrary to g													
31	Anti	Biospheric	Residents		Environment	Local people claimed the proposal was too close to two special areas of conservation													
32	Anti	Biospheric	St Dennis Anti-Incinerator Group	Campaigners	Habitat	Campaigners state the air pollution from the burner would threaten two nearby Special Areas of Conservation (SACs) designated by the EU, whic													
33	Anti	Biospheric	St Dennis Anti-Incinerator Group (SIC)		Habitat	"THIS small plant is very symbolic. Tiny little community, tiny little plant." So said St Dennis Anti-Incinerator Group (SIC) chairman Phil Blanchard													
34	Anti	Biospheric	St Dennis Anti-Incinerator Group	Campaigners	Habitat	Campaigners stated the air pollution from the burner would threaten two nearby special areas of conservation (SACs) designated by the EU, whi													
35	Anti	Biospheric	St Dennis Anti-Incinerator Group	Campaigners	Habitat	Bird enthusiasts have warned the proposed incinerator on the Croydon-Sutton border may harm one of London's most important habitats. The													
36	Anti	Biospheric	Beddington Farm Bird Group	Keith Millar	Wildlife	Victor communications manager Victor Perez-Mares said the company was committed to creating and maintaining habitats for wildlife, and that i													
37	Pro	Biospheric	Victor	Victor Perez-Mares, Victor comm	Wildlife	Bureau Vertas say that the bat survey information collected by those consultants and provided by (Hobaser is "insufficient, and that their assessm													
38	Anti	Biospheric	Bureau Vertas	Opponents	Wildlife	Opponents cite not enough rubbish to burn due to Welwyn Hatfield's high recycling rates, the threat to endangered wildlife and building the incin													
39	Anti	Biospheric	Communes and Local Govern	Eric Pankles	Wildlife	Veolia's incinerator application should be refused planning permission for various reasons, including the impact upon protected bird species													
40	Anti	Biospheric	Communes and Local Govern	Eric Pankles	Wildlife	There was a welcome also from Sirn Fern, whose south Avon MLU Michael McLaughlin argued, "The lough is not a suitable site for an incinerat													
41	Anti	Biospheric	Sirn Fern	Michel McLaughlin, Avon MLU	Land	It's such a great pity that the wildlife including bats, wildlife on the Tamar estuary and feres (from the other housing plan refused) were not consid													
42	Anti	Biospheric	The Plymouth Herald																
43																			
44																			
45																			
46																			
47																			
48																			
49																			

Appendix I

Experimental Protocol

Experimental Protocol

Please read this if you are administering this experiment.

Criteria for accepting participants

Ask individual if they are University of Bath students -

The following individuals are **not** allowed to participate:

University staff

Erasmus students

Individual must be a student enrolled on a University of Bath undergraduate or postgraduate degree course

Ask individual if this is their first time participating in this study. **If they have already participated then they cannot participate again.**

If the individual has met the above criteria - they are a University of Bath student and first time participant, proceed as follows:

Steps before admitting participants into experiment room

Hand them a booklet, but not a recall sheet.

Each booklet has a unique number code at the top right hand margin. Booklets also have letter codes printed on the top right hand margin of each page. The letter codes correspond to the experimental conditions. For booklets with the letter codes: F, ACF - HL, ACF - LH, BCF - HL, BCH - LH, ECF - HL, ECF - LH, there is an associated recall sheet, not attached to the booklet. For booklets with the letter code NF there is no associated recall sheet. Each booklet's recall sheet bears the same unique number and letter code as the booklet. **Only hand a booklet to the participant. Do not hand them the recall sheet.**

Retain the booklet's recall sheet and put it in a stack on the table. Tell the participant once they have completed the booklet they will be given a single sheet with two additional questions to complete. Do not tell them that this is a recall sheet or what these questions are. Tell the participant to raise their hand, or return the completed booklet to you and you can then give them the booklet's recall sheet.

Inform the participant of the approximate time it will take them to complete the material. Approximate completion times are printed on the first page of each booklet.

If a participant asks for a booklet that has a shorter completion time or simply another booklet, inform them that we cannot do this as we are using random assignment.

Inform the participant that **there can be no talking** to other participants while they complete the material. Inform them the reason for this is that talking to their friends or others will violate the results of the experiment. Also ask them to silence/turn off

their mobile phone or other electronic devices, and not to make phone calls or texts during the experiment as this will disturb the concentration of them and others on the experimental tasks. Participants found in breach of these rules **must** be asked to leave and will **not** receive the £5.

Inform the participant that their answers will not be connected in anyway with their names, will not be distributed or made known to third parties. Inform them that this is an exploratory study and that we are only interested in their honest opinions, there are no right or wrong answers, no particular responses that we are looking for.

Once participants agree to these requests, tell them to read and confirm their consent in writing on the first page of their booklet. Ask them if they have or need a pen. Then allow them to proceed with their booklet into the experiment room.

Returned completed booklets

Once a participant comes out of the experiment room with the completed booklet:

For returned booklets with the letter code NF, participants have finished the experiment. Thank them for their participation and hand them their £5.

For returned booklets with all other letter codes, hand them the booklet's associated recall sheet - **check and verify that you give the participant the correct recall sheet, i.e., verify that the sheet has the same unique number as the returned booklet** - as otherwise we will have a problem afterwards tracing recall sheets to their associated booklets. Do not engage in a conversation with the participant, just hand them the recall sheet. You can tell them that once this sheet is completed, they are finished the experiment.

Completed recall sheets

Once a participant comes out of the experiment room with the completed recall sheet:

Participants have finished the experiment. Thank them for their participation and hand them their £5.

Monitoring of participants

When you are not dealing with participants, spend your time monitoring participants in the experiment rooms to ensure that they are not breaching the rules. Do not constantly monitor participants, but ensure you do regular checks to ensure any breaches are detected in a timely manner and dealt with.

Appendix J

Advertisements for Experiment – University of Bath Internal Website – Notice 1

Participate in our "Waste Disposal and Communities" study and receive £5

Duration: approximately 25 to 45 minutes.

Email jjon20@bath.ac.uk with a time that suits you. We will promptly reply to emails.

You will be asked to read some material and complete a questionnaire.

This study is important because -

Waste disposal affects the quality of life and wellbeing of communities. It leaves lasting effects on local environments.

The following questions will be investigated in the study:

Are you informed about the effects of waste disposal?

Do you feel responsible for the environmental effects of your waste?

Do you want a say in decisions about how your waste is disposed?

Noticeboard for students and staff - University of Bath Page 1 of 2

<http://www.bath.ac.uk/noticeboard/view/intro.cgi?id=1381334502-7129> 09/10/2013

To participate you must be a student.

