# DRIVERS OF INVESTMENT IN CORPORATE SUSTAINABILITY STRATEGIES OF RETAILERS AND MANUFACTURERS IN DEVELOPED AND DEVELOPING COUNTRIES

Ву

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#### ABSTRACT

# DRIVERS OF INVESTMENT IN CORPORATE SUSTAINABILITY STRATEGIES OF RETAILERS AND MANUFACTURERS IN DEVELOPED AND DEVELOPING COUNTRIES

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This study examined why and under which circumstances firms invest in corporate sustainability. In contrast to other studies that only examine why firms engage in corporate sustainability, this study goes one step further by analyzing corporate sustainability investment drivers for: standardized reporting firms versus non standardized reporting firms, developed country firms versus developing country firms, and retailers versus manufacturers. Institutional Theory, Transaction Cost Analysis, and the Business Case perspective are used to explain why firms invest in corporate sustainability. Firms invest in corporate sustainability due to the institutional pressures to conform to norms and maintain legitimacy. Firms will invest in corporate sustainability when they are financially healthy and have the capacity to invest. Generalized linear mixed modeling is used to test the propositions. The sample included retailers and food manufacturers from the United States, Europe, and Africa. The results indicate that when we do not take context into account, corporate sustainability investment is driven by regulatory pressure, mimetic pressure, normative pressure, profitability, and firm value. However, when we take into account the context in which firms are embedded or nested there is variation in the effects of drivers of corporate sustainability investment. This is due to differences in the CS reporting context, regional context, and industry context. The results from this study indicate that mimetic pressure and normative pressure are the key determinants of corporate sustainability investment for firms in developed and developing countries. Furthermore, normative pressure influences corporate sustainability investment for nonstandardized reporting firms. In contrast, mimetic pressure and profitability are the key drivers of corporate sustainability investment for standardized reporting firms. We find that while corporate sustainability investment for retailers is driven by regulatory and normative pressure, corporate sustainability investment for manufacturers is driven by mimetic pressure, normative pressure, profitability, and firm value. Based on the findings we conclude that a one-size-fits-all approach is not appropriate for analyzing drivers of corporate sustainability investment for different contexts. Therefore, managers and policy makers should take into account the context of the firm when developing corporate sustainability investment strategies.

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# DEDICATION

I would like to dedicate this dissertation to my parents Dr N.E and Mrs. J. Mukumbi, my siblings Kuda, Kupa, Kufara, and Tino. Thank you all for your love, encouragement, and support throughout my graduate program and dissertation writing. Special thanks to Kuda for helping me navigate numerous international accounting reports. I would also like to thank God, through Him all things are possible.

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## **KEY TO ABBREVIATIONS**

- **CS** Corporate Sustainability
- **CSR** Corporate Social Responsibility
- **CSP** Corporate Social Performance
- **CFP** Corporate Financial Performance
- DJSI Dow Jones Sustainability Index
- **GRI** Global Reporting Initiative
- GAP Global Good Agricultural Practice
- ISO International Standards Organization
- JSE Johannesburg Stock Exchange
- JSE SRI Johannesburg Stock Exchange Socially Responsible Investment
- KLD Kinder, Lyndenberg, and Domini
- MNC Multinational Corporation

#### **CHAPTER 1: INTRODUCTION**

## 1.1 Corporate Sustainability (CS) and Corporate Social Responsibility (CSR)

Corporate sustainability (CS) is defined as adopting business strategies that meet the needs of the enterprise and its stakeholders while sustaining human and natural resources (United Nations, 1987; KPMG, 2011). CS is a complex concept, which is continually evolving and includes a variety of practices (Sweeney and Coughlan, 2008). Corporate sustainability strategies include initiatives such as investment in green technology, social programs, and development of sustainable or green products. From a practitioner perspective, firms use the terms corporate social responsibility (CSR) and corporate sustainability (CS) interchangeably (Montiel, 2008), largely because the two concepts are closely related (Dilling, 2010). Although CS and CSR have evolved from different histories, with an environmental background for CS and a social responsibility background for CSR, the concepts are converging to a common future because they share a common vision of balancing economic responsibilities with social and environmental ones (Montiel, 2008).

There are two ways that researchers have defined and conceptualized CS. One approach uses the term ecological sustainability to identify CS primarily from the environmental dimension (Bansal and Roth, 2000; Barnejee et al., 2003; Clarkson et al., 2008). However, other scholars identify CS as a tri-dimensional construct that includes social, economic, and environmental dimensions (Basiago, 1998; Bansal, 2005; Connelly et al., 2011). Moreover, there has been a shift in the nature of non-financial reporting from a previous focus on environmental issues to a broader CS approach that includes social, economic, and

environmental information (Araya, 2006). Furthermore, 70% of global Fortune 250 companies publish reports that go beyond just environmental disclosures (KPMG, 2005). Therefore, in this study CS is viewed as a tridimensional construct.

