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The Measurement and Analysis of Business Social and Environmental Discourse

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The Measurement and Analysis of Business Social and Environmental Discourse

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An abstract of
A dissertation submitted to the Faculty of the James T. Laney School of Graduate Studies of Emory University in partial fulfillment of the requirements for the degree of Doctor of Philosophy
in Business
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Abstract

The Measurement and Analysis of Business Social and Environmental Discourse

By Justin Koushyar

Firms are increasingly expected to act in socially responsible ways while conducting business activities. To appease these pressures, firms use communications to discuss policies and practices related to social and environmental issues, while also demonstrating their performance through programs, certifications, and ratings. As all firms seek to meet these expectations, some aspire to social and environmental performance beyond what is expected. The challenge in this environment is to understand in what ways firms with an underlying commitment to social performance can differentiate themselves. Although there is a rich stream of research on quality disclosure programs such as certification, we know less about how firms communicate social and environmental issues. The goal of this dissertation is to increase our understanding of how firm communications and social performance indicators relate to one another.

At the most general level, communication is the primary channel through which organizations interface with their various stakeholder groups. Specific patterns of communication can result from firms making appeals that identify with institutionalized norms, and/or differentiating themselves from others by signaling their uniqueness. To measure business social and environmental discourse, a dictionary was developed containing commonly used words and phrases in business social and environmental communication. It was formed from a corpus of text derived from business school syllabi and validated using multiple methods. The results of the validation tests illustrated the discriminatory power of the dictionary and revealed that agreement rates between the dictionary and judges are in line with the results from other widely used dictionaries.

The econometric analysis that follows investigates whether high social and environmental performers engaged in social and environmental communications more than their normal business counterparts. Results from the analysis indicate that there are negligible differences in the extent of social and environmental discourse among the two performance groups. This finding aligns with the institutional perspective that firms attempting to appease institutional norms act in similar ways making it hard to differentiate between high and lower performers. The analysis also illustrates that a firm's level of employment and industry influences the concentration of social and environmental discourse providing an avenue for future research.

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ABBREVIATIONS

BSED	*Business social and environmental discourse*
CSP	*Corporate social performance*
CSR	*Corporate social responsibility*

CHAPTER 1

INTRODUCTION

What types of firms engage in more social and environmental communication? In particular, do high social and environmental performers engage in these types of communications more than their less socially inclined counterparts? From an institutional standpoint, there is evidence to suggest that talk is cheap and both high and low socially performing firms espouse social and environmentally friendly values to meet institutionalized demands. (Delmas and Cuerel Burbano 2011) From this perspective, one can expect to find a similar use of social and environmental communication among firms.

However, there is also evidence that social and environmental communications act as a signal. Firms can go only so far in the embellishment of their values and practices relative to their actual behaviors, or risk being labeled as a greenwasher and suffering potential economic and reputational damage (Illia et al. 2014; Ihlen, Bartlett, and May 2011). From this perspective, one can expect to find more differentiated and greater use of social and environmental communication among firms with stronger social inclinations.

We address this issue by developing a content analysis framework that measures the intensity of specifically identified categories of social and environmental communication in the business context. We then leverage this tool in the analysis of two types of business communications from large established firms – some recognized for the social and environmental performance. The goal of the analysis is to increase our understanding of how the social performance of firms is related to the intensity of social and environmental discourse within their communications.

Although not a recent phenomenon, social and environmental communications, embedded in normative expectations of a firm's role in society are rapidly expanding. Firms face increasing institutional expectations for accountability, transparency, and measurement (Bromley and Powell 2012) while being rationalized as corporate citizens endowed with their own interests and agency (Meyer and Bromley 2013). These expectations create pressures to address the impacts on the environment, communities, and their employees. To appease these pressures, firms discuss their policies and practices related to social and environmental issues in their communications, while also demonstrating their performance through social responsibility and sustainability programs, certifications, and ratings (Turban and Greening 1997; Environics International 1999; Kitzmueller and Shimshack 2012; Aguilera et al. 2007). Although there is a rich stream of research activities such as certification (Dranove and Jin 2010), less is known about how companies communicate social and environmental issues.

Communication is one of the primary channels through which organizations interface with their various stakeholder groups, make appeals that identify with institutionalized norms, and differentiate themselves from others by signaling their differences. Existing research suggests that communication is particularly important for organizations in their maintenance of legitimacy and reputation (Dowling and Pfeffer 1975; Pfeffer 1981; Suchman 1995; Elsbach 2003). With various communications, organizations attempt to change definitions of social legitimacy or identify with symbols, values, and institutions that hold legitimacy (Dowling and Pfeffer 1975, 127). Communication also enables a firm to differentiate itself from others by signaling that it holds itself to higher quality standards (Connelly et al. 2010).

The institutional perspective. Institutional theory suggests that firms face immense pressures to conform to institutional norms in how they act and are structured or risk loss of legitimation and the resources it provides (Meyer and Rowan 1977; DiMaggio and Powell 1983; Bromley and Powell 2012). Firms can manage these institutional demands through decoupling where policies and practices are symbolically implemented while buffering the technical core of the business (Kalev, Dobbin, and Kelly 2006). In this case, firms with varying degrees of genuine commitment adopt similar policies and practices making it more difficult to materially distinguish one organization from another materially. Supporting this institutional point of view, critics of CSR activities suggest that greenwashing, or the overstatement of social and environmental commitments and performance, runs rampant in the practice of marketing and public relations, making it hard to tell a good marketer from a good social performer (Delmas and Cuerel Burbano 2011). Given that institutional pressures for social and environmental performance are becoming universal, this perspective suggests that most firms will communicate about these issues in similar ways driving uniform levels of communication.

The signaling perspective. There are others that suggest that public perceptions of greenwashing can have a material impact through economic sanctions or reputational damage (Illia et al. 2014; Ihlen, Bartlett, and May 2011). The risk of being labeled a greenwasher and the ensuing penalties keeps firms from straying too far from representing themselves in ways that reflect their actual behaviors. Signaling theory suggests that characteristics of firms that are difficult to measure and discern by stakeholders cause information asymmetries. These information asymmetries can be

reduced through their actions and communications (Akerlof 1970; Spence 1973; Connelly et al. 2010). Thus, the social and environmental communication activities of firms may at least in part act as a signal for underlying commitment to social and environmental performance. One can only tread so far in the decoupling of their espoused values and activities from actual behavior. This perspective suggests that there will be differences between high social and environmental performers and lower performing firms in the intensity of communication about these issues. Firms that are higher social and environmental performers will be likely to communicate more about these issues when compared to their normal business counterparts.

The main goals of this dissertation are to create a tool for analyzing business social and environmental discourse (BSED) and investigate the relationship between social and environmental performance and discourse in a collection of firm communications. Although much effort is placed on linking various indicators of corporate social performance such as philanthropic giving, or environmental performance to various economic outcomes (McWilliams and Siegel 2000; Margolis and Walsh 2003; Bansal and Clelland 2004), fewer efforts examine the underpinnings of corporate social and environmental communications.[1] The findings of the analysis indicate that no difference is found in the communications across high and normal performers, providing evidence that social and environmental communications are symbolic.

To test the predictions, we created a content analytic framework to measure the intensity of four categories of BSED. The categories include a firm's relationship with their workers, the communities they operate in, issues revolving around governance and

[1] There is a line of literature that investigates factors that influence selective disclosure of environmental performance information (Marquis, Toffel, and Zhou 2016; Lyon and Maxwell 2011; Delmas and Cuerel Burbano 2011)

transparency, and the environment. We begin by identifying frequently used words and phrases that occur in the discussion of each category from a corpus of text focused on business social and environmental issues. A multistage process is used to validate the dictionary including the comparison of communications analyzed by the dictionary and judges. The results of the validation tests reveal that agreement rates between the dictionary and judges are in line with the results from the development of other widely used dictionaries and illustrate the discriminatory power of the dictionary.

The BSED dictionary is then used to investigate the relationship between social and environmental performance and the extent of business social and environmental discourse. We examine the communications contained in letters to shareholders and the letters to stakeholders included in sustainability reports. The sample includes major US public firms on the S&P 100 and Corporate Knights Global 100 from 2012 through 2013. This analysis has two goals: to compare and contrast the two types of communications and to determine whether the high social and environmental performing companies listed on the Corporate Knights Global 100 ranking communicate social and environmental issues differently than their unranked counterparts.

This dissertation is structured as follows: the history of BSED is explored, followed by the development of a content analytic framework that measures the intensity of this discourse in business communications. The relationship between social and environmental performance and discourse is then analyzed and the dissertation concludes by discussing the implications of the findings on the general debate surrounding how firms represent their social and environmental values, objectives, and performance.

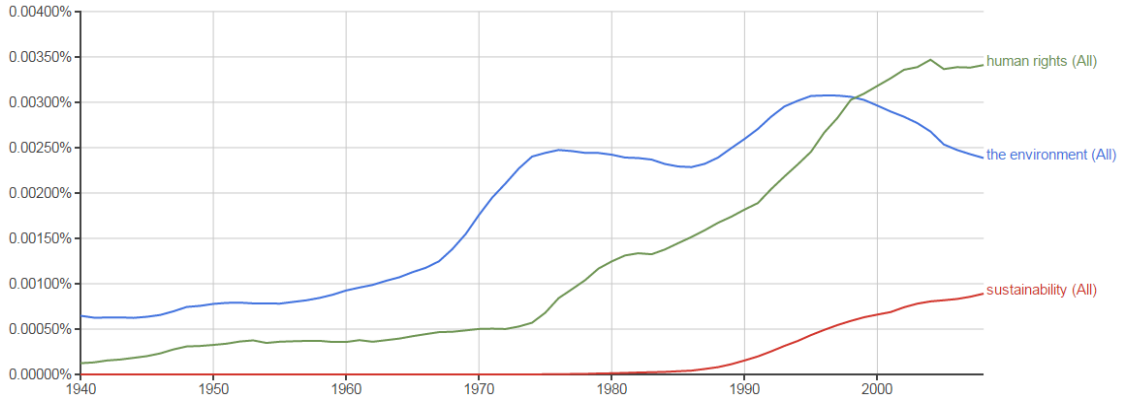
CHAPTER 2

THE HISTORY AND DEFINITION OF BUSINESS SOCIAL AND ENVIRONMENTAL DISCOURSE (BSED)

Introduction

Since environmental and human rights concerns emerged more prominently into American culture and public discourse after the Second World War, a growing interest and debate exists surrounding social and environmental issues. Figure 2.1 documents the rise of the words and phrases "the environment," "sustainability," and "human rights" in a corpus of five million books over the past 70 years. The use of "human rights" increased 30-fold since the 1940s with a rapid rise in use starting in the mid-1970s. Use of "the environment" began to increase quickly at the end of the 60's and seems to have peaked in the mid-1990's. However, it continues to be used more than three times more often today. Use of "sustainability" emerged in the mid-1980, and its use continues to increase today. Studies of secondary education textbooks illustrate similar trends when it comes to addressing environmental issues. Bromley et al. (2011) find that textbooks today are much more likely to contain discussions of environmental issues.

Figure 2.1 – Google Books Ngram[2]



[2] Google books Ngram viewer was used to obtain word usage information. Information on Google books Ngram Viewer can be found at: https://books.google.com/ngrams/info.

A parallel movement is urging business to address the social and ethical issues that they face and to improve their environmental and societal impacts. This movement is gaining the attention of firms, journalists, and academics. As a result, firms are more likely to communicate about their social and environmental orientation, practices, and performance in annual reports, sustainability reports, websites, and through other media. In a longitudinal study of the language use on websites of large Canadian firms, Basil and Erlandson (2008) find that between 2003 and 2006, there was more than a 100% increase in the number of firms that discussed corporate social responsibility (CSR) activities. Other studies have made similar observations about the increase in sustainability discourse and reporting (e.g., Kolk 2003).

To measure and analyze BSED, we must understand its origins and definition. With these goals in mind, the chapter presents a brief history of the emergence and elaboration of environmental and sustainability issues in public discourse and later defines the concept of social and environmental discourse.

History of Environmental and Sustainability Issues in the United States

In modern society, the growth in consumption of natural resources spurred by the industrial revolution was noticed by scientists and incorporated into economic models early in the 20th century (Hotelling 1931; Hubbert 1956). At this time, the conservation and preservationist movements emerged, pushing for better management and use of natural resources (Thiele 2013). Following World War II, industrial growth further accelerated, causing increased concerns about the impact this growth was having on the environment. Rachel Carson's *Silent Spring* (Carson 1962) illustrated the effect that new

pesticides and herbicides were having on animals and plant populations, and served as a focal point to turn the public's attention toward environmental concerns. During this period, other popular books also focused the public's attention on the impacts of industrialization and growth, including Paul Ehrlich's book the *Population Bomb* (Ehrlich 1968).