Pinned up: 9/10/2013

Expires: 23/10/2013

Added by: jjon20@bath.ac.uk

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Noticeboard for students and staff - University of Bath Page 2 of 2

<http://>

University of Bath Internal Website – Notice 2

**Earn £5, complete our study ANYTIME on Thurs
17 and Fri 18 Oct Wessex Hse Level 1**

Complete our study on communities and waste disposal

Thurs 17 and Fri 18 Oct. 09:00 to 18:00 in WH 1.6

Level 1 in WESSEX HOUSE (next to 4W (Tiki) Cafe on
parade)

Study will take 25 to 45 min. (Depending on the
particular questionnaire you receive) - these times are
estimates only.

Study includes: reading some material and completing
a questionnaire.

Please note that participants must be University of Bath
students, and first time participants.

No time on these days ?

E-mail Jamie at: jjon20@bath.ac.uk for a time next
week that suits you.

Noticeboard for students and staff - University of Bath Page 1 of 2

<http://www.bath.ac.uk/noticeboard/view/intro.cgi?id=1381861694-7069> 15/10/2013

Pinned up: 15/10/2013

Expires: 29/10/2013

Added by: jjon20@bath.ac.uk

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<http://>

Poster 1

Earn £5



How? Complete our questionnaire on communities and waste disposal

**Thurs 17 and Fri 18 Oct. 09:00 to 18:00
WESSEX HOUSE LEVEL 1 - WH 1.6**

Study will only take 25 to 45 mins. (depending on the particular questionnaire you receive)

University of Bath students only

You can also e-mail Jamie at jjon20@bath.ac.uk for a time during the week that suits you.



Jamie O'Neill, WH8.16, Centre for Business, Organisations and Society, School of Management, University of Bath

Poster 2

Students, participate in our study and receive £5.

“Waste Disposal and Communities”

Duration: approximately 25 to 45 minutes.

Email jjon20@bath.ac.uk with a time that suits you. We will promptly reply to emails.

You will be asked to read some material and complete a questionnaire.

This study is important because -

Waste disposal affects the quality of life and wellbeing of communities. It leaves lasting effects on local environments.

The following questions will be investigated in the study:

Are you informed about the effects of waste disposal?
Do you feel responsible for the environmental effects of your waste?
Do you want a say in decisions about how your waste is disposed?



Jamie O'Neill, WH8.16, Centre for Business, Organisations and Society, School of Management, University of Bath

Lecture

Earn £5



Participate in our study on Waste disposal and communities

TODAY (Fri 18 Oct): FROM 09:00 to 18:00
WESSEX HOUSE LEVEL 1 - WH 1.6

Study will take 25 to 45 min.
(Depending on the particular
questionnaire you receive)

Study includes: reading some
material and completing a
questionnaire.

NO TIME ON THIS DAY ?

E-mail Jamie at: jjon20@bath.ac.uk
for a time next week that suits you.

Appendix K

Data Screening, Normality and Outliers

Data Screening

All variables of the study were checked for values that fell outside the range of possible values for a variable. Scores that fall outside the possible range can distort statistical analysis (Pallant 2007). Frequency analysis of the categorical variables in the data file was conducted, and no errors in variable values were found. Descriptive analysis and graphs (histograms) (Field 2005) of the continuous variables in the data file were conducted, and no errors in variable values were found

The Missing Value Analysis procedure was used in order to inspect the extent of incomplete data in the file. When there are few missing values (very roughly, less than 5% of the total number of cases) and those values can be considered to be missing at random, then it is relatively safe to conduct most statistical procedures. Missing value analysis was conducted on the main variables, and, there are no variables with 5% or more missing values. In addition, no patterns in missing data were detected, indicating that missing data occurred randomly

Assessment of Normality

The normality of the dependent variable distributions was assessed by inspecting the *skewness* and *kurtosis* of the distributions. Skewness and kurtosis should be zero in a normal distribution (Field 2005). However, with large sample sizes it is very easy to get significant results from small deviations from normality, and so a significant test doesn't necessarily indicate whether deviation from normality is enough to bias any statistical procedures applied to the data (Field 2005, p. 93)

A distribution can be significantly skewed when the skew statistic is greater than two standard errors of skew, and has significant kurtosis when the kurtosis statistic is greater than two standard errors of kurtosis (McQueen and Knussen 2006, Seltman 2012). The dependent variables of the study were inspected for significant skewness and kurtosis, based on this widely used criterion.

When the dependent variables were split into the different frame manipulations (groups), the social legitimacy judgement of company waste plant did not have significant skewness or kurtosis when the above criteria are applied. In addition, the intention to oppose waste company plant and intention to oppose waste company plant did not exhibit significant skewness or kurtosis when the above criteria are applied.

With large samples (200 or more) it is more important to look at the shape of the distribution visually, and to look at the value of the skewness and kurtosis statistics rather than their significance (Field 2005, p. 72).

Identification of Outliers

When z-score values are obtained for variable scores, large z-scores represent outliers (usually z-score values above 2 or 3 for medium to large samples). In relation to z-scores, in most samples it's okay to look for values above 1.96; and in very large samples, because of the problem of small standard errors, no z-score criterion should be applied (Field 2005, p. 72). Given the large size of the sample (413), a brief analysis for large z-scores was performed. The z-scores of most variables were computed, and largest z-score values that were most frequently occurring in the file were removed. Statistical tests with the removed outliers gave the same result as statistical tests without the removed z-scores. Therefore these scores were included in the final analysis.

Appendix L

Descriptive Statistics of Main Variables

Descriptive Statistics – Main Variables of Study

	N	Minimum	Maximum	Mean	Std. Deviation
Social Legit Judg_Plant	413	1.00	7.00	4.0753	1.22817
SupportOpposeIncineration	412	1	7	3.22	1.533
Individual Bio Value Importance	412	1.00	7.00	5.2874	1.11508
Individual Ego Value Importance	412	1.75	7.00	5.8297	1.19205
Individual Altru Value Importance	412	1.25	7.00	6.0572	1.00055
Environ Knowledge	413	.00	10.00	6.0872	1.75769
Generally how would you describe your political views (liberal)	412	1.00	7.00	4.4078	1.33409
Generally how would you describe your political views conservative	408	1.00	7.00	3.6642	1.39233
Valid N (listwise)	406				

Appendix M

Covariates – Preliminary Checks - Correlation

Descriptive Statistics

	Mean	Std. Deviation	N
SupportOpposeIncineration	3.22	1.533	412
Environ Know Total	6.0872	1.75769	413
Generally how would you describe your political views conservative	3.6642	1.39233	408
Generally how would you describe your political views (liberal)	4.4078	1.33409	412
Mean_Moral_Judg_Plant	4.0753	1.22817	413

Correlations

		SupportOpposeIncineration	Environ Know Total
SupportOpposeIncineration	Pearson Correlation	1	-.036
	Sig. (2-tailed)		.470
	N	412	412
Environ Know Total	Pearson Correlation	-.036	1
	Sig. (2-tailed)	.470	
	N	412	413
Generally how would you describe your political views conservative	Pearson Correlation	.082	-.019
	Sig. (2-tailed)	.100	.707
	N	407	408
Generally how would you describe your political views (liberal)	Pearson Correlation	-.001	.010
	Sig. (2-tailed)	.977	.838
	N	411	412
Mean_Moral_Judg_Plant	Pearson Correlation	.161**	-.081
	Sig. (2-tailed)	.001	.099
	N	412	413