Nevertheless, despite their similarities, there are points of difference between CS and CSR. One difference is that some researchers (e.g., Garriga and Mele, 2004) identify CS as one of the approaches to conceptualizing CSR, while others identify CSR as one of the approaches to conceptualizing CS (e.g., Baskin, 2006). In this study, CSR is treated as an aspect of CS. Despite the difference between CS and CSR, there are also points of overlap between the two concepts. The conceptualization of CSR that integrates social, economic, and environmental dimensions is similar to CS because it shows that firms must balance the three dimensions to achieve long term sustainability or social responsibility, regardless of whether environmental issues are a subset of social issues or whether they are treated as a third dimension of CS. Another point of overlap between CS and CSR is that scholars use similar variables to measure CS and CSR performance. Because of these points of overlap between CS and CSR will be treated as an aspect of CS. This study the term CS will be used. Furthermore, CSR will be treated as an aspect of CS. This study will use the three dimensional conceptualization of CS, with social, economic, and environmental dimensions.

## 1.2 Background of Research Problem

The interaction between society, business, and the physical environment is not new. Bowen (1953) suggested that business, by virtue of its existence, had a responsibility to society. It is only recently that firms have seriously taken into consideration this relationship and incorporated it into their business strategy (Williams and Aguilera, 2008). There has been a

gradual shift in the business model from a neo-classical profit maximization model (Friedman, 1996), focusing only on shareholders, to a stakeholder model, (Freeman, 1984; Donaldson and Preston, 1995; Clarkson, 1995; Jones, 1995; Mitchell et al., 1997) where firms must balance stakeholder, ethical, commercial, and environmental concerns simultaneously.

The current social, economic, and environmental CS strategies are a manifestation of the earlier debates of the role of business in society. However, what is new is that the debates are conducted at the intersection of development, environment, and human rights. The debates are also more global in scope than before (Blowfield and Frynas, 2005). Development and implementation of CS strategy presents one of the most challenging pressures and opportunities in the business world today (Eurosif, 2010). To the firm, CS is a challenge because of complex linkages between business and the physical and social environment. However, CS is also an opportunity for developing innovative products and obtaining a competitive advantage.

## **1.3 The Research Problem**

Why and under what conditions will a firm invest in CS strategies? Firms must answer these questions while facing the challenges of decreased consumer trust, increased accountability requirements, and international sustainability governance<sup>1</sup>. Decreased consumer trust has occurred because of business scandals and cases of green washing. Green washing occurs when a gap exists between what the company says it does to promote CS and its actual actions toward achieving this goal (Connelly et al., 2011). On the other hand, scandals such as Enron,

<sup>&</sup>lt;sup>1</sup> A governance structure is an institutional framework in which the integrity of a transaction or related set of transactions is decided (Williamson, 1996)

Corporate governance is defined as leadership, management, and control of a firm by formal and informal, public and private rules (Wieland, 2005, p. 76).

the financial market crisis, and manufacturers' violations of international labor standards through the operation of sweatshops, have lowered consumer trust and confidence in business.

A 14 country survey of European consumers, found that consumers identified the 2008 financial crisis and corporate behaviors as the two most important factors that had caused them to lose trust in business (Burson-Marsteller et al., 2011). Results from the study also indicated that consumers trust local companies the most, followed by national companies, and international companies the least, respectively (Burson-Marsteller et al., 2011). Consequently, the lowered public confidence in firms has led to increasing attention to accountability and transparency issues in business relationships. Companies are under intense pressure to rebuild public trust and stay competitive in a global economy (Waddock et al., 2002) and researchers have identified trust as an important determinant of success (Sirdeshmukh et al., 2002; Pennington et al., 2003; Vlachos et al., 2010).

The decreased public confidence in business has led to increasing accountability requirements. This reinforces the conclusion that there has been a shift in the business model from a neo-classical profit maximization model focusing only on shareholders to a stakeholder orientation. Firms operate in a hypercompetitive global marketplace where their actions are closely observed and monitored by domestic and international stakeholders (Johnson and Greening, 1999). Today global communication tools (e.g., Internet and satellite) enable dissemination of vast amounts of information to the public in real time. For example, the Internet allows consumers to gain access to CS strategies of firms and third party scorecards (Pohle and Hittner, 2008). Therefore, with this increased visibility of corporate actions, companies are increasingly held accountable for their impacts on society and the environment

(Pohle and Hittner, 2008). For example, one study found that the percentage of U.S. customers making shopping or investing decisions based on corporations' ethical actions grew from 31% to 38% from 2007 – 2010 (Mintel, 2011). Another study found that 93% of a sample of 900 chief executive officers and senior executives believed that CS would be a critical part of their future growth and success (Lacy et al., 2010). These examples provide evidence of the shift in the business model, as both consumers and CEOs are paying attention to accountability and transparency.

In response to the challenge of increasing accountability requirements, firms participate in collaborative CS initiatives at the industry, national, and international level. For example, participation in private CS reporting standards such as the Global Reporting Initiative (GRI) enables firms to provide information about their CS practices as a signal of their commitment to investment in CS. The GRI is an example of an international sustainability governance guideline. CS governance includes public regulations (e.g., laws limiting pesticide residues permitted in fresh fruits and vegetables) and private international standards (e.g., Global Good Agricultural Practice (G.A.P), International Standards Organization, International Labor Organization), as well as private standards for a particular firm (e.g., genetically modified organisms are not authorized for use in production of Carrefour brand products)(Sans et al., 2005). These various types of governance guidelines help to reduce incomplete or asymmetric information about CS in the marketplace. This study will focus on analyzing the effect of a private international standard (the GRI) on investment in CS.