By the late 1960's, debates on the environment and growth entered the political sphere, spurred by environmental disasters including the 1969 Santa Barbara oil spill, the success of Rachel Carlson's book, and the discussions of man's general impact on the natural world (Grober 2012). Environmental groups, such as the Environmental Defense Fund and Greenpeace began to proliferate in the United States in effort to influence environmental policy (Dunlap and Mertig 1991). In 1968, the United Nations (UN) adopted *Resolution 2398*, stating that the relationship between man and nature is changing due to technological advancement and acknowledged that these developments might cause dangers for the environment and humanity (Grober 2012). A think tank, called the *Club of Rome*, was assembled with the task of examining these issues resulted in a popular book, *The Limits to Growth* (Meadows et al. 1972). By the end of the 1960s policy in the US changed dramatically with the passing the National Environmental Policy Act and establishment of new federal agencies such as the Council of Environmental Quality in 1969 and the Environmental Protection Agency in 1970 (Dunlap and Mertig 1991).

Through the 1970s, attention remained on the impacts of population growth, pollution, and the use of limited resources both in the political and public spheres. Many organizations – including the UN – sought to convene conferences on these critical

issues. Challenges related to natural resource utilization remained in the public's attention throughout the ongoing energy crisis what was caused by the peaking of oil production in some countries and embargoes from oil production countries to western nations.

By 1980, these issues began to be grouped under the subject of sustainability. The terms "sustainable development," "sustainable utilization," and "sustainability" emerged to address issues of conservation in the 1980 *World Conservation Strategy* published by the International Union for Conservation of Nature (Thiele 2013). In 1987, the definition of sustainable development was cemented by the UN's *Brundtland Commission.* (Thiele 2013) The Brundtland Report defined sustainable development as meeting "the needs and aspirations of the present without compromising the ability to meet those of the future." (World Commission on Environment and Development 1987, chap. 1.49). By the end of the decade, sustainability became one of the major guidelines for the environmental movement (Thiele 2013).

Through the 1980s and into the 1990s, the focus on sustainability spread globally with increasing impacted on the economic sector as activist groups more frequently targeted firms. The UN brought world leaders together in an attempt to embrace sustainable development at the 1992 Rio *Earth Summit*. This event served to establish sustainable development as a global guideline principle for the 21st Century (Grober 2012). At this time activist groups increasingly extended their focus from seeking to influence country level policy to target companies and the way they operate through civil suits, protests, and boycotts. (Baron 2003; Lenox and Eesley 2009).

During the last two decades, the concept of sustainability has broadened beyond

environmental issues. Sustainability, although initially an environmental concern, has come to incorporate elements of social justice and financial feasibility in its broadened focus. In the world of business, it has been further redefined as the three pillars of "People, Planet, and Profit" (Carroll et al. 2012). Pioneering companies, including Unilever in the mid-1990's, acknowledged that successful sustainable development not only requires conservation of resources but also must provide social justice, as well as economic viability; all implemented with triple bottom line measurement of impacts (Carroll et al. 2012). Fundamental to sustainability in business is the push for business decision-making to look outward toward the environment and society when making decisions, as well as extending the time horizon in planning.

Defining Business Social and Environmental Discourse

Research has yet to formally define the concept of social and environmental discourse within the business context. However, attempts to define related concepts and debates on these definitions have occurred in respect of "Corporate Social Responsibility (CSR)" and "Corporate Social Performance (CSP)" (Maignan and Ralston 2002; Wood 1991). Wood (1991, 693) defines corporate social performance as "*a business organization's configuration of principles of social responsibility, processes of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm's societal relationships.*" This definition, though narrowly focused on a firm's social performance, provides a stepping point in establishing a social and environmental discourse definition for business.

Building from the narrowly-defined concept of CSP, we define business social and

environmental discourse (BSED) as the construct that attempts to account for all communications surrounding social and environmental concerns within the business context. BSED is comprised of the general discussion of environmental or societal issues within the business context and, more explicitly, a specific firm's relationship with its employees, the communities in which it operates, its corporate governance, and its relationship with the natural environment. This definition encompasses the discussion of environmental challenges, methods to remedy those challenges, as well as a firm's policies, programs, and initiatives to improve social performance. Statements relating to a firm's financial performance would not be considered a social and environmental statement while statements about the environmental challenges caused by greenhouse gas emissions would.[3]

BSED is a general construct that is expected to be comprised of multiple dimensions. Firms attend to multiple stakeholders and issues in their social initiatives, and past work analyzing CSR communications breaks these communications into various components. Maignan and Ralston (2002) categorized social responsibility communications into three motivating principles and seven CSR processes. Kolk (2003), in her analysis of sustainability reports published by Fortune Global 250 firms, broke down the communications in these reports into ten topics that included community involvement, health and safety, workplace diversity, and corruption. Further, CSP is broken down by practitioners in various ways. For example, the triple bottom line model of sustainable development breaks business performance into the three areas of people, planet, and profits. Finally, other related categorical schemes can be found in rating

[3] Note that this definition encompasses corporate social performance statements, ie. statements made about a company's policies, practices, and performance related to the environment and society, but also accounts for more general discussion about more general environmental and social issues and topics that companies may address

systems that measure social and environmental performance. For example, the B Corporation certification breaks a firm's social and environmental performance into four categories: governance of the firm, environmental performance, how the firm treats its employees, and the relationship of the firm with the communities in which it operates.

For the purposes of this study, an ideal schema would balance categorization of BSED into broad and generally accepted basic level categories[4] (Rosch and Mervis 1975; Rosch et al. 1976) while not breaking the categories into parts that are too fine and would create challenges when it comes to validating the dictionary. After reviewing the various schemas available around CSR and CSP, we determined that the B Corporation Certification schema provides a foundation of broad generally accepted categories that is applicable to the broader definition of social and environmental discourse. This schema is adapted as the categorization structure for this study. As mentioned earlier, the B Corporation Certification breaks social and environmental performance into four categories. Descriptions and their definitions as related to social and environmental discourse are included in Table 2.1 below.

[4] Basic level categories are "*the level of abstraction at which the basic category cuts are made*" where members within these categories display high amounts of similarity to each other. (Rosch and Mervis 1975, 577) Examples of this level of categorization include chair or car. Superordinate categories at higher levels (such as furniture) suffer from the fact that fewer numbers of attributes are shared between members within these categories (Rosch and Mervis 1975; Rosch et al. 1976).

Table 2.1 – Description of Business Social and Environmental Categories[5]

Governance	The governance category focuses on the issues around a business' "*accountability and transparency including stakeholder engagement and the transparency of the company's practices and policies.*"
Workers	The workers category focuses on the issues that workers face and around a business' "*relationship with its workforce through worker compensation, benefits, training, and ownership opportunities, as well as job flexibility, and worker health and safety practices.*"
Community	The community category focuses on the social issues that communities face and around a business' "*impact on its community. This includes supplier relations, diversity, involvement in the local community, community service and charitable giving. It also accounts for whether a company's product or service is designed to solve a social issue, including access to basic services, health, education, economic opportunity, arts, and increasing the flow of capital to purpose-driven enterprises.*"
Environment	The environment category focuses on the environmental issues broadly and the issues around a business' "*environmental performance through its facilities; materials, resource and energy use; and emissions. It also includes whether a company's products or services are designed to solve an environmental issue, including products that aid in the provision of renewable energy, conserve resources, reduce waste, promote land/wildlife conservation, prevent toxic/hazardous substance or pollution, or educate, measure, or consult to solve environmental problems.*"

Now that BSED has been defined and categorized, the next critical step involved creating and implementing the appropriate method for its measurement.

[5] Quotes obtained from the B Corp descriptions of each impact category in all impact reports on the B Corporation website. These descriptions are provided as supplemented information displayed when moving the cursor over a specific impact category on the report. This information is provided on all company impact reports, for example: http://www.bcorporation.net/community/method-products-pbc ("Method Products, PBC" 2013).

CHAPTER 3

THE MEASUREMENT OF BUSINESS SOCIAL AND ENVIRONMENTAL DISCOURSE

Introduction

To study the various categories of social and environmental discourse, there are an array of methods available for analysis. One common method is to manually analyze and rate the presence and intensity of social and environmental communications using human coders. Human coding has been used in several past studies (Maignan and Ralston 2002; Kolk 2003; Basil and Erlandson 2008; Bromley, Meyer, and Ramirez 2011). For example, Basil and Erlandson (2008) developed a coding scheme to measure the presence of CSR communications on company websites divided into seven CSR categories, including "cause-related marketing," "charity donations," and "health and safety." This coding scheme utilized human raters to determine the presence or absence of the seven categories of communications across 159 websites. Bromley, Meyer, and Ramirez (2011) used a similar method to analyze environmental discourse in 484 school textbooks. Their coding methodology used human raters and generated a dichotomous variable that indicates the presence or absence of environmental discourse within a given textbook.

While this method is flexible and able to overcome issues dealing with unstructured data, there are two limitations with this type of approach: concerns about reliability, and limitations in the volume of text that can be coded and therefore analyzed. Human coders – even with appropriate training – may code passages differently, and are only able to process so much text in a set amount of time. For example, Basil and Erlandson's (2008) study mentioned above analyzed CSR business communications on 159 large Canadian company websites in 2003 and 2006. Their sample was derived from the list of Canada's 1000 largest firms, with sampling limited by the amount of coding

able to be conducted by each rater.

Computer-aided analysis minimizes the issues of reliability and limitations related to the amount of content able to be analyzed; as the computer applies coding rules quickly and identically for each unit of text on the sample. Today, personal computers are powerful enough to rapidly analyze thousands of text documents, without tiring or deviating from the coding scheme. However, there are a few challenges with this method - including those of semantic and functional validity – that must first be overcome (Krippendorff 2012). The primary challenges with creating a content analysis coding scheme include appropriately building the rules for analysis and then validating those rules. However, once a system is validated, the method provides an efficient and effective method of measurement that can be replicated across studies. Appropriately-designed tools allow for effective measurement without the high costs of developing coding schemes, training coders, and without worrying about limitations on the amount of material that human coders can read through. These benefits effectively open up the ability to analyze discourse to researchers that would otherwise not create their own tools.

Content-analytic methods using dictionaries is well established in numerous fields, especially psychology. Numerous tools have been developed for the analysis of optimism (e.g., *Diction*), valence (e.g., *General Inquirer*), and anger (e.g., *Linguistic Inquiry and Word Count; LIWC*) in various text documents. For example, the LIWC software developed by Pennebaker, Booth, and Francis[6] has been demonstrated to be a valid tool to measure individual psychological states in writing samples across a range of studies. Since the development of LIWC, more than 100 studies with researchers from a

[6] http://www.liwc.net/index.php

broad range of disciplines have used this tool to analyze psychological states in writings (Tausczik and Pennebaker 2010).

Similar to the design of dictionaries developed in the field of psychology, we set out to construct and validate a word dictionary that can be used to measure various dimensions of social and environmental discourse. In doing so, we provide the field with a unique and valuable tool that will enable widespread analysis of social and environmental discourse across a variety of communication mediums. In doing so, we use established methods of content analysis (Krippendorff 2012) and, in particular, the generation of word dictionaries (Krippendorff 2012; Pennebaker et al. 2007; Xu and Bengston 1997).

The Business Social and Environmental Discourse Analysis Method

A four-part process is deployed to build and evaluate a word dictionary that contains words and phrases most often used in company social and environmental discourse. First, a corpus of text focused on BSED is collected and analyzed to create the initial dictionary of words commonly used in social and environmental discourse. Next, the dictionary is refined through the analysis of two groups of news articles, one focused on social and environmental issues and the other on more general business issues. Then, expert judges are assigned to evaluate each word in the dictionary. Finally, the validity and discriminatory power of the word dictionary is assessed.

Building a dictionary commonly begins with a designated corpus of text. For example, the LIWC psychological processes category dictionary began with an array of text sources including Roget's thesaurus, other English word dictionaries, and various

emotion rating scales (Pennebaker et al. 2007, 7). For social and environmental communications, there are a range of potential sources that could provide the starting corpus. These sources include news articles that focus on social and environmental issues related to business, related academic articles and books, corporate communications to stakeholders, or reports that focus on corporate social responsibility and/or sustainability. One set of resources that combine these different source materials are the syllabi for university courses that focus on corporate social responsibility, sustainability, and business and the environment. These documents collect an array of source materials – all vetted by established university professors – into single collections. Thus, they are ideal sources for social and environmental texts across a variety of different media types.

The corpus that we begin with is generated from the assigned reading materials for undergraduate and master's level business school courses related to business and society, the environment, and social responsibility. Twenty syllabi were collected from (1) the Academy of Management's Organizations and the Natural Environment Section Syllabi and Resource website[7], (2) winners of the Darla Moore School of Business's Dr. Alfred N. and Lynn Manos Page Prize for Sustainability Issues in Business Curricula[8], (3) current Alliance for Research of Corporate Sustainability members, (4) the Beyond Grey Pinstripes' website which is an Aspen Institute Center for Business Education Initiative[9], as well as (5) personal contacts to faculty offering courses in these domains. The full collection of syllabi is shown in Table 3.1.