Correlations

		Generally how would you describe your political views conservative
SupportOpposeIncineration	Pearson Correlation	.082
	Sig. (2-tailed)	.100
	N	407
Environ Know Total	Pearson Correlation	-.019
	Sig. (2-tailed)	.707
	N	408
Generally how would you describe your political views conservative	Pearson Correlation	1
	Sig. (2-tailed)	
	N	408
Generally how would you describe your political views (liberal)	Pearson Correlation	-.369**
	Sig. (2-tailed)	.000
	N	408
Mean_Moral_Judg_Plant	Pearson Correlation	.159**
	Sig. (2-tailed)	.001
	N	408

Correlations

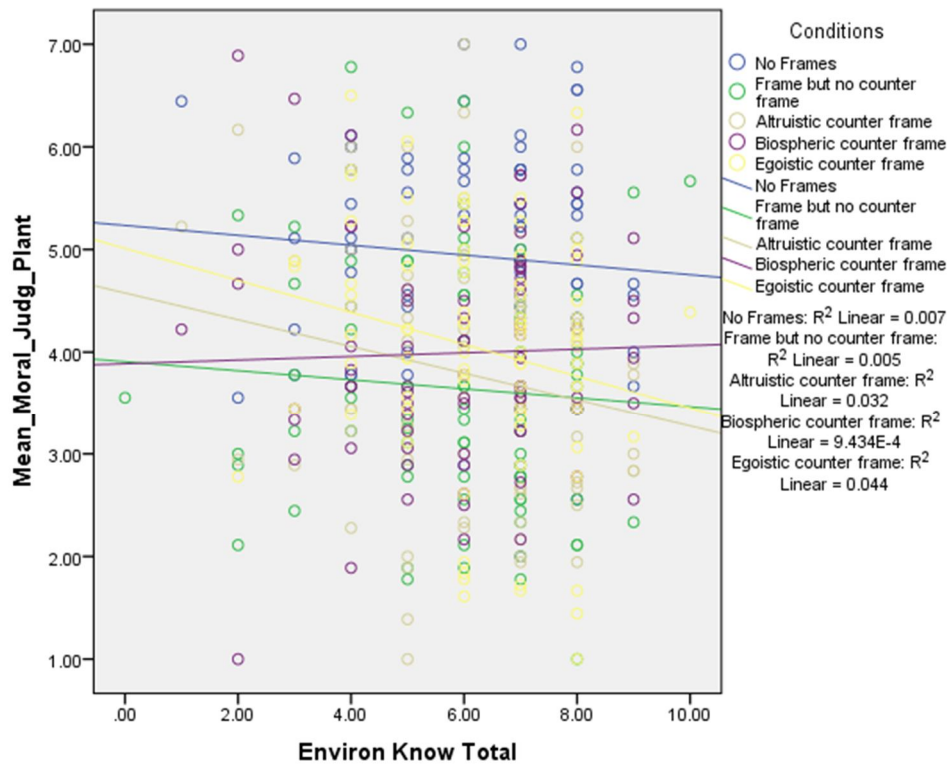
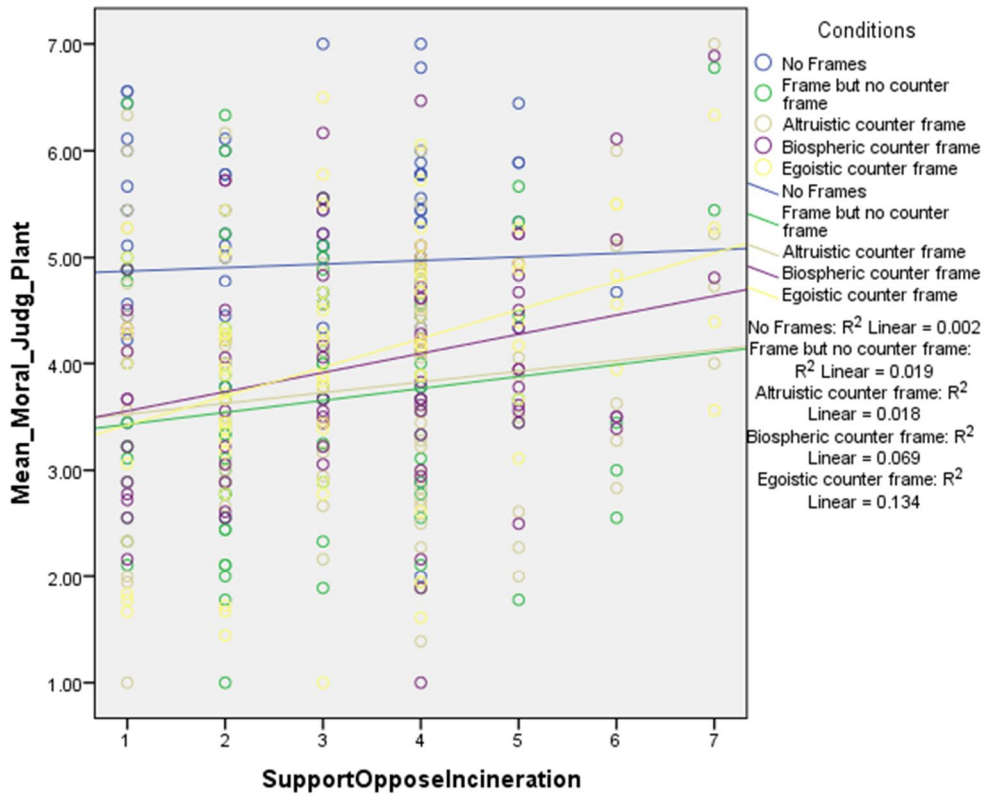
		Generally how would you describe your political views (liberal)
SupportOpposeIncineration	Pearson Correlation	-.001
	Sig. (2-tailed)	.977
	N	411
Environ Know Total	Pearson Correlation	.010
	Sig. (2-tailed)	.838
	N	412
Generally how would you describe your political views conservative	Pearson Correlation	-.369**
	Sig. (2-tailed)	.000
	N	408
Generally how would you describe your political views (liberal)	Pearson Correlation	1
	Sig. (2-tailed)	
	N	412
Mean_Moral_Judg_Plant	Pearson Correlation	-.184**
	Sig. (2-tailed)	.000
	N	412