CS strategies such as production of sustainably sourced products have credence attributes. In other words, when a customer buys a sustainably sourced product it is difficult for

them to verify that the product has been produced, sourced, and distributed in a sustainable manner that does not harm the environment or people (Sans et al., 2005). Supply chain members (from producers to end consumers) may therefore lack adequate information about whether social, economic, and environmental CS strategies were consistently implemented along the supply chain. Thus, sustainability governance has become a major issue of the supply chain.

## 1.3.1 Sustainability Governance in Developed versus Developing Countries

Sustainability governance becomes even more complex within the international context because different countries have different regulations that influence CS strategies. Differences in the social, economic, and political environment shape the societal expectations of a business and can lead to business success or failure. For example, developing countries<sup>2</sup> are characterized by higher levels of transaction costs and this can influence the amount of money a firm will invest in CS strategies. Additionally, the strength of different institutional pressures on the firm's strategic decision making may differ across developed and developing countries. Institutional systems of developing countries are characterized by weak governance and governance gaps, which lead to higher transaction costs compared to those in developed countries<sup>3</sup>. Thus, a one-size-fits-all model of determinants of investment in CS may not be appropriate.

<sup>&</sup>lt;sup>2</sup> Developing countries refer to emerging markets in the Southern hemisphere e.g., Brazil, South Africa

<sup>&</sup>lt;sup>3</sup> Developed countries refer to countries such as the U.S., and United Kingdom (U.K.)

The United Nations (UN) estimates that many firms (such as Wal-Mart and Coca-Cola) have revenues significantly higher than the gross domestic product (GDP) of the developing countries where they operate (Jamali, 2010). Such multinational corporations (MNCs) have great influence and far-reaching scope in the supply chain. This is especially true in developing countries where the MNCs are viewed as uniquely positioned because of their resources to contribute to the goals of international development and offer solutions to CS problems in developing countries. Therefore, we need a better understanding of determinants of CS investment in developed and developing countries (Lattemann et al., 2009). However, the size of MNCs may make implementing sustainability practices more difficult. MNCs are confronted with increasingly complex and sometimes competing stakeholder expectations (Arthaud-Day, 2005); thus there is a need to incorporate a regional context when contemplating CS strategies.

## 1.4 Theoretical Approaches for Analyzing Determinants of Investment in CS Strategy

Researchers have advanced stakeholder, strategic, ethical, and institutional theoretical explanations for engagement in CS strategy. In the following section these theoretical explanations are described.

## 1.4.1 Stakeholder

Stakeholder theory explanations for engagement in CS strategies argue that firms must take into account the concerns of various stakeholders, and not just those of the shareholders, when making business decisions (Freeman, 1984; Donaldson and Preston, 1995; Clarkson, 1995; Jones, 1995; Mitchell et al., 1997). In the wake of concerns about climate change, pollution, and

non-renewable resource constraints, firms are beginning to address stakeholder concerns about CS strategies (Mollenkopf et al., 2010). Previous research has found that pressure from stakeholders, such as customers and other supply chain members, positively influences investment in CS strategies (Maignan and Ferrell, 2004; Visser, 2008; Herremans et al., 2008; Kolk and van Tulder, 2010; Muthuri and Gilbert, 2010).

#### 1.4.2 Strategic

Some researchers have given a strategic explanation for engagement in CS strategies. The strategic explanation contends that firms base their decision to invest in CS strategies on the firm's resources and capabilities. According to the Resource Based View (Barney, 1991; Wernerfelt, 1984; Hart, 1995) a firm's financial resources and CS capabilities can influence a firm's strategy. Furthermore, firms may invest in CS for other strategic reasons, such as to improve their reputation (Lantos, 2001). One study found that strategically-motivated actions are superior to altruistically-motivated actions in terms of driving business performance (Dabas-Srivastava, 2011). While the strategic explanation is one of the most popular explanations for investment in CS, other explanations have also been given, such as the ethical explanation.

## 1.4.3 Ethical

In addition to the Strategic and Stakeholder theory explanations, some researchers have focused on the Ethical perspective. Proponents of the ethical explanation of investment in CS argue that business has an ethical responsibility to society to conduct operations in a responsible or sustainable manner, even if it may not be profitable for the firm (Lantos, 2001). The ethical perspective entails doing what is right, just, and fair, as well as avoiding and preventing harm (Lantos, 2001). It also involves moral standards that override self-interest

(Lantos, 2001). Top management commitment to sustainability and values of the CEO have been found to positively influence investment in CS strategies (Barnejee et al., 2003). At the firm level, a positive relationship has been found between investment in CS strategies and firm values/ethics (Hartman et al., 2007; Muthuri and Gilbert, 2010).

#### 1.4.4 Institutional

Researchers have also used an institutional explanation for investment in CS strategy, which is based on the idea that firms seek legitimacy in the communities and nations in which they operate (DiMaggio and Powell, 1983; Scott, 1987, 2001). Firms will therefore invest in CS strategies to gain legitimacy and a favorable reputation. Membership in trade/industry associations that promote CS was found to positively influence investment in CS strategies because membership may confer legitimacy (Bansal, 2005; Campbell, 2007; Herremans et al., 2008; Muthuri and Gilbert, 2010).

#### 1.5 Research Gaps in Past Studies

Past studies on the drivers of investment in CS strategies are deficient in that they have overlooked some areas, theoretical approaches, and variables that can be useful in explaining the determinants of investment in CS strategies.