[7] http://one.aomonline.org/one_web/Syllabi.html
[8] http://mooreschool.sc.edu/about/sustainableenterprisedevelopment/pageprize.aspx
[9] http://www.beyondgreypinstripes.org/faculty-resources/search/11

Table 3.1 – Syllabi Used to Generate Corpus

Class name	First Lecturer	School	Year
Business and the Environment	Reinhardt, Forest	Harvard	2009
Sustainable Global Enterprise	Dowell, Glen	Cornell	2011
Business and Sustainability	Brownlee, Richard	Darden	2011
Strategies for Sustainability	Toktay, Beril	GA Tech	2014
Corporations and Society	Holburn, Guy	Ivey	2014
Corporate Strategies for Environmental & Social Responsibility	Cohen, Mark	Vanderbilt	2008
Business and the Environment	Delmas, Magali	UCLA Anderson	2011
Sustainable Business Enterprises	Clarke, John	Illinois	2010
Sustainable Business Development	Russo, Michael	University of Oregon	2010
Business and the Environment	Corbett, Charles	UCLA Anderson	2010
Sustainable Global Enterprise Immersion	Millstein, Mark	Cornell	2011
Environmentally Sustainable Strategy & Operations	Toffel, Michael	Harvard	2012
Global Corporate Responsibility and Innovation	Doh, Jonathan	Villanova	2006
Business, the Natural Environment, and the Global Economy	Marcus, Alfred	University of Minnesota	2006
Innovation and Sustainable Development	Mierzwa, Tom	University of Maryland	2008
The Greening of Business	Paton, Bruce	San Francisco State University	2005
Business and the Social Side of Sustainability	Eggert, Tom	University of Wisconsin - Madison	2010
Strategies for Sustainable Development	Etzion, Drior	Mcgill	2011
Business FutureWorks	Westerman, Martin	University of Washington	2006
Business and Society	Longhofer, Wesley	Emory	2013

The assigned readings from the syllabi total more than 800 distinct items. These include textbook materials, books, book chapters, cases, articles, reports, and other on-line resources (including websites). We focus on news articles, academic papers, and industry reports, which were believed to provide a large enough corpus for development of an effective dictionary. The selected library includes 280 unique articles and reports.[10] These sampled materials emphasize topics, issues, and potential solutions to challenges at the nexus of companies, the environment, and the communities in which companies operate. They include academic articles, such as "How Firms Respond to Being Rated"

[10] The original list of materials included 6 additional articles that were unable to be located and thus were not included in the corpus.

(published in the Strategic Management Journal and written by Aaron K. Chatterji and Michael W. Toffel in 2010). They include articles in newspapers and magazines including “Confessions of a Sweatshop Inspector” (published in the Washington Monthly by T. A. Frank in 2008). Finally, they also include reports written by consulting firms or other agencies, including “Finding the Green in Today’s Shoppers" (written by Deloitte in 2009).

The corpus was digitized, and a word frequency analysis was conducted to determine the most common words throughout the texts. Figure 3.1 illustrates a word cloud representing the corpus. As depicted in the word cloud in Figure 3.1, many words used in the corpus are function words, such as “per” or refer to general discourse about business, such as “companies.” As most words contained in the text do not specifically have social or environmental meanings, a closer examination of frequently used words isolated the words and phrases that signify social and environmental discourse.

Figure 3.1 – Corpus Word Cloud Representation

The most common words, comprising 70% of the corpus (2,691 words), were analyzed more closely. These words appear at least 140 times throughout the sample of texts. Each word was scrutinized, and those believed to have the potential for use in the context of social discourse were marked and indexed. This set of words was then further inspected by reviewing how each word is used throughout the texts, examining word trees to determine if there are other words that commonly are used with the focal word in a phrase, and evaluating how many sources used the focal word. Words and phrases were

selected for inclusion in the dictionary if they were used in at least 10% of the 280 corpus sources and, through analysis, were determined as likely to be used in social and environmental statements and unlikely to be used in other business communications. [11]

From the 2,691 words analyzed, 156 words and phrases were included in the social and environmental discourse word dictionary. After increasing the list to account for all applicable stem words, the final list is comprised of 179 words (see Appendix A for the final dictionary).

Each word and phrase was then categorized to one of four categories of BSED: worker issues, community issues, environmental issues, and governance issues. Each word was analyzed for its use throughout the corpus to determine the appropriate category fit and then assigned to the appropriate categories. In some cases, if a word was determined to span multiple categories, it was assigned to each applicable category.[12] In a final step, informal feedback on the dictionary was obtained from scholars familiar with CSR issues to get input on word and phrase fit and missing words and phrases. Suggestions for changes resulted in a re-examination of the words in the original corpus.

Refining and Assessing Discriminatory Power

After creating the initial word dictionary, various checks and refinements are necessary before it can be used in any credible analysis. Because the aim of the BSED

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[11] In cases where a word was found to be used both in social performance statements as well as in other contexts, two-word phrases were used instead. For example, the word "energy" is used to reference energy production but also energy conservation activities. Since energy could refer to environmental or general business issues, all two word phrases containing energy were examined. Thus, two-word phrases are included in the dictionary including "energy reduction" among others while phrases such as "energy company" are excluded.

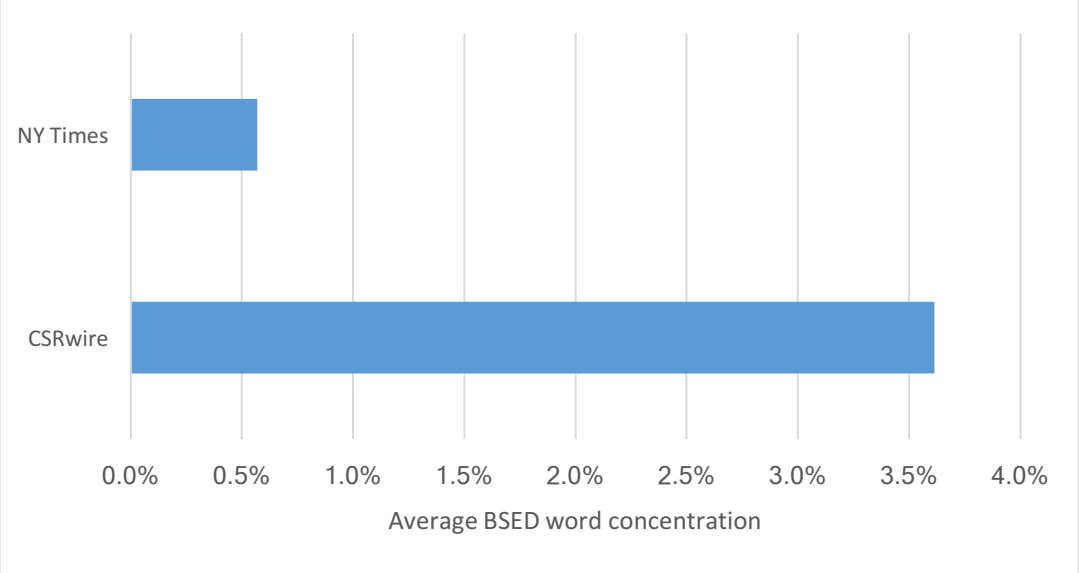
[12] For example, the term "sustainability" is a broad word used to describe activities in all of these categories. Therefore, sustainability is assigned to all categories.

word dictionary is to isolate words and phrases that are commonly used in social and environmental discourse, but not in other business discourse, we tested whether the preliminary dictionary provides this discriminatory power by applying it to two very different collections of news articles. The first collection includes all 3,348 articles from CSRwire published March 2011 through August 2014.[13] CSRwire is one of the largest news sources for social responsibility and sustainability news, and so each article will likely be focused on these issues. A second collection was taken from the New York Times Financial Desk during the same period and totaled 21,148 articles. These articles should comprise normal discourse on general business issues. If the dictionary is capable of isolating social discourse and differentiating it from other discourse, it should pick up significantly more words in the CSRwire text collection.

The usage of each word in the BSED dictionary was examined across the two collections to determine the concentrations of social and environmental discourse. Overall, the BSED dictionary in its initial state performed well, with the concentration of dictionary words used on average approximately 6.3 times more in the CSRwire articles. Figure 3.2 displays these results visually, demonstrating that in its initial state, the concentration of dictionary words is significantly higher in media communications focused on CSR issues compared to general business media communications contained in the New York Times.

[13] The data was obtained from LexisNexis and includes the entire data range for articles available for CSRwire. Articles were limited to those with 500 or more words.

Figure 3.2 – Average Concentration of Social and Environmental Words in CSRwire versus New York Times Financial Desk Articles



Although most dictionary words are used more frequently in CSRwire news articles, a few words are used more frequently in NY Times articles. These include "ozone," "Kyoto," "biofuel," "workers," "temperature," "civil rights," "social welfare," "employment," "worker," "crops," and "wind." The words that do not provide much discriminatory power were then reevaluated, and a decision was made whether the word should be kept in the dictionary, removed, or replaced with alternative words or phrases. The word "biofuel" was used more in New York Times articles than in the CSRwire articles, but since it refers to a green product that is less harmful than traditional fuels, it was kept in the dictionary. In another case, it was decided to include alternative phrases for "wind" since it has multiple commonly used meanings in English (wind down vs. wind energy). The word "wind" was replaced by several phrases including "wind power," and "wind turbines" among others.

After these refinements were made, the dictionary was then assessed by a panel of

experienced judges who are employed in the field of sustainability or CSR and are familiar with the way these issues are communicated about by their organizations. These judges provide an additional check and refinement of the words that are included in the dictionary and their categorization among the four social and environmental discourse categories.

Expert Evaluation of the Word Dictionary

Similar to the validation process used for the dictionaries in the LIWC software (Pennebaker et al. 2007), the third stage uses a panel of six judges with expertise in corporate social responsibility or sustainability to assess and categorize each word in the dictionary. This stage is composed of two parts. First, each judge is presented with all words contained in each category dictionary and are asked whether each word should be kept in the category dictionary or removed. A word is kept in the dictionary if three or more judges agree that the word should remain in the dictionary and a word is removed if four or more judges agree that the word should be removed.[14]

Second, judges are asked whether additional words should be added to each category dictionary. All words recommended by judges were examined against the dictionary for overlap and then were examined in the original corpus. Recommended words were added when they met the original criteria for accepting a word to the dictionary.

In some cases, the judges recommended removing a word that spanned categories from one of the categories in which it was assigned. For example, four judges

[14] The judges rated each social and environmental discourse category separately. The final overall dictionary is the collection of all words in each subcategory.

recommended removing the word "*philanthropy*" from the environment category dictionary but keeping it in the community dictionary. In other cases, words were recommended to be completely removed from the dictionary. For example, "cancer" was elected to be removed by the majority of judges from the community category dictionary. Finally, two words were added to the dictionary upon recommendation. First, the word "*compliance*" was added to the governance dictionary, and "*water efficiency*" was added to the environmental dictionary. The final dictionary contains 176 words with their plural counterparts (see Appendix A).

Reliability checks across the six judges suggest that there was variation in the way judges interpreted and evaluated each category dictionary. The overall percent agreement rate across judges was 70% and ranged from 75% for the environment dictionary to 58% for the governance dictionary. These tests suggest that there is some variation in each of the judge's beliefs between which words do and do not belong in a given category dictionary.

Assessment of the Dictionary Against Human Raters and its Discriminatory Power Across Media Sources

The final stage of dictionary development is comprised of two parts in an attempt to assess the validity and discriminatory power of the dictionary. The first part tests the semantic validity of the word dictionary by comparing the results of the dictionary against human raters. Using the CSRwire and NY Times news articles from the second step, a collection of 500 sentences were selected from this collection. This sample was comprised of 75 sentences that were found to contain discourse in each of the four

categories[15], an additional 100 sentences that were not found to contain social or environmental discourse, and 100 sentences that included words from more than one social and environmental discourse category. The sentences were randomly selected within each grouping. Three judges were asked to identify which of these 500 sentences contained social and environmental discourse and to categorize each sentence into the four categories of social and environmental discourse. The judge's ratings were then compared to each other and then against results from the dictionary.

In content analysis studies, one may measure the internal reliability of coding schemes by first calculating the percentage agreement between raters. However, these agreement rates between judges do not take into account the expected agreement levels that would occur by chance. The kappa statistic is one method of computing levels of agreement in content analysis studies that takes into account the data structure and controls for the expected level of chance. General guidelines suggest kappa statistics above .7 - .8 indicate sufficient agreement rates. Although frequently used in content analysis, this statistic is less common in studies of discourse and dialogue, and it is not yet known whether these studies will meet these thresholds (Carletta 1996).