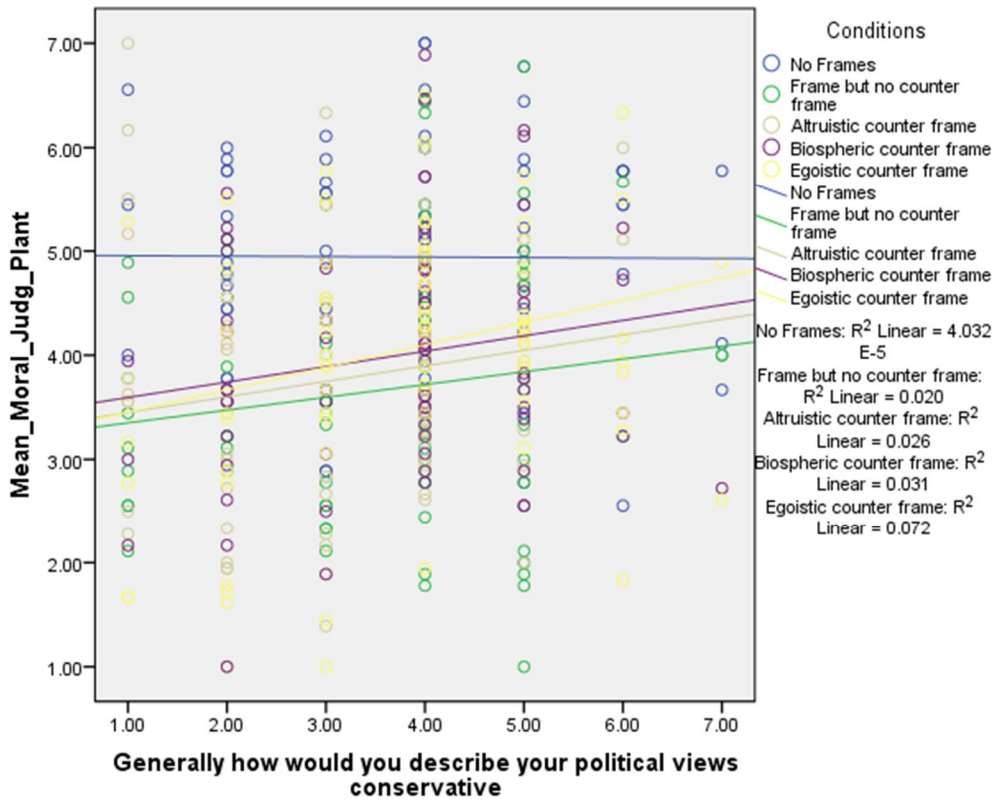
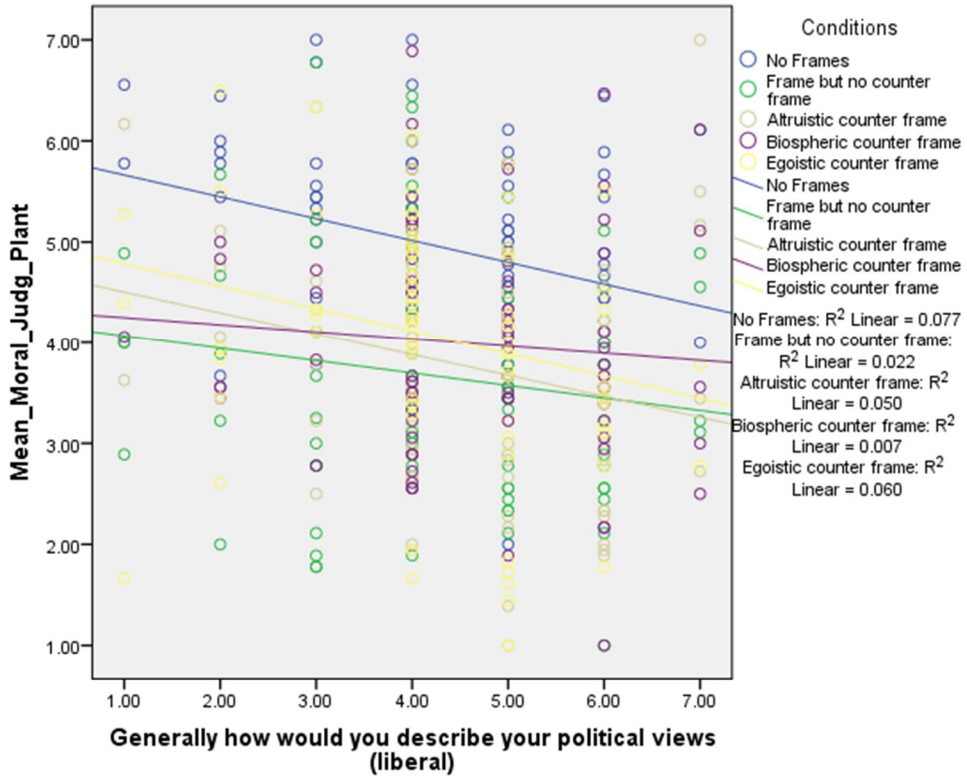
Correlations

		Mean_Moral_Judg_Plant
SupportOpposeIncineration	Pearson Correlation	.161**
	Sig. (2-tailed)	.001
	N	412
Environ Know Total	Pearson Correlation	-.081
	Sig. (2-tailed)	.099
	N	413
Generally how would you describe your political views conservative	Pearson Correlation	.159**
	Sig. (2-tailed)	.001
	N	408
Generally how would you describe your political views (liberal)	Pearson Correlation	-.184**
	Sig. (2-tailed)	.000
	N	412
Mean_Moral_Judg_Plant	Pearson Correlation	1
	Sig. (2-tailed)	
	N	413

** . Correlation is significant at the 0.01 level (2-tailed).

Covariates – Preliminary Checks - Linearity





Covariates – Preliminary Checks – Homogeneity of Regression Slopes

Between-Subjects Factors

		Value Label	N
Conditions	0	No Frames	81
	1	Frame but no counter frame	83
	2	Altruistic counter frame	83
	3	Biospheric counter frame	82
	4	Egoistic counter frame	83

Tests of Between-Subjects Effects

Dependent Variable: Mean_Moral_Judg_Plant

Source	Type III Sum of Squares	df	Mean Square
Corrected Model	110.275 ^a	9	12.253
Intercept	965.959	1	965.959
Condition	24.900	4	6.225
Q25_Support_Oppose_Incineration	17.598	1	17.598
Condition *	5.752	4	1.438
Q25_Support_Oppose_Incineration			
Error	511.088	402	1.271
Total	7461.173	412	
Corrected Total	621.363	411	

Tests of Between-Subjects Effects

Dependent Variable: Mean_Moral_Judg_Plant

Source	F	Sig.
Corrected Model	9.637	.000
Intercept	759.782	.000
Condition	4.896	.001
Q25_Support_Oppose_Incineration	13.842	.000
Condition * Q25_Support_Oppose_Incineration	1.131	.341
Error		
Total		
Corrected Total		

a. R Squared = .177 (Adjusted R Squared = .159)

Between-Subjects Factors

		Value Label	N
Conditions	0	No Frames	81
	1	Frame but no counter frame	83
	2	Altruistic counter frame	84
	3	Biospheric counter frame	82
	4	Egoistic counter frame	83