## 1.5.1 Overlooked Areas

An area that has been overlooked is the international comparative aspect. CS research is lacking rigorous scholarship in its comparative aspect in international contexts (Lee, 2008). Most studies focus on analyzing CS issues within one country or region (Chapple and Moon, 2005; Perez-Batres et al., 2010; Dawkins and Ngunjiri, 2008; Cruz and Boehe, 2010). However,

it is also important to study drivers of investment in CS in a comparative context because this can help firms in identifying which aspects of CS are universal and which ones are localized. Consequently, this information can assist firms in developing their CS strategies based on private or public standards at the local or international level.

There is a general lack of theoretical understanding and empirical results from crosscultural CS research (Sachs et al., 2005). The theoretical and empirical links between CS and international business literature are largely unexplored and the systematic study and inclusion of CS in the international business context is lacking (Kolk and van Tulder, 2010; Jamali, 2010). One of the few comparative studies analyzed differences between United States (U.S.) and European CSR reporting (Danko et al., 2008). Differences exist between U.S. and European firms in (1) the role of government, and (2) sources of capital (Danko et al., 2008). For example, the stock market is the main source of capital in the U.S., which requires detailed reports. In contrast, a few large investors with a long-term orientation are the main source of capital in Europe (Danko et al., 2008). In addition, in the U.S. there is less governmental pressure for firms to engage in CSR than in Europe.

Another area that has been overlooked is the industry comparative aspect. Recent research has paid little attention to similarities and differences of drivers of CS investment among industries. Most of the studies are multi-sectorial (e.g., Brammer et al., 2009; Clarkson et al., 2008; Welch et al., 2002) or individual industries (e.g., Rankin et al., 2011; Dabas-Srivastava, 2011). The past research has focused on broad categories of industry groups (e.g., consumer products and services) which do not reflect any underlying stakeholder pressures (Brammer and Millington, 2004). However there is a lack of comparative studies of the

differences and similarities of the drivers of corporate sustainability investment across industries. It is important to understand these differences or similarities to identify whether a one size fits all model is appropriate for retailers and manufacturers. A 'one-size-fits-all' approach may waste private and public resources by not taking into account sector-specific drivers of corporate sustainability investment (Grolleau et al., 2007).

### 1.5.2 Overlooked Theoretical Approaches

Transaction Cost Analysis explanations for investment in CS have been overlooked. Past theoretical studies have used Institutional, Stakeholder, Ethical, and Resource Based theory to investigate determinants of engagement in CS strategy (e.g., Perez-Batres et al., 2010). What remains to be explored is Transaction Cost Analysis combined with Institutional theory, as well as the Business Case perspective for investment in CS. Individually, these three theories provide a limited explanation of investment in CS. However, a combination of the three theories helps to provide a more integrated explanation. It is important to incorporate Transaction Cost Analysis because firms based in developing countries face higher business costs than firms from developed countries and this will influence their investment in CS strategy. Also, the strength of institutional pressures may differ for firms from developed and developing countries. In developing countries, institutional pressures may have a stronger effect on CS investment because firms face governance gaps which can be addressed by investing in CS.

#### 1.5.3 Overlooked Variables

One of the variables that has been overlooked in past studies is the adoption of international sustainability reporting guidelines (e.g., Global Reporting Initiative (GRI)). It is important to include this variable because of the increasing attention paid to accountability and

transparency. Also, the relationship between drivers of investment and amount of money invested in CS strategies has been overlooked in past studies. It is important to analyze this relationship because the model can be used to guide managers in their decisions as to how much they will invest in CS strategies. Past studies have explored the factors affecting the decision to invest in CS strategies (Bansal and Roth, 2000; Nikolaeva and Bicho, 2011) and determinants of firm CS performance (Clarkson et al., 2008; Tashman and Rivera, 2010; Perez-Batres et al., 2010; Fernandez-Kranz and Santalo, 2010; Rankin et al., 2011). However, few studies have looked at factors influencing the decision of how much money to invest in CS strategies (e.g., Brammer et al., 2009). Moreover, most of the CS research has largely focused on determining the link between implementation of CS strategies and financial performance of the firm (Orlitzky et al., 2003; Pullman et al., 2009). It is important to analyze determinants of investment in CS strategies because this provides information on what factors will influence investment the most in developed countries when compared to developing countries.

## 1.6 Contribution and Significance of Study

This study addresses the gaps in the literature through several mechanisms. First, the study proposes that differences in institutions and transaction costs of firms influence the amount of money invested in CS strategies. Second, it advances the research on the factors driving firm international business strategies a step further by analyzing potential differences in the factors driving firm investment in CS strategy in developed countries (U.S., Europe) compared to developing countries (Africa).

By utilizing a combination of Transaction Cost Analysis, Institutional theory, and Business Case literature, this study adds to the international business literature. This study will identify the most important factors influencing investment in CS, which is useful in developing theoretical explanations and arguments for the use of private or public sustainability standards. In addition to contributing to research in this area, this study also helps to improve business practice by providing a model that guides managers in their decisions to invest in CS strategies based on their circumstances (e.g., retail or manufacturing industry).

### **1.7 Purpose Statement**

This study seeks to analyze the effects of institutional pressure and financial performance on investment in CS. In addition, this study seeks to explain variation in CS investment levels across firms. The central argument is that the context in which the firm is embedded determines its CS investment level. In other words we can expect different CS investment levels across firms depending on the context of the drivers of investment for a firm. Firms from three groups will be analyzed to examine the drivers of investment in CS strategies using Institutional theory, Transaction Cost Analysis, and the Business Case perspective. The three groups that will be compared are (i) firms using standardized CS reporting guidelines (i.e., the Global Reporting Initiative) versus firms that use non-standardized CS reporting, (ii) developed versus developing country firms, and (iii) retailers versus manufacturers.