The agreement rates and kappa statistics between the three judges are provided below in Table 3.2 and suggest modest agreement across judges in the majority of categories. As the kappa statistic is below conventional thresholds, additional investigation is needed to determine the source of the variation in judge ratings. It may be occurring because these categories as part of business discourse are still emerging and

[15] 75 sentences contain discourse from the workers category, 75 sentences containing discourse from the community category, 75 sentences from the governance category, and 75 sentences from the environmental category for a total of 300 sentences.

not completely stable.

Table 3.2 – Judge Inter-rater Agreement Rate and Kappa for Evaluating the Presence of Social and Environmental Discourse

	Judge Agreement Rate	Judge Kappa
Total Social Word Use	69.90%	0.37
Environment	87.10%	0.41
Community	83.60%	0.34
Workers	84.40%	0.06
Government	84.70%	0.10

The final step was to compare the aggregated judge's ratings against the dictionary' ratings. Similar ratings between the dictionary and human raters are an indication of the external validity of the dictionary. The results from the human raters conducted in step two are compared to the results from the dictionary. Agreement rates are then calculated for the sentences, presented below alongside kappa statistics and simple correlations in Table 3.3. All results are highly significant and suggest low to modest levels of agreement across all categories.

Table 3.3 – Inter-rater Agreement Rate and Kappa Between Judge and Dictionary Ratings

	Dictionary Agreement Rate	Dictionary Kappa***	Correlation
Total Social Word Use	57.20%	0.26	0.35
Environment	79.20%	0.42	0.50
Community	76.80%	0.35	0.40
Workers	76.00%	0.16	0.28
Government	80.80%	0.17	0.23

**** All Kappa statistics are significant to p < .0001*

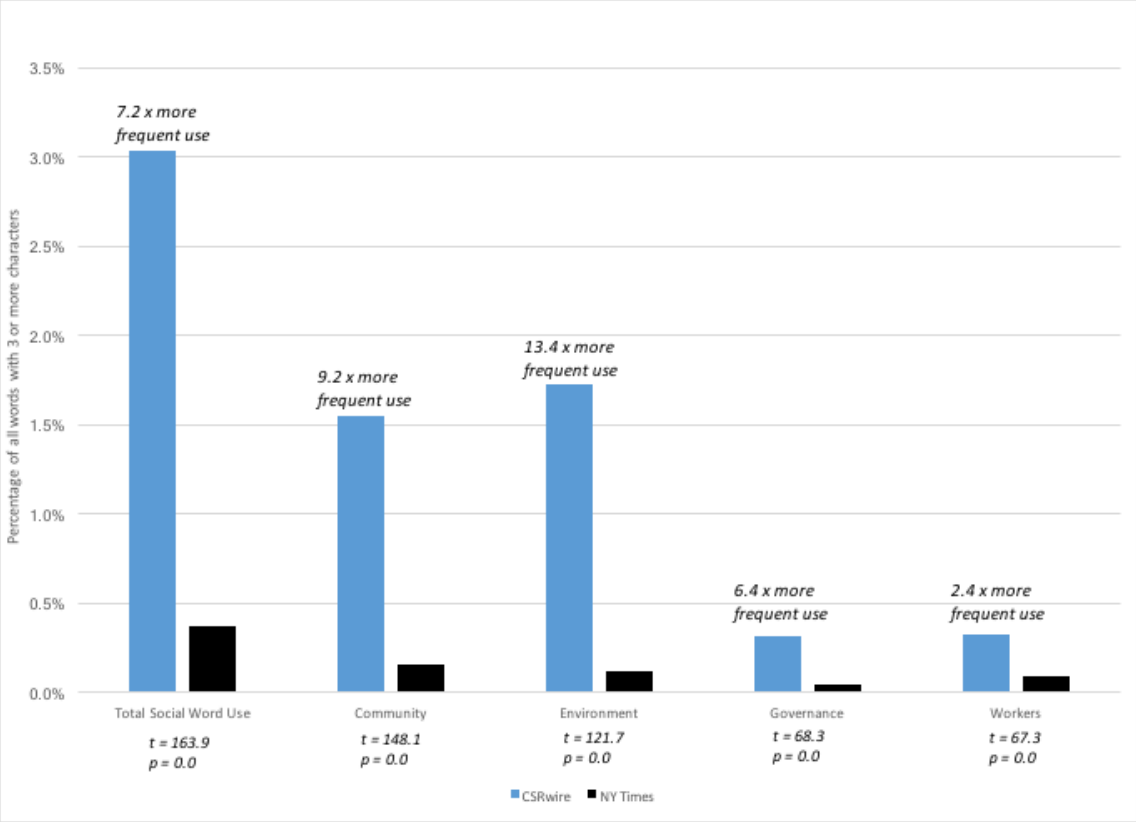
As previously discovered, the Kappa levels are below the thresh hold for experimental studies. However, the correlation coefficients in the tables are within the range of other dictionary validation tests. The LIWC software contains more than 70 dictionaries measuring an assortment of psychological and linguistic processes. To test the validity of the dictionaries used by the software, the results of several of these dictionaries were compared with human rater assessments of the same texts, and simple correlation statistics were calculated. Across 12 of LIWC dictionaries, the correlation between the dictionary and human raters averaged .45 and ranged from .07 – 0.87. For example, the anger category dictionary resulted in a correlation between human raters and the dictionary of .22. The correlation was 0.53 for biological processes category which includes the words *eat*, *blood*, and *pain* (Pennebaker et al. 2007).

Another way to validate the dictionary is to determine whether the dictionary can discriminate between texts that are known to focus on social and environmental issues and texts focused on more general business issues. The final test of the dictionary attempts to measure this ability to discriminate across two news sources. The dictionary was used to obtain word frequency counts in the previously mentioned sample of

CSRwire and NY Times Financial Desk articles from March 2011 through September 2014, comprising a total sample of 24,496 articles. Since CSRwire is a media source that focuses on corporate social responsibility, the dictionary should pick up higher concentrations of words within this article set then in the collection of NY Times articles. Demonstrating that the dictionary is detecting significant differences between these two news sources provides evidence of the dictionaries' ability to discriminate between socially and environmentally oriented media versus general business media communications.

As illustrated in Figure 3.3 below, all categories were significantly more concentrated in CSRwire articles as compared to their NY Times Financial Desk counterpart. Overall, the words in the dictionary were used 7.6 times more often in the CSRwire corpus, roughly comprising 3.2% of all words with 3 or more letters, while the NY Times Financial Desk articles on average contained 0.37% word concentration. Similar patterns are seen across all categories, with the environment category experiencing the largest amount of separation, and the workers category experiencing the lowest separation between words. Tests comparing the sample means suggest they are all significantly different.

Figure 3.3 – Average Intensity of Use of Socially Oriented Words in CSRwire vs. New York Times Financial Desk Articles



These results provide additional evidence of external validity by demonstrating that the dictionary can, in fact, distinguish between communications from a CSR news source and a general business news source across all dictionary categories. It is interesting to note that although all categories contained significantly higher concentrations of words in CSRwire, the workers category provided the lowest separation between news sources indicating that words in the workers category were used in relatively closer concentrations. Further work investigating the differences in word use across news sources would enable a more nuanced picture of what is driving the similar levels of discourse in worker issues than the other discourse categories.

Conclusion

In this chapter, we describe the development and testing of a word and phrase dictionary that captures words frequently used across four categories of social and environmental discourse. The BSED dictionary was formed from a corpus of text derived from twenty business school syllabi and was validated using multiple methods. The results of the validation tests reveal that agreement rates between the dictionary and judges are in line with the results from the development of other widely used dictionaries. Finally, tests of the discriminatory power of the dictionary establish that the dictionary can significantly differentiate between a collection of news articles that originated from a CSR focused source (CSRwire) and a more general business source (New York Times Financial Desk).

The validation work also illustrated several interesting patterns in the agreement levels across the categories of social and environmental discourse. The environment category yielded the highest agreement rates while the governance category yielded the lowest and these results were stable across the multiple validation steps as well as in the check of discriminatory power across the two article sets. Environmental issues have a long and rich history with sustainability and corporate social responsibility, and it is not surprising that the raters agree more with the words and statements that were associated with this category. On the other hand, governance as a specific category of business social and environmental discourse may still be emerging and in flux. Future work should further investigate these differences to increase our understanding of the origins and evolution of social and environmental discourse in the business context.

Future work may also consider the relationship between social and environmental discourse and time. It is likely that the discourse in this realm has evolved significantly from the past. Although the corpus of text used to develop the dictionary contained articles that were written from 1960 through 2014, the mean publishing year was in 2005 rooting, necessarily, the dictionaries development in the present. The validation tests used to validate the dictionary are also rooted in the present. The validity of the dictionary is established through the use of human raters who base their understanding of social and environmental discourse as it stands today. It will be valuable to test the dictionary's effectiveness in measuring social and environmental discourse over time to help us understand how these categories of social and environmental discourse emerged and evolved.

CHAPTER 4

WALKING THE WALK AND TALKING THE TALK – THE RELATIONSHIP BETWEEN SOCIAL AND ENVIRONMENTAL PERFORMANCE AND DISCOURSE

Introduction

This chapter provides an example of how the BSED dictionary can be used in the study of business communications. The question we seek to answer is whether recognized high social and environmental performers engage in social and environmental communications more than their normal business counterparts. We develop competing predictions for leveraging Institutional and Signaling Theory that suggest different ways organizations may use their social and environmental discourse. On the one hand, there is evidence to suggest that talk is cheap and both high and low socially inclined firms espouse social and environmentally friendly values to meet institutionalized demands (Delmas and Cuerel Burbano 2011). From this perspective, one can expect to find a similar use of social and environmental communication among firms. On the other hand, social and environmental communications may be used as a signal by firms to indicate their true underlying performance. In this case, one would expect differences in the amount of social and environmental communication in relationship to the underlying performance of the firm.

Theory and Predictions

The institutional perspective. Institutional theory suggests that firms face pressures to conform to institutional norms in how they act and are structured or risk loss of legitimation and the resources it provides (Meyer and Rowan 1977; DiMaggio and Powell 1983; Bromley and Powell 2012). One way firms manage such institutional demands is through decoupling where policies and practices are symbolically implemented while buffering the technical core of the business (Kalev, Dobbin, and

Kelly 2006). Central to this argument is that these practices are not adopted for economic reasons such as increasing firm efficiency (DiMaggio and Powell 1983). In this case, firms with varying degrees of actual commitment adopt similar policies and practices making it more difficult to materially distinguish one organization from another.

Institutional frameworks have been used to examine the adoption of Human Resource and Employment Equal Opportunity Offices (Dobbin and Sutton 1998), the adoption of the multidivisional form (Fligstein 1985), the spread of matrix management programs (Burns and Wholey 1993) and CSR reporting (Shabana, Buchholtz, and Carroll 2016). Studies in diffusion also seek to understand the underlying mechanisms that drive the spread of practices. In these studies, they illustrate how firms gain information about and make decisions to adopt practices through social networks, board interlocks, and by proximity to other adopters (Strang and Soule 1998; Davis and Greve 1997; Davis 1991). Once a practice reaches a threshold level of adoption, mimetic isomorphism causes organizations to adopt the practice because it becomes a normative expectation (DiMaggio and Powell 1983).

Shabana, Buchholtz, and Carroll (2016) provide a three-stage model for how CSR reporting spread and became institutionalized. First, companies faced with CSR issues used CSR reports to mitigate the issues they faced. Second, as these reports became known and valued, firms that valued CSR issues began to adopt the reporting practice. Finally, as the issuing of sustainability reporting became more widespread, firms began to adopt the practice because it became a normative expectation to do so. Their analysis focuses on all firms on the Fortune 500 list and document that in 1993 only three percent

of all firms issued CSR reports compared to today where they suggest most firms issue these reports.

Supporting this institutional point of view, critics of CSR activities suggest that greenwashing, or the overstatement of social and environmental commitments and performance, runs rampant in the practice of marketing and public relations, making it hard to tell a good marketer from a good social performer (Delmas and Cuerel Burbano 2011). Further evidence suggests that social responsibility reporting practices are being institutionalized as the practice becomes widespread (Kolk 2003; Shabana, Buchholtz, and Carroll 2016). Given that institutional pressures for social and environmental performance are becoming universal, this perspective suggests that most companies will communicate about these issues in similar ways driving uniform levels of communication. This leads to the first prediction.

Hypothesis 1: The extent of social and environmental communications is similar between high social and environmental performers and their normal business counterparts.