Tests of Between-Subjects Effects

Dependent Variable: Mean_Moral_Judg_Plant

Source	Type III Sum of Squares	df	Mean Square	F
Corrected Model	93.887 ^a	9	10.432	7.969
Intercept	634.882	1	634.882	484.969
Condition	9.980	4	2.495	1.906
Environ_Know_Total	6.485	1	6.485	4.954
Condition * Environ_Know	4.816	4	1.204	.920
Error	527.575	403	1.309	
Total	7480.436	413		
Corrected Total	621.462	412		

Tests of Between-Subjects Effects

Dependent Variable: Mean_Moral_Judg_Plant

Source	Sig.
Corrected Model	.000
Intercept	.000
Condition	.109
Environ_Know_Total	.027
Condition * Environ_Know	.452
Error	
Total	
Corrected Total	

a. R Squared = .151 (Adjusted R Squared = .132)

Between-Subjects Factors

		Value Label	N
Conditions	0	No Frames	81
	1	Frame but no counter frame	82
	2	Altruistic counter frame	84
	3	Biospheric counter frame	82
	4	Egoistic counter frame	83

Tests of Between-Subjects Effects

Dependent Variable: Mean_Moral_Judg_Plant

Source	Type III Sum of Squares	df	Mean Square	F
Corrected Model	105.254 ^a	9	11.695	9.176
Intercept	787.918	1	787.918	618.227
Condition	12.822	4	3.205	2.515
Politic_view_lib	20.415	1	20.415	16.018
Condition * Politic_view_lib	2.538	4	.635	.498
Error	512.341	402	1.274	
Total	7475.979	412		
Corrected Total	617.595	411		

Tests of Between-Subjects Effects

Dependent Variable: Mean_Moral_Judg_Plant

Source	Sig.
Corrected Model	.000
Intercept	.000
Condition	.041
Politic_view_lib	.000
Condition * Politic_view_liberal	.737
Error	
Total	
Corrected Total	

a. R Squared = .170 (Adjusted R Squared = .152)

Between-Subjects Factors

		Value Label	N
Conditions	0	No Frames	80
	1	Frame but no counter frame	81
	2	Altruistic counter frame	82
	3	Biospheric counter frame	82
	4	Egoistic counter frame	83

Tests of Between-Subjects Effects

Dependent Variable: Mean_Moral_Judg_Plant

Source	Type III Sum of Squares	df	Mean Square	F
Corrected Model	95.727 ^a	9	10.636	8.238
Intercept	666.596	1	666.596	516.286
Condition	23.813	4	5.953	4.611
Politic_view_cons	12.226	1	12.226	9.469
Condition *	4.598	4	1.149	.890
Politic_view_conserv				
Error	513.872	398	1.291	
Total	7436.695	408		
Corrected Total	609.599	407		

Tests of Between-Subjects Effects

Dependent Variable: Mean_Moral_Judg_Plant

Source	Sig.
Corrected Model	.000
Intercept	.000
Condition	.001
Politic_view_cons	.002
Condition * Politic_view_conserv	.470
Error	
Total	
Corrected Total	

a. R Squared = .157 (Adjusted R Squared = .138)

Appendix N

Descriptive Statistics of Hypotheses - H1

Between-Subjects Factors

		Value Label	N
Conditions	0	No Frames	80
	1	Frame but no counter frame	81

Descriptive Statistics

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	Mean	Std. Deviation	N
No Frames	4.9431	1.05424	80
Frame but no counter frame	3.6780	1.19871	81
Total	4.3066	1.29221	161

Estimated Marginal Means

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
No Frames	4.953 ^a	.125	4.706	5.199
Frame but no counter frame	3.668 ^a	.124	3.423	3.913

a. Covariates appearing in the model are evaluated at the following values:

SupportOpposeIncineration = 2.97, Generally how would you describe your political views (liberal) = 4.3043, Generally how would you describe your political views conservative = 3.7329.

Descriptive Statistics of Hypotheses - H2a

Descriptive Statistics

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	Mean	Std. Deviation	N
Frame but no counter frame	3.6780	1.19871	81
Biospheric counter frame	3.9932	1.07752	82
Total	3.8365	1.14678	163

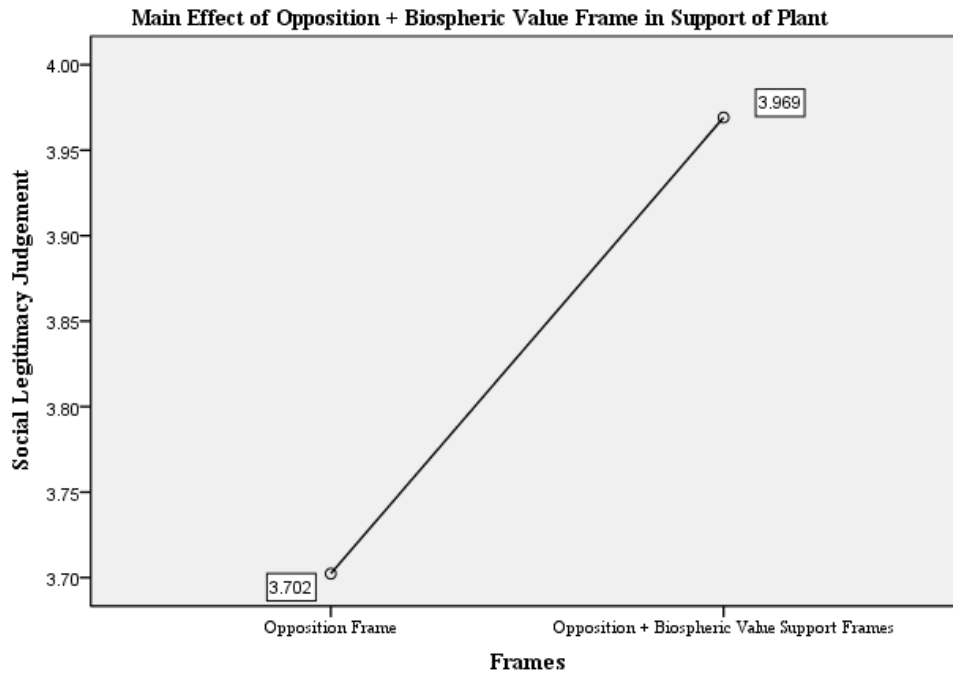
Estimated Marginal Means

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Frame but no counter frame	3.702 ^a	.125	3.455	3.949
Biospheric counter frame	3.969 ^a	.124	3.724	4.215

a. Covariates appearing in the model are evaluated at the following values:

SupportOpposeIncineration = 3.20, Generally how would you describe your political views (liberal) = 4.4294, Generally how would you describe your political views conservative = 3.6810.