The study seeks to compare the differences in the strength of institutional pressures and financial performance of investment in CS across the groups. Differences in characteristics of industries, transaction cost levels, and institutional pressures can influence the level of

investment in CS. Adoption of standardized CS reporting may strengthen the relationship between institutional pressures and investment in CS strategy. This is because the adoption of standardized CS reporting can be used as a tool to increase legitimacy and credibility of firms, as well as reducing the transaction costs of searching and monitoring firms' CS strategies. However, financial performance is more likely to influence investment in CS for firms that use the standardized CS reporting guidelines because of the potential reduction of transaction costs that can be gained from using the guidelines. In addition, institutional pressures are likely to influence developed country firms and developing country firms because of global institutional pressures and desire to attain or maintain legitimacy. Also, financial performance is likely to influence investment in CS strategies for firms from developed, rather than developing countries, because the firms from developed countries may have more financial resources and lower transaction costs than those from developing countries. We can also expect different drivers of CS investment for retailers and for manufacturers because of industry differences. Therefore this study examines:

- the relationship between institutional pressures, financial performance, and money invested in CS strategies
- 2. the relationship between institutional pressure and money invested in CS strategies for standardized CS reporting firms versus non- standardized CS reporting firms
- the relationship between financial performance and money invested in CS strategies for standardized CS reporting firms versus non- standardized CS reporting firms
- the relationship between institutional pressure and money invested in CS strategies for developed country firm versus developing country firms

- the relationship between financial performance and money invested in CS strategies for developed country firm versus developing country firms
- 6. the relationship between institutional pressure and money invested in CS strategies for retailers versus manufacturers
- the relationship between financial performance and money invested in CS strategies for retailers versus manufacturers

The institutional pressures are composed of regulatory pressure (measured by number of CS regulations), normative pressure (measured by membership in organizations that promote CS), and mimetic pressure (measured by sustainability index inclusion). Financial performance includes profitability (measured by the profit margin) and firm value (measured by book value of equity). The dependent variable, CS investment, refers to money a company invests in sustainability strategies. In the next chapter the theoretical framework and hypotheses are described.

#### **CHAPTER 2: THEORETICAL FRAMEWORK AND PROPOSITIONS**

### 2.1 Theoretical Approaches to Investment in CS

#### 2.1.1 The Business Case Perspective

The bottom-line reasons for businesses pursuing CS strategies and policies are often referred to using the umbrella term of the business case (Caroll and Shabana, 2010). According to the Business Case, firms will invest in CS because there is a positive relationship between investing in CS and financial performance. The Business Case contends that firms invest in CS for purely rational economic reasons of profit maximization. Ultimately, firms can improve their bottom line through addressing social and environmental issues.

When treated as the sole reason for investment in CS strategies, the Business Case is limited in two ways. First, the Business Case for specific actions differs according to different factors such as size, company visibility, host and home country location, ownership structure, and industry sector (Fox, 2004). Firm size reflects firm visibility; therefore, the larger the firm, the more likely it is to be subject to scrutiny and is thereby expected to act as an industry leader in CS strategies (Henriques and Sardosky, 1996). In supply chains, large firms can provide leadership as channel captains in CS strategies. Past studies have found a positive relationship between firm size and engagement in sustainability (Garz and Volk, 2007; Latteman et al., 2009; Artiach et al., 2010; Perez-Batres et al., 2010). Literature on environmental systems, for example ISO 14000, also provide substantial evidence of the positive relationship between firm size and adoption of environmental systems (Nakamura et al., 2001; King and Lenox, 2001; Halkos and Evangelinos, 2002; Welch et al., 2002; Grolleau et al., 2007). Another study in the Canadian oil, gas, mining, and forestry industries found a positive relationship between corporate social development performance and organizational size (Bansal, 2005). Overall, larger firms will have more financial resources to fully commit to CS strategies than smaller ones (Grolleau et al., 2007).

The differences in the socio-economic environment of developed and developing countries implies that some drivers of CS in developed countries may be less significant than for firms operating in developing countries. For example, enforcement of regulation is a more significant factor for developed countries because of more stringent requirements in developed countries. In contrast, enforcement of regulations may be weak in developing countries (Fox, 2004). Therefore, the presence of regulations and stricter enforcement can drive investment in CS in developing countries (Fox, 2004).

#### 2.1.1.1 Corporate Social Performance-Corporate Financial Performance Relationship

CS research has focused on the link between the implementation of CS strategies and performance of the firm (i.e., the Business Case for CS) (Caroll and Shabana, 2010; Artiach et al., 2010). When firms focus only on the Business Case there could be bias in selection of CS strategies because not all socially responsible behaviors have an equal potential of increasing profits. For example, donations to charities may not increase profits as much as selling premium sustainably sourced products. This could lead to firms focusing on the activities that are less costly, while ignoring the more complex, urgent or costly activities vital to their long-term success (Lee, 2008). Identifying whether CS is positively or negatively related to financial performance is only one aspect of CS. Understanding the drivers of CS, or how multinational firms develop and implement CS strategies, is also important. This study departs from others

that focus solely on the Business Case by incorporating other drivers of engagement in CS activities derived from Institutional theory and Transaction Cost Analysis.