The signaling perspective. Signaling theory suggests that characteristics of firms that are hard to measure and discern by stakeholders cause information asymmetries which can be reduced through their actions and communications (Akerlof 1970; Spence 1973; Connelly et al. 2010). The theory seeks to model the conditions under which a separating equilibrium will emerge where firms or individuals will choose to adopt a signal that reflects their unobservable underlying characteristics. For example, Spence

(1973) demonstrates how prospective employees use higher education as a signal for their underlying ability. Past research has examined the board prestige of young firms as a signal of underlying value to potential investors during an IPO (Certo 2003), and strategic alliances as a signal for underlying quality for young firms (Stuart, Hoang, and Hybels 1999).

Supporting this view, there are arguments that public perceptions of greenwashing can lead to costs for a firm through economic sanctions or reputational damage (Illia et al. 2014; Ihlen, Bartlett, and May 2011). The risk of being labeled a greenwasher and the ensuing penalties keeps firms from misrepresenting their underlying quality. Thus, the social and environmental communications activities of firms may at least in part act as a signal for underlying commitment to social and environmental performance. A firm can only tread so far in the decoupling of their espoused values and activities from actual behavior.

This perspective suggests that there will be differences between high social and environmental performers and normal firms in the intensity of communication about social and environmental issues. It is likely that firms that are higher social and environmental performers will be more likely to communicate about these issues when compared to their normal business counterparts. This leads to the second prediction

Hypothesis 2: The extent of social and environmental communications will be greater for high social and environmental performers when compared to their normal business counterparts.

Data and Method

The challenge with the analysis is to identify a sample of firms that have been recognized for their social and environmental performance and a similar sample that represents normal business. One way to achieve this goal is to utilize an established rating systems that recognize firms for their social and environmental performance. The key is to select a ranking system that clearly recognizes certain firms for their performance, and is transparent in the criteria used in the selection process so that an equivalent normal business set can be selected. The rate the raters project (Sadowski, Whitaker, and Buckingham 2010) identified 108 rankings in their survey of the field in 2010. These systems all vary in what characteristics of companies they are rating, for example, some systems are more narrowly focused than others including the Newsweek Green Ranking focusing solely on the environmental performance of firms. Many ratings are also not well established and recognized. In fact, most rankings were not recognized by the majority of sustainability experts surveyed by the rate the raters project.

For this study, the Global 100 ranking is used to identify a sample of firms for their social and environmental performance. The Global 100 ranking is issued by the Corporate Knights a media and research firm focused on sustainable business. The Global 100 ranking seeks to recognize, rate, and rank the largest firms in their sustainability practices using key indicators of performance spanning environmental, governance, and social factors. The system was established in 2005 by Corporate Knights Magazine and is recognized as one of the top five credible and recognized rating system by the Rate the Raters project (Sadowski, Whitaker, and Buckingham 2010). The

ranking starts with large publicly traded companies with market capitalization greater than two billion dollars. This set of firms is then scored for their social and environmental performance and recognizes the top one-hundred performing companies within this group. All US-headquartered firms in the ranking since 2005 are included in the analysis. This totals sixty firms initially included in the sample. The sample contains firms from a wide variety of sectors including information technology firms such as Cisco, energy firms such as Hess Corporation, healthcare firms such as Johnson & Johnson, consumer staples companies such as Pepsi Co., consumer discretionary firms such as Walt Disney Company, utility firms such as NextEra Energy, and industrial firms such as Pitney Bowes Inc. Many of these firms are highly visible with well-recognized brands and are listed on various stock indices. In the case of the sixty firms in this sample, 60% are also listed on the S&P 100 making it a good comparable sample.

The comparative sample is composed of United States headquartered firms listed on the S&P 100 index from 2005 through 2014 and not included on the Global 100. This sample includes similarly sized firms from the same sets of industries. Large firms tend to be compared against each other in addition to other firms in their industry and tend to face the same institutional pressures (DiMaggio and Powell 1983). Larger and publicly traded firms also tend to be more visible than their smaller private counterparts and are expected to issue financial statements, annual reports, and other communications that can be leveraged for use in this study. This sample originally is comprised of a total of 126 firms, of which ninety firms are not included on the Global 100 list. This sample contains healthcare firms including Amgen Inc., energy firms including Chevron, industrial firms including Honeywell International, information technology firms including Apple, utility

firms including American Electric Power, financial firms including Citigroup, consumer staple firms including Phillip Morris International, and consumer discretionary firms including Twenty-First Century Fox, Inc.

The next step was to determine the communications that would be used for the analysis. Firms have numerous avenues of communication including their websites, press releases, statements given to the media, advertisements, as well as formal communications including the annual report and sustainability reports. The ideal communications sample for analysis is one that is clearly defined and limited in scope. In this case, two sets of communications, both of which are letters, meet this requirement and are used in the analysis. The first set is the letters to shareholder contained in the annual reports of firms. Most firms issue annual reports that are catered to sharing information about the firm to their shareholders. These reports focus on business operations and prospects for financial performance as it would relate to those who have invested in the firm. The letter to shareholders is written by the CEO or other senior executives to summarize the performance of the firm at the front of the report. It provides senior executives an opportunity, in their own words, to summarize the firm's performance within the past year and projects ideas about future performance.

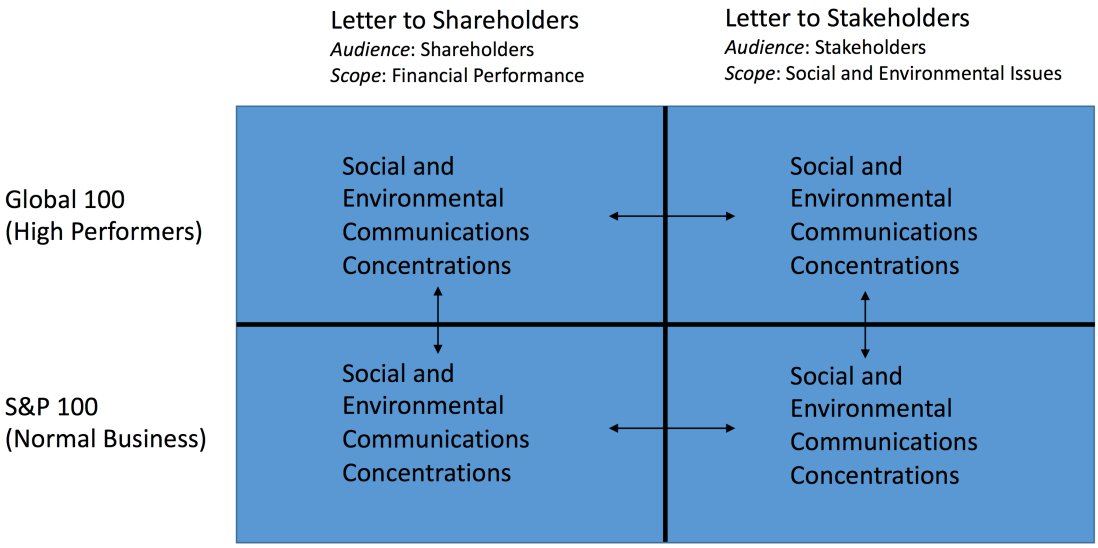
These letters have been used in the study of corporate language (Fiol 1989), to assess managerial cognition (Crilly and Ioannou 2014), and management attention or focus (Gamache et al. 2015; Gerstner et al. 2013). Because these reports are intended to communicate about financial performance to shareholders - the mention of social and environmental issues within these reports may be used to signal to shareholders that these issues are holding managerial attention and are valued by the firm. Comparing these

communications across groups will provide a test of the main hypothesis.

The second set of communications used is the letter to stakeholders that are written for the sustainability or CSR reports. Many firms today, in addition to generating an annual report that focuses on the financial performance of the firm also release a sustainability or CSR report that summarizes the firm's commitments, goals, and performance as it relates to social and environmental issues. Like the annual report, these reports are issued on an annual or periodic basis and usually begin with a letter from the CEO or another senior executive. In this communication, the targeted audience is the firm's stakeholders, and the scope is on social and environmental issues.

The letters to stakeholders were included in the analysis for two reasons. First, contrasting discourse between the letters to shareholders and stakeholders will provide an additional validity test of the BSED dictionary. Second, it allows another comparison of communications between both the high and normal social and environmental performers. The result is a two by two design that enables comparisons across company groups and communication type (see Figure 4.1 below).

Figure 4.1 – 2 x 2 Design of Company Type and Communications



Because the scope differs across communications, with the letters to stakeholders focused on social and environmental issues, comparison across communication types will provide further validation that the dictionary can distinguish between communications focused on social and environmental issues and those focused on financial issues. Comparison between the groups, particularly within the letter to shareholders, will provide a test of the main hypothesis.

Both the letters to shareholders and letters to stakeholders were collected and digitized for the years of 2012 and 2013. Although the practice to issue a letter to shareholder and stakeholder is common, not all firms utilize the practice. Also, a few firms encountered significant changes such as a merger or acquisition over the analysis period and were dropped from the sample. In total - 427 letters were located and digitized - 243 letters to shareholders and 184 letters to stakeholders - indicating that the

practice of issuing sustainability reports is less established. Of the Global 100 firms, ninety-eight letters to shareholders and eighty-six letter to stakeholders were collected while 141 letters to shareholders and 102 letters to stakeholders were located for the S&P sample. Letters to shareholders were obtained from fifty Global 100 firms and seventy-three S&P firms while the letters to stakeholders were obtained from forty-eight Global 100 firms and fifty-eight S&P 100 firms.

Usually, letters to both shareholders and stakeholders are written in the form of a letter addressed to their shareholders (or stakeholders) and signed by the chief executive. In a minority of cases this format changes - in thirty cases, there are two or more letters included in the report issued separately from the CEO and the Chairman of the Board or another executive of the firm. In six additional cases, instead of a letter, the message from the chief executive is written in a question and answer format where a question is asked with the executive answering. In the cases with multiple letters, the multiple letters are coded as such and all are used in the analysis. Letters in the Q & A format are dropped from the analysis.

To calculate the extent of social and environmental discourse in each document, the BSED Dictionary developed in Chapter 2 was used to identify the words commonly used in social and environmental discourse. BSED word usage was counted, and the total number of words in each social and environmental discourse category summed. The summed values in each category was then divided by the total number of non-numeric words with three or more letters contained in the document providing a percentage of total words in the document that were in each category. This value was multiplied by one-hundred providing a scale of word usage in each category ranging from zero to one-

hundred with one-hudred indicating that all words contained in the document are derived from a specific discourse categor**y.** The same strategy was used to measure overall BSED extent counting the word usage of all words contained in the dictionary. The formula is presented below.

***category extent = (category word count / total words (3 or more letters)) x* 100**

The empirical strategy is to search for differences in the intensity of social and environmental communications between high social and environmental performers and their normal business counterparts. Regression models with robust standard errors are used also accounting for the interdependence between repeated observations of the same firm by clustering error terms. All models control for the industrial sector of each firm as past research has shown that different sectors engage in social and environmental activity in systematically different ways (Brown, Helland, and Smith 2006). The GIC industry classification is used, which categorizes firms into ten sectors including telecommunications, industrials, energy, materials, consumer discretionary, consumer staples, healthcare, financials, information technology, and utilities. Although all firms in the sample are derived from the largest firms headquartered in the United States, the number of employees (*Employee*) at each firm may vary significantly and are included as a control in the models expressed in 100,000s. Finally, the age (*Age*) of each firm is also included to account for generational effects. *Global 100* is the binary variable indicating that the firm was recognized on the Corporate Knights Global 100 list.

The dependent variables are calculated using the category extent formula

presented above. First, the total social and environmental discourse extent (*Total*) is calculated before being broken into its constituent categories. The four separate categories of BSED are then analyzed including the community (*Community*), environment (*Environment*), governance and accountability (*Governance*), and workers (*Workers*) category.

The analysis is split into three sections. First, the letters to shareholders are compared against the letters to stakeholders to determine whether there are systematic differences in the extent of social and environmental communications between these two communications sources. Because the goal of a letter to stakeholder is to communicate about social and environmental issues while the goal of the letter to shareholder is to report on firm performance, it is expected that the levels of BSED to be greater in the letters to stakeholders. This analysis provides a validity test that the dictionary can differentiate between communications that are catered for social and environmental discourse and those focused on more tradition business topics. In these models, we include a binary variable that indicates a letter to stakeholder (*Stakeholder letter*). It is expected that the extent of discourse to be positive and significant across all discourse categories for this variable.

The second and third parts of the analysis separates the letters to shareholders from the letters to stakeholders. Because these communications are derived from separate sources, are written for expressly different purposes, and are targeted to different audiences, heterogeneity across these communications is expected, and the patterns of communication across performance groups. To capture these differences, a conservative approach is to analyze each communication type separately. For example, it is not clear

that in communications catered to social and environmental issues that a large difference between the extent of social and environmental discourse will be observed between the high performers and normal business groups.