Covariates appearing in the model are evaluated at the following values: SupportOpposeIncineration = 3.20, Generally how would you describe your political views (liberal) = 4.4294, Generally how would you describe your political views conservative = 3.6810

Descriptive Statistics of Hypotheses - H2b

Descriptive Statistics

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	Mean	Std. Deviation	N
Frame but no counter frame	3.6780	1.19871	81
Altruistic counter frame	3.8037	1.22684	81
Total	3.7408	1.21073	162

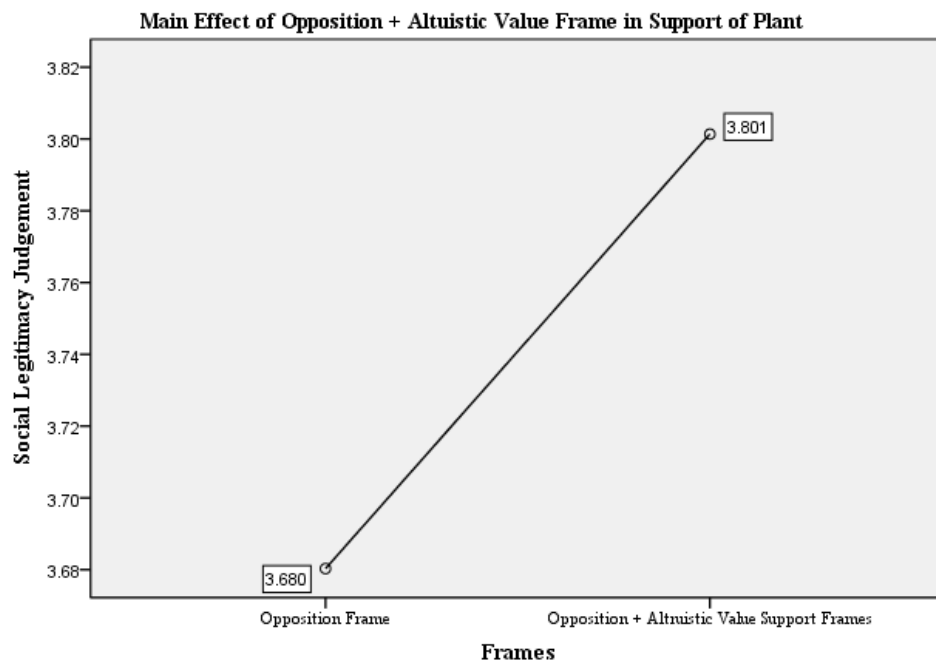
Estimated Marginal Means

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Frame but no counter frame	3.680 ^a	.134	3.416	3.945
Altruistic counter frame	3.801 ^a	.134	3.537	4.066

a. Covariates appearing in the model are evaluated at the following values:

SupportOpposeIncineration = 3.23, Generally how would you describe your political views (liberal) = 4.3580, Generally how would you describe your political views conservative = 3.5370.



Covariates appearing in the model are evaluated at the following values: SupportOpposeIncineration = 3.23, Generally how would you describe your political views (liberal) = 4.3580, Generally how would you describe your political views conservative = 3.5370

Descriptive Statistics of Hypotheses - H2c

Descriptive Statistics

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	Mean	Std. Deviation	N
Frame but no counter frame	3.6780	1.19871	81
Egoistic counter frame	4.0443	1.17260	83
Total	3.8634	1.19612	164

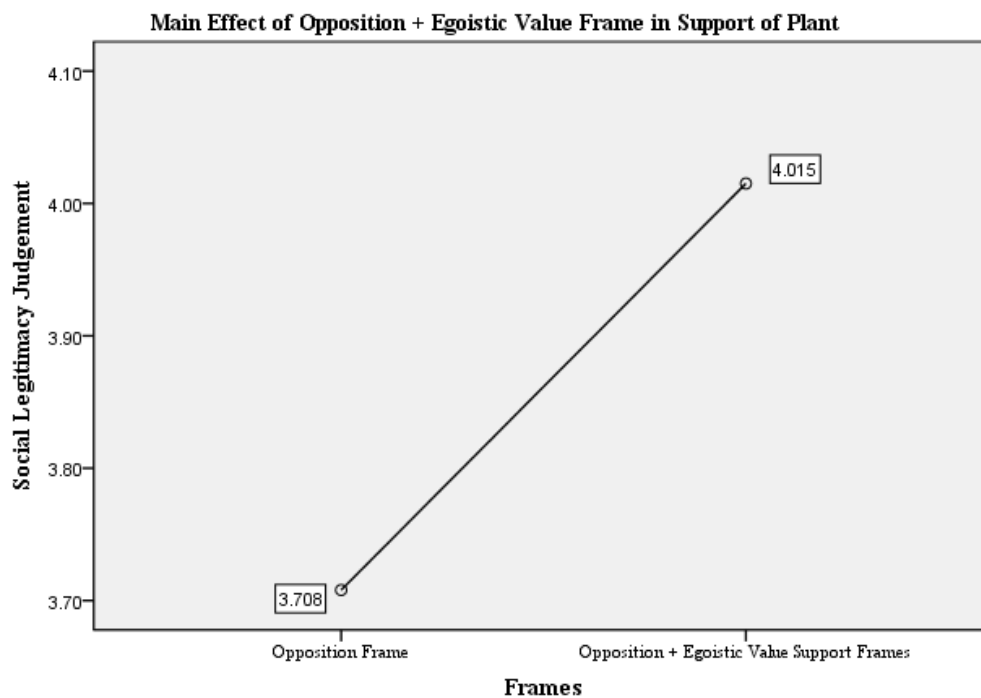
Estimated Marginal Means

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Frame but no counter frame	3.708 ^a	.126	3.458	3.958
Egoistic counter frame	4.015 ^a	.125	3.768	4.262

a. Covariates appearing in the model are evaluated at the following values:

SupportOpposeIncineration = 3.13, Generally how would you describe your political views (liberal) = 4.2805, Generally how would you describe your political views conservative = 3.7073.



Covariates appearing in the model are evaluated at the following values: SupportOpposeIncineration = 3.13, Generally how would you describe your political views (liberal) = 4.2805, Generally how would you describe your political views conservative = 3.7073

Descriptive Statistics of Hypotheses – H3a

Descriptive Statistics

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	MS Mean Bio Values Scale	Mean	Std. Deviation
No Frames	Low	5.1019	1.00061
	High	4.7049	1.10306
	Total	4.9431	1.05424
Frame but no counter frame	Low	3.6906	1.24002
	High	3.6637	1.16663
	Total	3.6780	1.19871
Total	Low	4.4350	1.31999
	High	4.1397	1.24473
	Total	4.3066	1.29221

Descriptive Statistics

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	MS Mean Bio Values Scale	N
No Frames	Low	48
	High	32
	Total	80
Frame but no counter frame	Low	43
	High	38
	Total	81
Total	Low	91
	High	70
	Total	161

Estimated Marginal Means – Conditions * Individual Bio Values Scale

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	MS Mean Bio Values Scale	Mean	Std. Error
No Frames	Low	5.102 ^a	.161
	High	4.727 ^a	.198
Frame but no counter frame	Low	3.642 ^a	.171
	High	3.699 ^a	.181