The investigation of the relationship between corporate social performance<sup>4</sup> (CSP) and corporate financial performance (CFP) forms the core of the Business Case model. Waddock and Graves (1997) found that corporate social performance can be a predictor or a consequence of financial performance. This means that firms that have slack<sup>5</sup> resources from past financial performance will have greater freedom to invest in CS activities. However, those investments in CS can also lead to improved corporate social performance (Waddock and Graves, 1997).

Results of CSP-CFP studies can be divided into three groups. One group shows a positive relationship (e.g., Griffin and Mahon, 1997), another shows a negative relationship (e.g., Becchetti et al., 2005), and the third group shows no relationship (e.g., McWilliams and Siegel, 2000). If the benefits from investing in corporate social performance exceed the costs then a positive relationship will occur between corporate social performance and corporate financial performance. Investment in corporate social performance produces benefits such as enhanced employee morale, goodwill, improved relationships with stakeholders, and better access to capital, which all lead to greater financial performance (Artiach et al., 2010). In contrast, a negative relationship can exist between corporate social performance and corporate financial

<sup>&</sup>lt;sup>4</sup> Corporate social performance is defined as a business organization's configuration of principles of social responsibility, processes of social responsiveness, and policies, policies programs and observable outcomes as they relate to the firm's societal relationships (Orlitzky et al., 2003)

<sup>&</sup>lt;sup>5</sup> Slack resources are a cushion of excess resources that can be used in a discretionary manner

performance when investment in corporate social performance is costly and produces little discernible benefit (Artiach et al., 2010). If a firm invests in corporate social performance then it will incur additional costs in implementing its strategy. Overall the CSP-CFP research shows a positive relationship between CSP and CFP. A meta-analysis of 52 studies study found evidence of a positive relationship between CSP and CFP (Orlitzky, et al., 2003).

The inconsistencies in research results of the CSP-CFP relationship have been attributed to methodological differences, interpretation biases, and variations in measurement of corporate social performance (Artiach et al., 2010; Caroll and Shabana, 2010). Lack of a significant relationship between corporate social performance and corporate financial performance may occur because the relationship is also likely to be influenced by mediating variables (Ullmann, 1985). Existence of mediating variables (for example, brand loyalty), differences in time periods examined, and situational contingencies (for example, firm CS capabilities) have also been used to explain the non-significant results (Artiach et al., 2010; Caroll and Shabana, 2010). Furthermore, reputation, as well as different market measures of CSP and CFP, has been found to mediate the CSP-CFP relationship in a meta-analysis (Orlitzky, et al., 2003). Hence, some researchers have argued that there is insufficient theoretical support to expect a direct relationship between corporate social performance and corporate financial performance (Artiach et al., 2010).

In this study, instead of examining the effect of corporate social performance on corporate financial performance, we focus on the effect of institutional pressure and financial performance on CS investment. In past studies, researchers have used a Resource Based View to explain the positive relationship between corporate financial performance and investment in

CS (Russo and Fouts, 1997; Branco and Rodrigues, 2006). In summary, results from the studies of the corporate social performance - corporate financial performance relationship imply that if a firm has adequate resources, then it will invest in CS.

### 2.1.2 Transaction Cost Analysis

Another theory that is useful in explaining determinants of investment in CS is Transaction Cost Analysis (Coase, 1937; Williamson, 1975, 1985; Rindfleisch and Heide, 1997). Transaction Cost Analysis posits that there are governance problems in exchange relationships, such as safeguarding specific assets, which can be managed using governance mechanisms, such as qualification procedures, monitoring, and contracts (Rindfleisch and Heide, 1997). One important proposition of Transaction Cost Analysis is that firms (hierarchy) and markets are alternative governance mechanisms that differ in their transaction costs (Coase, 1937). Hierarchy refers to ongoing transactions, while markets refer to one time transactions. Transaction costs include direct production costs, as well as search and information costs incurred in finding the best goods or services in the market. They also include costs of managing relationships, opportunity costs of making inferior governance decisions, and costs of drafting and negotiating contracts. Furthermore, transaction costs include the costs of monitoring and enforcing agreements to ensure proper behavior from the external source (Rindfleisch and Heide, 1997).

The sources of the transaction costs are safeguarding, adaptation, and performance evaluation governance problems (Rindfleisch and Heide, 1997). Information asymmetry gives rise to direct transaction costs in the form of selection and screening efforts designed to identify appropriate exchange partners *a priori* (Rindfleisch and Heide, 1997). The main premise

of Transaction Cost Analysis is that firms decide on the activities in which they will engage by evaluating the total economic costs of the activity (Connelly et al., 2011). In other words, if transaction costs for adaptation, performance evaluation, and safeguarding are absent or low, the economic actors will favor market governance (Rindfleisch and Heide, 1997). Also, if the transaction costs in the firm (hierarchy) are lower than market ones, then firms will favor internal organizational hierarchy. Transaction Cost Analysis postulates that if the transaction costs of a governance mechanism are higher than an alternative, then the firm will choose to use the governance mechanism that has lower transaction costs.