To provide the main test of the hypothesis, the letters to shareholders are analyzed for systematic differences between the high social performers (Global 100) and their normal business counterparts. Evidence supporting the institutional prediction would suggest that there is no difference between the Global 100 and normal business group. Evidence supporting a signaling perspective would suggest that the Global 100 group would display more social and environmental communications. Third, the same analysis is conducted on the letters to stakeholders to uncover any systematic differences between the Global 100 and S&P 100 groups.

Table 4.1 displays the industry composition of the sample. The table indicates a very low concentration of Telecommunication Services and even lower concentration in the Materials and Utilities sectors.

Table 4.1 – Industry Composition (n = 427)

Sector	Freq.	Percent
Consumer Discretionary	49	11.48
Consumer Staples	41	9.6
Energy	43	10.07
Financials	65	15.22
Health Care	59	13.82
Industrials	56	13.11
Information Technology	56	13.11
Materials	24	5.62
Telecommunications Services	8	1.87
Utilities	26	6.09

Table 4.2 and Table 4.3 provide descriptive statistics and correlations for the variables. For all communications, the total social and environmental discourse (*Total)* averages 4.33 percent of all words with 3 or more letters and varies from 0 to 17.7 percent. The *community* and *environment* discourse categories are used in similar amounts averaging around 2.2% in all documents. Workers discourse average 0.87 percent across all documents with a maximum of 9.3 percent. Governance discourse is used the least averaging 0.47 percent with a maximum of 5.21 percent. The correlations in Table 3.3 suggest a broad positive correlation between the categories, using words in one category more often is correlated with having higher concentrations of the other categories.

Table 4.2 – Descriptive Statistics (n = 427)

	Mean	*Std. Dev.*	*Min*	*Max*
1. Total	4.33	3.72	0.00	17.65
2. Community	2.20	2.14	0.00	11.76
3. Environment	2.18	2.44	0.00	13.77
4. Governance	0.47	0.71	0.00	5.21
5. Workers	0.87	1.06	0.00	9.28
6. Age	91.09	50.49	7.00	229.00
7. Employees	1.15	2.26	0.01	22.00
8. Global 100	0.43	0.50	0.00	1.00
9. Stakeholder Letter	0.44	0.50	0.00	1.00

Table 4.3 – Correlation Statistics (n = 427)

	1.	2.	3.	4.	5.	6.	7.	8.
1. Total								
2. Community	0.89							
3. Environment	0.87	0.69						
4. Governance	0.55	0.42	0.39					
5. Workers	0.64	0.54	0.38	0.61				
6. Age	0.01	0.03	0.01	0.00	-0.04			
7. Employees	-0.06	-0.03	-0.07	-0.02	-0.16	0.02		
8. Global 100	-0.01	-0.03	0.04	0.03	0.01	-0.11	-0.05	
9. Stakeholder Letter	0.81	0.76	0.68	0.46	0.50	0.00	0.02	0.05

In the environment category, firms communicated their values to protect and improve the environment broadly and by discussing specific initiatives such as improved fuel efficiency. Words such as “the environment” and “environmental” were used 1.3 times more often in the stakeholder letters. Following is an example of the discourse

included in the environment category discusses protecting the environment: "*It is how we lead and participate in helping to solve the world's major health care challenges, protecting the environment and conserving resources we are privileged to use, and conducting ourselves and our business in ways that contribute positively to society."* (Gorskey 2013, 4) Others included statements of fuel efficiency, such as: "*To accelerate future growth, we are expanding our Davenport, Iowa, facility to meet demand as the U.S. automotive industry shifts to aluminum to achieve light weighting and significantly higher fuel efficiency."* (Kleinfeld 2013, 3) However, some phrases were also frequently co-opted in a context outside of social and environmental issues. For example, the word environment was also referred to in fiscal or economic terms as observed in the following quote: "*It takes no special genius to post good earnings in a booming economy. It's the special company that delivers in a bad economic environment."* (Murdoch 2013, 5)

In the community category, firms demonstrated their commitment to the communities they operate in by broadly evoking improvement of communities, celebrating the success of women employees, and by discussing specific initiatives. Words such as "community," "communities," and "women" were more frequently used and in higher concentrations in the letters to stakeholders. Broad statements valuing the improvement of communities are made, for example: "*it is also the greatest hope for a better future for every individual, every family, every community and every country."* (Gorskey 2013, 4) Other statements were more specific to initiatives that were intended to improve communities: *"Launched in 2011, this program sends 200 Lilly ambassadors each year on two-week community development assignments in Asia, Africa, and Central and South America."* (Lechleiter 2012, 3) Other statements focused on a commitment to

women: *"We gained real traction during 2013 in our 5by20 initiative—Coca-Cola's commitment to enable the empowerment of 5 million women entrepreneurs by 2020. By year-end, we had reached more than 550,000 women since the program began as we pilot, scale and replicate the best ideas."* (Kent 2014, 3)

In the workers category, statements are presented that illustrate firms value their workers broadly, and hold values and execute initiatives to help improve their worker's lives through training and improving safety. Words such as "employees", and "safety" were used more frequently and in higher concentrations in the letters to stakeholders. Statements also illustrate the value placed on worker safety such as *"Among our successes this year is our record on health, safety, and environmental initiatives."* (Craighead and Deaton 2013, 3) Other statements broadly acknowledge their employees as being a key asset in the company's success: "*I am inspired on a daily basis by our customers, partners, employees and stockholders."* (Whitman 2014, 3) Finally, other statements highlight employee training: *"I believe our people programs, including diversity and inclusion, health and wellness, workplace safety, in-house training and development, and recognition, play a strong part in engaging both the heads and hearts of Clorox employees."* (Knauss 2012, 4)

In the governance category, firms broadly seek to demonstrate that they value governance, through accountability and transparency. Words such "governance," "accountability," and "transparency" are used to identify with governance values. Statements about increasing transparency include "*Greater transparency in reporting, heightened sustainability and rejuvenated efforts in employee and community engagement have become invaluable assets to maintain client satisfaction and position us*

as a global it business leader." (Lawrie 2013, 1) Evoking ethical behavior is another way to express these values, for example: "*deeply embedding corporate responsibility and a commitment to ethical behavior in all that we do helps us mitigate risk, reduce costs, protect our brand value, and develop new market opportunities."* (Otellini 2013, 5) Other statements mention the value of accountability and compliance such as "*we are building processes that drive speed, accountability and compliance.*" (Immelt 2013, 17)

Results

Table 4.4 provides the first set of models that include both letters to shareholders and letters to stakeholders. Model 1 presents an analysis of total social and environmental discourse. Discourse is then broken into its respective categories with Model 2 analyzing community discourse, Model 3 environmental discourse, Model 4 governance, and Model 5 workers discourse. The purpose of these models is to compare the extent of social and environmental discourse across the two communication types. As a validation check, it is expected that the letters to stakeholders will contain higher concentrations of social and environmental discourse across all categories. Examining the *stakeholder letter* variable supports this conclusion. The variable is positive and highly significant across all models. On average, BSED in stakeholder letters is used 4.7 times more often resulting in 6% higher concentrations of social and environmental discourse words overall. Respectively across the categories of community, environment, governance, and workers, BSED words are used 5.6, 5.8, 4.9, and 3.6 times more often in the letters to stakeholders.

No systematic variation is observed in the *age* or *Global 100* variables. However, *employment* appears to have a negative relationship with discourse throughout all

categories except for governance. The larger the employee base, the less likely the firm is to evoke words from the environmental, community, and workers categories. Overall this effect is predicted to reduce the concentration of BSED words by 5%. Interestingly, the workers discourse category is most impacted by the number employees with a predicted reduction of 18% concentration in the category on average.

Finally, the sector controls suggest systematic cross-sector heterogeneity. The base sector category is consumer discretionary. Comparing the effect across sectors, the effect can be quite large. For example, it is predicted that on average, the concentration of BSED discourse for energy firms is about 5.5 % while consumer discretionary firms are expected to contain 3.3 % - a 67% difference. Energy firms reference the employee category most often followed by the industrials and utilities sectors. The environment category is referenced more often by the industrial, materials, consumer staples, and energy sectors. The community sector is referenced more often by the energy, materials, and consumer staples sectors.

Table 4.3 – Stakeholder vs. Shareholder Letter Regression

	(1) Total	(2) Community	(3) Environment	(4) Governance	(5) Workers
Stakeholder Letter	6.093**	3.335**	3.366**	0.668**	1.061**
	(0.279)	(0.173)	(0.247)	(0.084)	(0.113)
Global 100	-0.126	-0.209	0.122	0.018	-0.005
	(0.262)	(0.165)	(0.218)	(0.075)	(0.105)
Age	-0.003	-0.001	-0.001	-0.001	-0.001
	(0.003)	(0.002)	(0.002)	(0.001)	(0.001)
Employment	-0.090*	-0.038+	-0.085*	-0.011	-0.064**
	(0.044)	(0.021)	(0.040)	(0.018)	(0.021)
Consumer Staples	1.126**	0.892*	0.824*	0.147	0.290
	(0.415)	(0.386)	(0.353)	(0.153)	(0.227)
Energy	2.128**	0.991*	0.673+	0.209	0.819**
	(0.539)	(0.422)	(0.386)	(0.150)	(0.219)
Financials	1.102**	0.481	0.243	0.253	0.331+
	(0.399)	(0.328)	(0.349)	(0.159)	(0.179)
Health Care	0.801	0.321	0.424	0.101	0.308
	(0.520)	(0.355)	(0.423)	(0.143)	(0.213)
Industrials	1.893**	0.509	1.413**	0.147	0.492**
	(0.545)	(0.352)	(0.502)	(0.172)	(0.176)
Information Tech	0.164	-0.105	0.172	0.154	0.338
	(0.431)	(0.336)	(0.309)	(0.166)	(0.221)
Materials	1.461**	1.048**	1.378**	-0.013	-0.035
	(0.381)	(0.394)	(0.498)	(0.128)	(0.172)
Telecom	-0.314	-0.497	-0.236	0.333	0.140
	(0.342)	(0.449)	(0.239)	(0.272)	(0.210)
Utilities	0.822+	0.256	0.284	-0.237+	0.505*
	(0.424)	(0.395)	(0.315)	(0.128)	(0.242)
Constant	1.067**	0.551*	0.323	0.107	0.230
	(0.330)	(0.239)	(0.286)	(0.125)	(0.157)
Observations	427	427	427	427	427
R-squared	0.690	0.618	0.509	0.239	0.320

Robust standard errors in parentheses
** p<0.01, * p<0.05, + p<0.1

Table 4.5 focuses the analysis on the letter to shareholders to determine whether there is a relationship between being recognized on the Global 100 list and the extent of social and environmental discourse. Finding a positive relationship would provide

evidence for the signaling perspective, while no relationship would provide evidence for the institutional perspective. Examining the *Global 100* variable suggests that there is no relationship between being recognized by the Global 100 list and levels of social and environmental discourse providing evidence for the institutional perspective. In all models, the value is not significant.

The age variable is also found to have little impact on social and environmental discourse. However, the number of employees has a positive effect on governance. A one standard deviation increase from the mean results in a 19% increase in the concentration of governance words. The number of employees also has a negative effect on the workers category. Here, a one standard deviation increase from the mean decrease workers discourse concentration by 12%.

Patterns are also observed across sectors. Overall, utility firms are predicted to have the largest concentration of social and environmental words at 3.3 percent. This equates to roughly 154% higher concentration than the consumer discretionary baseline of 1.3 percent. Utilities (1.3%), energy (1.0%), and materials (1.4%) companies are also much more likely to have higher concentrations of discourse around communities (0.5% baseline). Materials (1.6%) and utilities (1.6%) also reference the environment in higher concentrations (0.4% baseline) while utilities (0.7%) and energy (0.7%) companies reference workers at the highest concentrations (0.3% baseline).