Descriptive Statistics of Hypotheses – H3b

Descriptive Statistics

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	MS Mean Altru Values Scale	Mean	Std. Deviation
No Frames	Low	4.9282	1.06611
	High	4.9653	1.05275
	Total	4.9431	1.05424
Frame but no counter frame	Low	3.8517	1.17915
	High	3.3978	1.19559
	Total	3.6780	1.19871
Total	Low	4.3790	1.24326
	High	4.1940	1.36739
	Total	4.3066	1.29221

Descriptive Statistics

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	MS Mean Altru Values Scale	N
No Frames	Low	48
	High	32
	Total	80
Frame but no counter frame	Low	50
	High	31
	Total	81
Total	Low	98
	High	63
	Total	161

Estimated Marginal Means - Conditions * MS Mean Altru Values Scale

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	MS Mean Altru Values Scale	Mean	Std. Error
No Frames	Low	4.892 ^a	.162
	High	5.046 ^a	.199
Frame but no counter frame	Low	3.844 ^a	.157
	High	3.384 ^a	.200

Descriptive Statistics of Hypotheses – H3c

Descriptive Statistics

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	MS Mean Ego Values Scale	Mean	Std. Deviation
No Frames	Low	4.8089	1.05649
	High	5.1667	1.02906
	Total	4.9431	1.05424
Frame but no counter frame	Low	3.5873	1.08250
	High	3.8168	1.36413
	Total	3.6780	1.19871
Total	Low	4.2043	1.22836
	High	4.4700	1.38261
	Total	4.3066	1.29221

Descriptive Statistics

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	MS Mean Ego Values Scale	N
No Frames	Low	50
	High	30
	Total	80
Frame but no counter frame	Low	49
	High	32
	Total	81
Total	Low	99
	High	62
	Total	161

Estimated Marginal Means - Conditions * MS Mean Ego Values Scale

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	MS Mean Ego Values Scale	Mean	Std. Error
No Frames	Low	4.789 ^a	.157
	High	5.225 ^a	.204
Frame but no counter frame	Low	3.575 ^a	.160
	High	3.812 ^a	.199

Descriptive Statistics of Hypotheses – H4a

Descriptive Statistics

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	MS Mean Bio Values Scale	Mean	Std. Deviation
Frame but no counter frame	Low	3.6906	1.24002
	High	3.6637	1.16663
	Total	3.6780	1.19871
Biospheric counter frame	Low	3.8448	1.11626
	High	4.1736	1.01411
	Total	3.9932	1.07752
Total	Low	3.7694	1.17410
	High	3.9153	1.11655
	Total	3.8365	1.14678

Descriptive Statistics

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	MS Mean Bio Values Scale	N
Frame but no counter frame	Low	43
	High	38
	Total	81
Biospheric counter frame	Low	45
	High	37
	Total	82
Total	Low	88
	High	75
	Total	163

Estimated Marginal Means - Conditions * MS Mean Bio Values Scale

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	MS Mean Bio Values Scale	Mean	Std. Error	95% Confidence Interval
				Lower Bound
Frame but no counter frame	Low	3.697 ^a	.173	3.355
	High	3.710 ^a	.182	3.351
Biospheric counter frame	Low	3.826 ^a	.168	3.494
	High	4.142 ^a	.184	3.779

Descriptive Statistics of Hypotheses – H4b

Descriptive Statistics

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	MS Mean Altru Values Scale	Mean	Std. Deviation
Frame but no counter frame	Low	3.8517	1.17915
	High	3.3978	1.19559
	Total	3.6780	1.19871
Altruistic counter frame	Low	3.7971	1.09374
	High	3.8104	1.36398
	Total	3.8037	1.22684
Total	Low	3.8271	1.13552
	High	3.6303	1.30062
	Total	3.7408	1.21073

Descriptive Statistics

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	MS Mean Altru Values Scale	N
Frame but no counter frame	Low	50
	High	31
	Total	81
Altruistic counter frame	Low	41
	High	40
	Total	81
Total	Low	91
	High	71
	Total	162

Estimated Marginal Means - Conditions * MS Mean Altru Values Scale

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	MS Mean Altru Values Scale	Mean	Std. Error	95% Confidence Interval
				Lower Bound
Frame but no counter frame	.00	3.850 ^a	.169	3.516
	1.00	3.405 ^a	.215	2.979
Altruistic counter frame	.00	3.754 ^a	.189	3.380
	1.00	3.852 ^a	.190	3.477

Descriptive Statistics of Hypotheses – H4c

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	MS Mean Ego Values Scale	Mean	Std. Deviation
Frame but no counter frame	Low	3.5873	1.08250
	High	3.8168	1.36413
	Total	3.6780	1.19871
Egoistic counter frame	Low	4.1455	.92816
	High	3.9976	1.35172
	Total	4.0733	1.14949
Total	Low	3.8449	1.04676
	High	3.9172	1.35067
	Total	3.8769	1.18725

Descriptive Statistics

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	MS Mean Ego Values Scale	N
Frame but no counter frame	Low	49
	High	32
	Total	81
Egoistic counter frame	Low	42
	High	40
	Total	82
Total	Low	91
	High	72
	Total	163

Estimated Marginal Means - Conditions * MS Mean Ego Values Scale

Dependent Variable: Mean_Moral_Judg_Plant

Conditions	MS Mean Ego Values Scale	Mean	Std. Error	95% Confidence Interval
				Lower Bound
Frame but no counter frame	.00	3.595 ^a	.161	3.276
	1.00	3.889 ^a	.203	3.488
Egoistic counter frame	.00	4.153 ^a	.175	3.807
	1.00	3.923 ^a	.180	3.567