Two main assumptions of Transaction Cost Analysis are bounded rationality and opportunism (Rindfleisch and Heide, 1997). Bounded rationality is the assumption that decision makers have constraints on their cognitive capabilities and limits on their rationality (Rindfleisch and Heide, 1997). The decision makers may not have adequate information to make informed decisions and this increases transaction costs of doing business as they search for information. Opportunism is the assumption that decision makers seek to serve their selfinterests and that it is difficult to know a priori who is trustworthy and who is not. Opportunism can include behaviors such as lying and cheating (Rindfleisch and Heide, 1997). Opportunism can also lead to increased transaction costs of monitoring business partners.

Transaction Cost Analysis' main dependent variable is the governance structure (e.g., market, hierarchy, and hybrids) and its independent variables include asset specificity, environmental uncertainty, and behavioral uncertainty (Rindfleisch and Heide, 1997). Environmental uncertainty refers to unanticipated changes in circumstances surrounding an exchange (Rindfleisch and Heide, 1997). Klein et al., (1990) found that the presence of multiple

sources of uncertainty in the environment increases the likelihood of serving a foreign market with external agents. The construct environmental uncertainty is composed of two dimensions: unpredictability and complexity (Rindfleisch and Heide, 1997). Unpredictability refers to the instability, volatility, and turbulence in the market (Rindfleisch and Heide, 1997), while complexity refers to the degree to which the environment is perceived as being multifaceted and complicated (Rindfleisch and Heide, 1997). Complexity is more likely to be a concern in international markets than in domestic ones (Rindfleisch and Heide, 1997). High levels of environmental complexity encourage exporters to exert higher levels of vertical control in foreign markets, while environmental dynamism (i.e., rate of change) encourages exporters to exert lower levels of control to reduce transaction costs (Klein, 1989).

Transaction Cost Analysis posits that firms face challenges in circumstances of environmental uncertainty (where circumstances surrounding an exchange cannot be specified ex ante) and circumstances of behavioral uncertainty (i.e., where performance cannot be easily verified ex post) (Rindfleisch and Heide, 1997). Environmental uncertainty creates an adaptation problem, where firms can face difficulties in modifying agreements to the changing circumstances and thereby incur greater transaction costs in renegotiating contracts and managing the relationship (Rindfleisch and Heide, 1997). When faced with an uncertain environment, firms will seek to minimize transaction costs of adapting to the changing environment (Rindfleisch and Heide, 1997). Behavioral uncertainty creates a performance evaluation problem where firms or customers have difficulties verifying whether compliance with established agreements has occurred, which creates greater monitoring and enforcing agreement transaction costs (Rindfleisch and Heide, 1997).
#### 2.1.2.1 Transaction Cost Analysis and CS Strategy

When applied to CS strategy, Transaction Cost Analysis postulates that if firms can identify a clear economic rationale for engaging in CS strategies, then they will invest in CS strategies (Connelly et al., 2011). Thus, technologies, processes, and resources that reduce the transaction costs of implementing CS initiatives will increase the likelihood that a firm will invest in CS (Connelly et al., 2011). Firms may reduce their overall costs through greater efficiency when they maximize the firm's natural resources and eliminate waste and by-products generated by the firm (Orsato, 2006). From a Transaction Cost Analysis perspective, there is considerable evidence in the literature that CS strategies have economic benefits (Orlitzky et al., 2003; Connelly et al., 2011). However, other theories suggest that there may also be value to investments that are, on the surface and in the short term, economically inefficient (Connelly et al., 2011). For example, Institutional Theory asserts that investment in CS enables a firm to align with normative, cognitive, and regulative norms which provide benefits of gaining legitimacy, and long term survival which may not be included in the traditional economic profit maximization model (Connelly et al., 2011).

## 2.1.3 Institutional Theory

In addition to the Business Case perspective and Transaction Cost Analysis, Institutional theory also offers insights into determinants of investment in CS strategies. Society's institutions serve as a set of working rules and provide a framework for decision making (Connelly et al., 2011). The main premise of Institutional theory is that to survive, firms must

earn legitimacy by conforming to prevailing institutional pressures in the environment (Connelly et al., 2011). Institutional theory envisions organizations within industries becoming homogeneous in process and structure over time, as they seek legitimacy by conforming to prevailing institutional rules (Scott, 1987, 2001; Connelly et al., 2011). This conformance process occurs via three main mechanisms: coercive isomorphism (pressure from regulators and actors on whom the organization is dependent for resources), mimetic isomorphism (imitation of other firms in an effort to reduce cognitive uncertainty), and normative isomorphism (pressure arising from social factors such as trade associations and the media) (DiMaggio and Powell, 1983; Connelly et al., 2011).

More specifically, coercive isomorphism manifests as a force, persuasion, or as an invitation to participate in initiatives (DiMaggio and Powell, 1983), while mimetic isomorphism refers to imitation of other firms to reduce cognitive uncertainty. When an issue is poorly understood and the goals are ambiguous, firms will model themselves after other firms (DiMaggio and Powell, 1983). Normative isomorphism refers to pressure arising from social factors such as media and trade associations. In Institutional theory, conformance to institutional norms is a result of conscious decision processes, and not merely an unconscious process (Connelly et al., 2011). This implies that firms can thrive by being aware of and conforming to emerging industry trends and policy changes.

Institutional factors include normative, cognitive, and regulatory elements that give stability and meaning to social behavior (Scott, 1995, 2001). Normative elements are values that are set by stakeholders (Muthuri and Gilbert, 2010). Cognitive elements include ideology and cultural values, or commonly shared beliefs about what constitutes acceptable firm

behavior. Regulatory elements include rules, sanctions, and regulations which codify socially acceptable corporate behavior (Muthuri and Gilbert, 2010).