Table 4.4 – Letters to Shareholders Regression

	(6) Total	(7) Community	(8) Environment	(9) Governance	(10) Workers
Global 100	-0.109	-0.027	-0.037	-0.032	-0.034
	(0.143)	(0.100)	(0.087)	(0.037)	(0.059)
Age	0.001	0.001	0.000	-0.000	0.000
	(0.002)	(0.001)	(0.001)	(0.000)	(0.001)
Employment	0.022	0.010	-0.000	0.015**	-0.022*
	(0.021)	(0.017)	(0.009)	(0.005)	(0.010)
Consumer Staples	0.466	0.350+	0.253	0.012	0.047
	(0.325)	(0.195)	(0.164)	(0.080)	(0.130)
Energy	1.044*	0.473+	0.402*	0.095	0.435**
	(0.404)	(0.259)	(0.167)	(0.084)	(0.150)
Financials	0.253	0.109	0.116	0.098	0.023
	(0.289)	(0.186)	(0.145)	(0.106)	(0.111)
Health Care	0.243	0.249+	0.045	-0.033	0.044
	(0.264)	(0.148)	(0.137)	(0.059)	(0.098)
Industrials	0.823*	0.316	0.512**	0.016	0.260+
	(0.326)	(0.204)	(0.171)	(0.082)	(0.150)
Information Tech	0.026	-0.016	0.117	-0.031	0.071
	(0.233)	(0.148)	(0.137)	(0.066)	(0.104)
Materials	1.364**	0.871*	1.148*	-0.010	0.041
	(0.422)	(0.377)	(0.444)	(0.068)	(0.127)
Telecom	0.672**	0.298*	0.100	0.085	0.261**
	(0.254)	(0.140)	(0.172)	(0.081)	(0.084)
Utilities	2.140**	0.768*	1.243**	0.010	0.461*
	(0.371)	(0.326)	(0.205)	(0.067)	(0.190)
Constant	1.064**	0.433**	0.413**	0.171**	0.274**
	(0.209)	(0.133)	(0.118)	(0.065)	(0.080)
Observations	239	239	239	239	239
R-squared	0.247	0.131	0.289	0.058	0.148

Robust standard errors in parentheses
** p<0.01, * p<0.05, + p<0.1

Table 4.6 provides the final set of models focused on the letters to stakeholders. Again, no relationship is observed between the *age* and *Global 100* variables. However, employment and sector trends are observed. Here employment has a negative effect across all sectors except for governance. The larger the number of employees within a

firm, the less the concentrations of discourse across most categories. The result is similar to the shareholder models with the strongest effect in the workers category reducing the concentration of discourse by 17%. Overall social and environmental discourse is predicted to reduce the concentration of discourse by 6.7%.

Examining the sector effects, on average the energy and industrials sectors are expected to have 50% higher concentrations of social and environmental discourse, from 6.15 percent in the consumer discretionary baseline to 9.63 percent in the energy sector and 9.38 percent in the industrials sector. The consumer staples sector exhibits significantly higher concentration of the community category (6.3%) than the other sectors while telecom communicates significantly less (2.1%). Industrials (5.8%), consumer staples (4.9%), and materials (4.9%) focus more on environmental discourse compared to the consumer discretionary baseline (3.2%). Broadly, little systematic variation is observed in governance discourse. The discourse around workers is most heavily concentrated in the energy sector (2.2%) comparing to the baseline (0.84%).

Table 4.5 – Letter to Stakeholders Regression

	(11) Total	(12) Community	(13) Environment	(14) Governance	(15) Workers
Global 100	-0.237	-0.530	0.266	0.074	0.017
	(0.545)	(0.345)	(0.477)	(0.159)	(0.227)
Age	-0.006	-0.004	-0.003	-0.001	-0.002
	(0.006)	(0.003)	(0.005)	(0.003)	(0.002)
Employment	-0.225*	-0.111**	-0.188*	-0.039	-0.111*
	(0.087)	(0.037)	(0.087)	(0.039)	(0.043)
Consumer Staples	2.122*	1.827*	1.729*	0.338	0.635
	(0.937)	(0.856)	(0.865)	(0.379)	(0.549)
Energy	3.487**	1.586+	1.047	0.373	1.320**
	(0.965)	(0.812)	(0.903)	(0.300)	(0.394)
Financials	2.165*	0.967	0.351	0.466	0.711+
	(0.901)	(0.750)	(0.810)	(0.372)	(0.372)
Health Care	1.452	0.371	0.893	0.282	0.630
	(1.043)	(0.752)	(0.890)	(0.315)	(0.448)
Industrials	3.234**	0.700	2.618*	0.328	0.782*
	(1.108)	(0.771)	(1.087)	(0.338)	(0.387)
Information Tech	0.405	-0.207	0.315	0.387	0.662
	(0.886)	(0.711)	(0.672)	(0.333)	(0.446)
Materials	1.586*	1.232	1.765*	0.005	-0.128
	(0.751)	(0.799)	(0.875)	(0.289)	(0.392)
Telecom	-1.151	-1.347*	-0.454	0.631	0.114
	(0.818)	(0.640)	(0.679)	(0.455)	(0.582)
Utilities	-0.138	-0.196	-0.413	-0.388	0.639
	(0.737)	(0.779)	(0.597)	(0.237)	(0.421)
Constant	7.088**	4.159**	3.529**	0.644*	1.172**
	(0.767)	(0.594)	(0.720)	(0.297)	(0.381)
Observations	188	188	188	188	188
R-squared	0.194	0.152	0.136	0.074	0.134

Robust standard errors in parentheses
** p<0.01, * p<0.05, + p<0.1

Discussion and Conclusion

The results provide additional evidence that the BSED Dictionary can differentiate between business communications focused on social and environmental issues and those catered to general business. In all cases, the dictionary detected

significantly higher concentrations of social and environmental words in the letter to stakeholders communications which are catered to these issues.

The results of the analysis also suggest that there is no observable difference between the extent of discourse in firms recognized on the Global 100 list compared to their S&P 100 counterparts. The null result provides evidence supporting the institutional perspective that firms attempting to appease institutional norms act in similar ways making it hard to differentiate between firms with varying underlying performance and commitment to social and environmental issues.

The results also provide interesting insights relating a firm's characteristics to the extent of social and environmental discourse. The models indicate that the number of employees within a firm has a mostly negative effect on social and environmental discourse. This effect was most pronounced in the discourse around workers. Firms with larger numbers of employees reference their workers less than their small counterparts. This suggests firms may display an avoidance of discussing a potentially problematic area of the firm.

Further, the sector control variables indicate that there are broad patterns of discourse across sectors and these patterns of discourse vary depending on the communication type. These results may provide further support of Brown, Helland, and Smith's (2006) findings on industry patterns of philanthropic giving. Firms that use more natural resources and emit larger amounts of pollution such as utilities, materials, consumer staples, and energy firms tend to reference the environment more. Firms with more dangerous work may reference their workers more such as the energy sector.

Similarly, firms that rely on and impact their communities more may reference community issues more often.

Another interesting finding from the analysis is the extent to which some words were coopted to reference general business issues. Some words were used in higher concentrations in a more general business context when compared to New York Times Financial Desk and CSRwire articles. For example, the word sustainability was used in financial sustainability, the environment was used to reference the economic environment or business environment, and the word organic was used to reference organic growth. Because of these differences, an opportunity exists for future improvement of the BSED dictionary by incorporating a wider variety of communications.

As a robustness check, the above analysis was rerun using Seemingly Unrelated Regression models. Because the discourse across social and environmental categories is potentially related to each other, seemingly unrelated regression will account for the correlation in the error terms (Kennedy 2013). These results are presented in Appendix B. Overall, the results of the models are similar – the validity check remains stable as words continue to be used in much higher concentrations in the letters to stakeholders, and the Global 100 variable remains insignificant in most models. Employment overall still provides a general significant negative relationship to discourse, and the sector findings remain similar.

This work provides one piece of evidence that suggests talk indeed may be cheap, however further research should be conducted to validate these results across firm types and communications. The sample in this study utilized large and visible firms. These types of firms are likely more centrally located in social networks and may be under more

pressure to conform to institutional norms (Fiss, Kennedy, and Davis 2012; Davis 1991; Strang and Soule 1998; Leblebici et al. 1991; McDonnell and King 2013). Using a sample of smaller and less visible firms would demonstrate how far the results from this study can be generalized. Further, alternative communication sources should also be used to determine whether these findings hold across other communication types.

An additional opportunity is to test different groups of high social and environmental performance firms. One of the most critical aspects of this study is defining which firm is a high social and environmental performer. Different methods of determining high versus low social performers would need to be analyzed to provide further external validity of the results. Instead of a ranking, other methods by which a firm can signal that it holds social and environmental values and performance could be used, for example, the B Corporation certification, ISO 14001 certification, the Benefit Incorporation, or by comparing non-profit to for-profit firms in the same industry.

Finally, the analysis suggests that there are characteristics of firms that influence the extent of discourse across social and environmental categories. Further work should be done to determine the underpinnings of social and environmental communication and this will help us understand what drives firms to talk about these issues. This work will inform theories of perception management (Elsbach 2003; Elsbach 2006; McDonnell and King 2013) and symbolic management (Pfeffer 1981).

CHAPTER 5

DISCUSSION AND CONCLUSION

BSED Dictionary Conclusions, Refinement, and Future Research

This study revealed many important findings. The first purpose of this study was to develop a method for estimating the extent of social and environmental discourse in business communications. To do so a business social and environmental discourse (BSED) word and phrase dictionary was created to capture words and phrases commonly used in business social and environmental discourse. Rigorous tests of the validity of the BSED dictionary were conducted, and the discriminatory power of the dictionary was validated across four communication sources. First, through New York Times Financial Desk (NY Times) and CSRwire articles, then through the letters to shareholders and stakeholders. These tests illustrate that the dictionary is effective in discriminating between communications catered toward general business versus those catered to topics focused on business social and environmental issues.

Comparing the extent of discourse across the four communications sources used in this study illustrates several interesting patterns. The New York Times Financial Desk articles contain the smallest BSED concentrations across all categories, and the letters to stakeholders contain the largest concentrations across the four categories. The CSRwire articles contain the second largest concentrations for all categories except the workers category, which is more concentrated in the letters to shareholders. The radar chart in Figure 5.1 illustrates the concentrations of discourse across the four communication sources.

Examining Figure 5.1 demonstrates a clear separation between the socially oriented communication sources (CSRwire and letters to stakeholders) and the more general business communication sources (letters to shareholders and NY Times articles)

for all but the workers category. Future work that analyzes a broad sample of communication sources may be able to assign threshold concentration levels of word use that indicates when a document is focused on social and environmental issues. This work will be valuable for deeper understanding of BSED word use in documents and how these concentrations relate to the overall focus of a communication.

Figure 5.1 – Business Social and Environmental Discourse Concentration Across Communication Source Type

There is also an opportunity to further refine the dictionary by breaking each broad category of social and environmental discourse into their constituent parts and creating dictionaries for each specific sub-category. For example, the community category is composed of "corporate philanthropy", "supplier relations", and "diversity."

Governance is composed of issues revolving around “governance”, “accountability”, and “transparency.” Creating these sub-categories will increase the utility of the dictionary in BSED analysis by allowing researchers to obtain a more nuanced measurement of discourse within communications.

Finally, although the dictionary is effective in detecting concentrations of BSED across the four categories, like many similar methods it is unable to differentiate between different types of discourse within a category. For example, dictionaries lack the ability to determine whether a topic is talked about positively or negatively without the use of additional tools. In the examination of the discourse involved with social and environmental statements, it was observed that BSED statements fell into three general categories related to the specificity of the discourse. First, firms made broad, general statements illustrating their commitment to a given social or environmental issue without specifically mentioning policies, programs, or actions the company was undertaking. Second, firms made more specific claims of actions that the company is taking whether it is establishing programs, policies, or other initiatives. Finally, companies made specific claims on performance from their activities and the outcomes that resulted from them. Developing a method that can distinguish between the general and more specific claims will be important in advancing our understanding of the differences in discourse between high social and environmental performers and normal businesses. It may not be the intensity levels of discourse that varies across performance groups but the content of what is communicated.

Symbol vs. Signal – Conclusions and Future Work

The second purpose of this study was to search for a link between social and environmental performance and social and environmental discourse. The institutional perspective suggests that firms face immense pressures to conform to institutionalized norms which causes them to act in similar ways. This perspective suggests that a firm facing the same pressures will talk about social and environmental issues in similar ways and therefore a relationship between discourse and performance will not exist. The results support this prediction finding no relationship between the sample of firms recognized as high social and environmental performers and their normal business counterparts.

This work provides the first piece of evidence in the relationship between the extent of business social and environmental discourse and performance. The external validity of this work should be tested by conducting analysis on another sample of firms leveraging different social and environmental performance metrics and types of communication. The large firms used in this study are particularly susceptible to institutional pressures (Fiss, Kennedy, and Davis 2012; Davis 1991; Strang and Soule 1998; Leblebici et al. 1991; McDonnell and King 2013) and focusing on smaller and less visible firms would demonstrate how far the results of the study can be generalized.

The analysis also illustrates that there are characteristics of firms that influence the levels of social and environmental discourse within their communications. In particular, the greater the number of workers a firm employs is negatively related to BSED discourse across most BSED categories. This effect is most pronounced in the

workers category and may indicate that firms seek to avoid discussion of a potentially problematic area.

Significant variation was also noted across industries. Firms in different sectors talked about issues with differing concentrations. In particular, the utilities, materials, consumer staples, and energy firms tend to have higher concentrations of environment discourse. The energy, utilities, and industrials sector tend to have higher concentrations of worker discourse. Energy, consumer staples and materials firms yielded higher levels of community discourse. These findings indicate that the institutional expectations may vary at the industry level. Industry level factors including intensity of competition, market structure, and levels of regulation may all play a part in influencing BSED.