Descriptive Statistics of Hypotheses – H5a

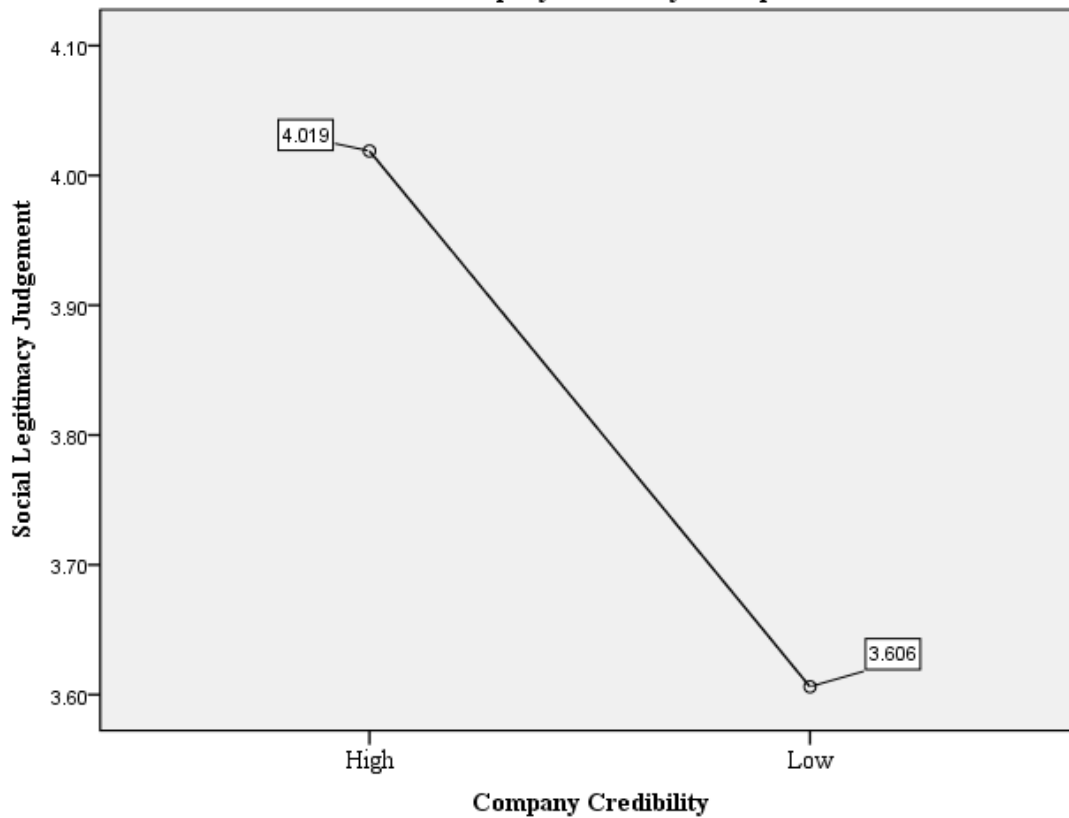
Descriptive Statistics

	Conditions	Mean	Std. Deviation
Mean_Moral_Judg_Plant_Scale_HC	Frame but no counter frame	3.6442	1.20383
	Biospheric counter frame	4.3935	1.12718
	Total	4.0143	1.22222
Mean_Moral_Judg_Plant_Scale_LC	Frame but no counter frame	3.6442	1.20383
	Biospheric counter frame	3.5680	1.39909
	Total	3.6066	1.30047

Descriptive Statistics

	Conditions	N
Mean_Moral_Judg_Plant_Scale_HC	Frame but no counter frame	83
	Biospheric counter frame	81
	Total	164
Mean_Moral_Judg_Plant_Scale_LC	Frame but no counter frame	83
	Biospheric counter frame	81
	Total	164

Main Effect of Company Credibility in Dispute



Descriptive Statistics of Hypotheses – H5b

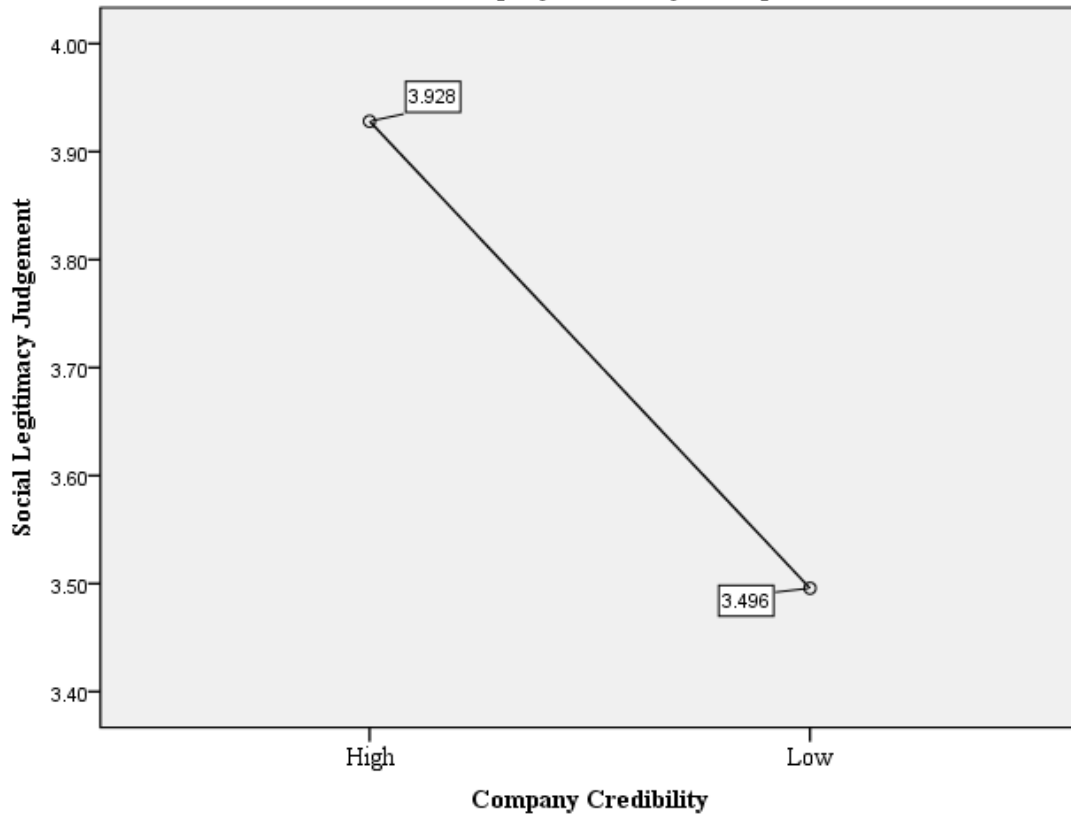
Descriptive Statistics

	Conditions	Mean	Std. Deviation
Mean_Moral_Judg_Plant_Scale_HC	Frame but no counter frame	3.6442	1.20383
	Altruistic counter frame	4.2120	1.26541
	Total	3.9298	1.26395
Mean_Moral_Judg_Plant_Scale_LC	Frame but no counter frame	3.6442	1.20383
	Altruistic counter frame	3.3472	1.48160
	Total	3.4948	1.35486

Descriptive Statistics

	Conditions	N
Mean_Moral_Judg_Plant_Scale_HC	Frame but no counter frame	83
	Altruistic counter frame	84
	Total	167
Mean_Moral_Judg_Plant_Scale_LC	Frame but no counter frame	83
	Altruistic counter frame	84
	Total	167

Main Effect of Company Credibility in Dispute



Descriptive Statistics of Hypotheses – H5c

Descriptive Statistics

	Conditions	Mean	Std. Deviation
Mean_Moral_Judg_Plant_Scale_HC	Frame but no counter frame	3.6442	1.20383
	Egoistic counter frame	4.4123	1.38327
	Total	4.0283	1.34889
Mean_Moral_Judg_Plant_Scale_LC	Frame but no counter frame	3.6442	1.20383
	Egoistic counter frame	3.6764	1.35420
	Total	3.6603	1.27744

Descriptive Statistics

	Conditions	N
Mean_Moral_Judg_Plant_Scale_HC	Frame but no counter frame	83
	Egoistic counter frame	83
	Total	166
Mean_Moral_Judg_Plant_Scale_LC	Frame but no counter frame	83
	Egoistic counter frame	83
	Total	166