Past research in diffusion and institutional theory have illustrated that both internal and external factors play an important part in how susceptible a firm is to institutional pressures and influences their decision to adopt a given practice (Strang and Soule 1998; Wejnert 2002). Firm characteristics have included network position, visibility, prestige, and ownership structure. External factors include industry dynamics and external actors such as the media, the government, professional groups (Strang and Soule 1998; Wejnert 2002). Perception management research also suggests that crisis events including activist intervention will also drive the symbolic actions of the firm (Elsbach 2003; Elsbach 2006; McDonnell and King 2013). Understanding how characteristics of the firm, industry dynamics, the actions of external actors, and crisis events influence BSED discourse would be valuable to theories of institutional theory, perception management, and symbolic management.

Future work should also refine our understanding of the content of what is said within each BSED category's communications and how this varies across performance groups. As noted in the prior section, BSED statements vary in their specificity, from broad general statements of commitment to discussing specific outcomes from activities. Although all firms discuss social and environmental issues in similar concentrations – high performers may focus on making more specific statements revolving around performance and the outcomes resulting from activities rather than more symbolic statements revolving around broad and general commitments to a given issue. In conjunction with refining the dictionary to enable the study of the content of BSED discourse, the relationship between social and environmental performance and discourse should be revisited to increase our understanding of this dynamic.

Past research has suggested that BSED discourse may serve as a valuable tool in impression management to mitigate damage from boycotts by activists (McDonnell and King 2013) and to moderate the impact of negative media attention related to environmental issues (Bansal and Clelland 2004). However, work in corporate communications has suggested that over time an increasing number of firms have adopted CSR and Sustainability Reporting (Kolk 2003; Shabana, Buchholtz, and Carroll 2016) and CSR communications (Basil and Erlandson 2008). As institutional expectations continue to increase, it is expected that this level of social discourse will reach critical mass causing most firms to espouse values recognizing and communicating about these issues. Illustrated in this analysis, firms are harder to differentiate based on what they say, and this will likely have an impact on how various stakeholder groups

interpret discourse and the many ways it impacts outcomes related to organizational crisis or threats to their legitimacy.

Further, as all firms become similar in the way they represent their social and environmental orientation, the discourse itself is likely to evolve as firms seek ways to differentiate themselves from each other. The desire to differentiate in an increasingly similar field may also have an impact on the certifications and rating systems industries by changing adoption behaviors for voluntary disclosure activities related to social and environmental performance.

The research also has managerial implications. As all firms are increasingly talking about social and environmental issues, managers seeking to differentiate themselves on their social and environmental performance may have to refine their social and environmental communications further and evaluate using certifications to demonstrate quality. Merely mentioning commitments to social and environmental activities may not be enough to signal a true underlying commitment to social and environmental issues. Within their communications, managers should focus the content of their social and environmental discourse on specific activities and programs, as well as outcomes rather than relating general statements of commitment to a given issue. Certification may also begin to play a larger role in a firm's ability to demonstrate their commitment to social and environmental performance.

Similar implications are made for stakeholder groups that are interested in social and environmental performance. Firms are aware that stakeholder groups increasingly care about these issues and appease these expectations by addressing them in their communications. This study illustrates that even letters to shareholders that were

traditionally insulated from addressing subjects outside of financial and operational performance are now covering these issues. Because many firms are talking about these issues, stakeholders must rely more on the content of what is being said and on quality disclosure activities. More value should be given to a firm's discussion of the activities and programs that they are undertaking and the outcomes that result in addition to certifications and rankings systems that measure a firm's performance.

APPENDIX A

BUSINESS SOCIAL AND ENVIRONMENTAL DISCOURSE (BSED) WORD DICTIONARY

Table A.1 – Business Social and Environmental Discourse (BSED) Word Dictionary

Word	*Community*	*Environment*	*Governance*	*Workers*
accountability			x	
best practice			x	
best practices			x	
biodiversity		x		
biofuel		x		
biofuels		x		
biomass		x		
carbon		x		
certification		x	x	x
certifications		x	x	x
child labor				x
clean energy		x		
clean water		x		
climate change		x		
co2		x		
community	x			
communities	x			
compliance			x	
conservation		x		
consumption		x		
corporate practice			x	
corporate practices			x	
corporate responsibility	x	x	x	x
corporate social	x	x		x
csp	x	x		x
csp rating			x	
csp ratings			x	
csr	x	x	x	x
deforestation		x		
disclosure			x	
ecological		x		
economic development	x			
ecosystem		x		
educational	x			
efficiency		x		
efficient		x		
emission		x		
emissions		x		
employee				x

employees				x
employment opportunities				x
employment opportunity				x
employment practices				x
energy conscious		x		
energy conservation		x		
energy efficiency		x		
energy efficient		x		
energy labels		x		
energy performance		x		
energy reduction		x		
energy savings		x		
energy star		x		
environment		x		
environmental		x		
ethical			x	
externalities			x	
female	x			
footprint		x		
fossil fuel		x		
fossil fuels		x		
fuel cell		x		
fuel cells		x		
fuel consumption		x		
fuel efficiency		x		
fuel efficient		x		
fuel emissions		x		
fuel savings		x		
gas emissions		x		
global warming		x		
governance			x	
green		x		
greenhouse		x		
habitat		x		
hazardous		x		
health and safety	x			x
health benefits	x			
health effects	x			
health risks	x			
healthy	x			

human health	x			
human rights	x			
hybrid		x		
labor practices				x
labor rights				x
LEED		x		
local	x			
lower energy		x		
lowered energy		x		
monitor			x	
monitoring			x	
nonprofit	x	x		
oil dependence		x		
oil efficiency		x		
oil savings		x		
organic	x			
philanthropic	x			
philanthropy	x			
pollution		x		
poverty	x			
recycle		x		
recycler		x		
recyclers		x		
recycles		x		
recycling		x		
reduce energy		x		
renewable		x		
safety	x			x
sanitation	x			
shared value	x	x	x	x
shared values		x	x	
social accountability	x			
social accounting	x			
social and	x			
social benefit	x			
social benefits	x			
social change	x			
social conditions	x			
social cost	x			
social costs	x			
social enterprise	x			

social entrepreneurship	x			
social good	x			
social impact	x			
social impacts	x			
social issue	x			
social issues	x			
social mission	x			
social performance	x			
social problem	x			
social problems	x			
social responsibility			x	x
social value	x		x	x
social values	x		x	x
social welfare	x			
socially	x			
solar		x		
species		x		
stakeholder	x			
stakeholders	x			
sustainability	x	x		
sustainability rating			x	
sustainability ratings			x	
sustainable	x	x		
toxic		x		
training			x	
transparency			x	
waste		x		
water conservation		x		
water efficiency		x		
water use		x		
welfare	x			
well being	x			
wildlife		x		
wind energy		x		
wind farm		x		
wind farms		x		
wind power		x		
wind turbine		x		
wind turbines		x		
woman	x			
women	x			

worker comfort				x
worker compensation				x
worker hazard				x
worker health				x
worker owned				x
worker protection				x
worker safety				x
worker well-being				x
workers comfort				x
workers compensation				x
workers hazard				x
workers health				x
workers protection				x
workers safety				x
workers well-being				x

APPENDIX B

SEEMINGLY UNRELATED REGRESSION RESULTS

Table B.1 – Stakeholder vs. Shareholder Letter Seemingly Unrelated Regression

	(1) Community	(2) Environment	(3) Governance	(4) Workers
Stakeholder Letter	3.335**	3.366**	0.668**	1.061**
	(0.130)	(0.167)	(0.061)	(0.086)
Global 100	-0.209	0.122	0.018	-0.005
	(0.134)	(0.173)	(0.063)	(0.089)
Age	-0.001	-0.001	-0.001	-0.001
	(0.001)	(0.002)	(0.001)	(0.001)
Employment	-0.038	-0.085*	-0.011	-0.064**
	(0.030)	(0.039)	(0.014)	(0.020)
Consumer Staples	0.892**	0.824*	0.147	0.290
	(0.294)	(0.380)	(0.139)	(0.195)
Energy	0.991**	0.673+	0.209	0.819**
	(0.283)	(0.365)	(0.133)	(0.188)
Financials	0.481+	0.243	0.253*	0.331+
	(0.270)	(0.349)	(0.127)	(0.179)
Health Care	0.321	0.424	0.101	0.308+
	(0.260)	(0.335)	(0.122)	(0.172)
Industrials	0.509+	1.413**	0.147	0.492**
	(0.266)	(0.344)	(0.125)	(0.177)
Information Tech	-0.105	0.172	0.154	0.338+
	(0.260)	(0.336)	(0.122)	(0.173)
Materials	1.048**	1.378**	-0.013	-0.035
	(0.336)	(0.433)	(0.158)	(0.223)
Telecom	-0.497	-0.236	0.333	0.140
	(0.505)	(0.652)	(0.238)	(0.335)
Utilities	0.256	0.284	-0.237	0.505*
	(0.325)	(0.420)	(0.153)	(0.216)
Constant	0.551*	0.323	0.107	0.230
	(0.235)	(0.303)	(0.111)	(0.156)
Observations	427	427	427	427
R-squared	0.618	0.509	0.239	0.320

Standard errors in parentheses
** p<0.01, * p<0.05, + p<0.1

Table B.2 – Letters to Shareholders Seemingly Unrelated Regression

	(5) Community	(6) Environment	(7) Governance	(8) Workers
Global 100	-0.027	-0.037	-0.032	-0.034
	(0.087)	(0.075)	(0.033)	(0.055)
Age	0.001	0.000	-0.000	0.000
	(0.001)	(0.001)	(0.000)	(0.001)
Employment	0.010	-0.000	0.015+	-0.022+
	(0.020)	(0.018)	(0.008)	(0.013)
Consumer Staples	0.350+	0.253	0.012	0.047
	(0.184)	(0.158)	(0.070)	(0.116)
Energy	0.473**	0.402*	0.095	0.435**
	(0.182)	(0.156)	(0.069)	(0.115)
Financials	0.109	0.116	0.098	0.023
	(0.173)	(0.149)	(0.066)	(0.109)
Health Care	0.249	0.045	-0.033	0.044
	(0.170)	(0.146)	(0.065)	(0.107)
Industrials	0.316+	0.512**	0.016	0.260*
	(0.171)	(0.147)	(0.065)	(0.108)
Information Tech	-0.016	0.117	-0.031	0.071
	(0.172)	(0.147)	(0.065)	(0.108)
Materials	0.871**	1.148**	-0.010	0.041
	(0.213)	(0.183)	(0.081)	(0.135)
Telecom	0.298	0.100	0.085	0.261
	(0.345)	(0.296)	(0.131)	(0.218)
Utilities	0.768**	1.243**	0.010	0.461**
	(0.224)	(0.192)	(0.085)	(0.141)
Constant	0.433**	0.413**	0.171**	0.274**
	(0.144)	(0.124)	(0.055)	(0.091)
Observations	239	239	239	239
R-squared	0.131	0.289	0.058	0.148

Standard errors in parentheses
** p<0.01, * p<0.05, + p<0.1

Table B.3 – Letter to Stakeholders Seemingly Unrelated Regression

	(9) Community	(10) Environment	(11) Governance	(12) Workers
Global 100	-0.530+	0.266	0.074	0.017
	(0.277)	(0.373)	(0.137)	(0.188)
Age	-0.004	-0.003	-0.001	-0.002
	(0.003)	(0.004)	(0.001)	(0.002)
Employment	-0.111+	-0.188*	-0.039	-0.111**
	(0.060)	(0.081)	(0.030)	(0.041)
Consumer Staples	1.827**	1.729*	0.338	0.635
	(0.639)	(0.860)	(0.315)	(0.433)
Energy	1.586**	1.047	0.373	1.320**
	(0.586)	(0.788)	(0.289)	(0.397)
Financials	0.967+	0.351	0.466+	0.711+
	(0.565)	(0.761)	(0.279)	(0.383)
Health Care	0.371	0.893	0.282	0.630+
	(0.528)	(0.710)	(0.260)	(0.358)
Industrials	0.700	2.618**	0.328	0.782*
	(0.553)	(0.745)	(0.273)	(0.375)
Information Tech	-0.207	0.315	0.387	0.662+
	(0.526)	(0.707)	(0.259)	(0.356)
Materials	1.232+	1.765+	0.005	-0.128
	(0.707)	(0.951)	(0.348)	(0.479)
Telecom	-1.347	-0.454	0.631	0.114
	(0.980)	(1.318)	(0.483)	(0.664)
Utilities	-0.196	-0.413	-0.388	0.639
	(0.630)	(0.848)	(0.311)	(0.427)
Constant	4.159**	3.529**	0.644**	1.172**
	(0.502)	(0.676)	(0.248)	(0.341)
Observations	188	188	188	188
R-squared	0.152	0.136	0.074	0.134

Standard errors in parentheses
** p<0.01, * p<0.05, + p<0.1

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