## 2.1.3.1 Institutional Theory and CS Strategy

If firms want to thrive, they need to be aware of and conform to emerging industry CS trends and policy changes (Connelly et al., 2011). The institutional context sets the conditions for, but does not wholly determine engagement in CS strategies (Muthuri and Gilbert, 2010). Therefore firms draw from institutions when formulating their CS strategies. Institutions give actors institutionalized knowledge to help them reach a common understanding and definition of socially responsible or sustainable behavior from which firms can draw when formulating their CS strategies (Muthuri and Gilbert, 2010). Institutional theory posits that companies have pressure to mimic behaviors of their peers, especially in environments characterized by uncertainty and rapid change, but often mimetic pressure provides a quick and cheap way to develop CS strategies. Coercive and normative pressure from powerful institutions like the stock exchange may lead to more companies investing in CS (Dawkins and Ngunjiri, 2008). For example, implementing corporate governance and responsible Human Immunodeficiency Virus (HIV)/Acquired Immunodeficiency Syndrome (AIDS) policies is a prerequisite for listing of all firms on the Johannesburg Stock Exchange (JSE) in South Africa (Baskin, 2006; Dawkins and Ngunjiri, 2008).

Institutional theory has been used to investigate how different institutions (i.e., norms, culture, and regulations), influence firm CS behavior. Also, Institutional theory has been used to explain the role of institutions in determining strategic choices or responses (Ingram and Silverman, 2002; Perez-Batres et al., 2010). For example, Henriques and Sadorsky (1996) found

that a firm's formulation of an environmental plan is positively influenced by customer pressure, shareholder pressure, and regulatory pressure. Delmas and Montes-Sancho (2011) found a positive relationship between normative forces and adoption of environmental management standards. Examining determinants of investment in CS strategies using the lens of Institutional theory is important because firms are embedded in political and economic institutions that affect their behavior (Campbell, 2007). These institutions include the government, consumer groups, and professional trade associations. Institutions of individual values and belief systems of these entities are used to judge a firm's sustainable development commitment which affects perception of the firm's acceptability and legitimacy (Bansal, 2005).

Institutional theory posits that institutions help to reduce uncertainty by providing dependable, efficient frameworks that guide firms in economic exchange. Simultaneously, firms adapt to the institutional frameworks in countries in which they operate by aligning with global standards and guidelines such as the Global Reporting Initiative (GRI) (Perez-Batres et al., 2010). Institutional theory is used to analyze determinants of CS investment because elements of CS are becoming institutionalized through regulations and international agreements.

The Business Case perspective ignores the institutions that provide the context for competition in developing countries. The institutions are reduced to background information and thereby not taken into account, preventing researchers from gaining a deeper understanding of firm CS behavior in developing countries (Peng et al., 2008). The reason institutions are often ignored is that markets work more smoothly in developed countries with fewer transaction costs, rendering the market-supporting institutions nearly invisible (McMillan, 2007). In contrast, when markets work poorly in developing countries with high

transaction costs, then the absence of strong formal institutions becomes more noticeable (McMillan, 2007; Peng et al., 2008). Institutions are much more than background conditions; rather, they influence firm's decisions to invest in CS strategies, how much they will invest, and how they will invest (i.e., CS activities they focus on) (Peng et al., 2008). Therefore, the institutional case for CS helps to capture the complex relationships between business and the social, economic, and physical environment.

Comparative cross-cultural studies of drivers of engagement in CS have found systematic differences across countries; this suggests that national institutions may cause these differences (Campbell, 2007). For example, one study found that value-driven CSR was more predominant in the U.S. than in European countries (Maignan and Ralston, 2002). Also, performance and stakeholder drivers of engagement in CSR were more prevalent in the U.K. than the U.S. (Maignan and Ralston, 2002). Researchers have noted that drivers of CS strategies vary in and among countries because of the differences in norms, regulations, and community preferences (Bansal, 2005).

## 2.2 Context

#### 2.2.1 Standardized and Non-standardized Reporting Context

Adhering to standardized CS reporting guidelines such as the Global Reporting Initiative (GRI) can improve a company's credibility, reputation, and legitimacy, which all have the ability to create a point of differentiation and competitive advantage for the firm (Du et al., 2010; Nikolaeva and Bicho, 2011). The GRI has rewards for level of CS engagement with GRI reporting levels A+ (highest) through C (lowest). Hence standardized reporting information can be used for benchmarking and ranking firms regarding CS. By using GRI guidelines, firms show a strong commitment to CS. Because CS performance of firms is difficult to measure, some firms may prefer to act opportunistically and not participate in detailed CS reporting guidelines, while other firms may prefer to be more transparent in their actions by using the standardized CS guidelines. Firms that use non-standardized CS reporting may face higher transaction costs and less transparency and credibility than firms with standardized reporting.

Thus, in order to reduce opportunism and develop trust, some firms will use standardized CS reporting guidelines so that they can reduce the transaction costs of obtaining information regarding CS (Christmann and Taylor, 2006). From a Transaction Cost Analysis perspective, if a firm and its suppliers openly report their CS activities using standardized CS reporting, then the costs of monitoring will be lower, and the activities of the firm will be more transparent.

According to marriage relationship literature, one of the key factors that is identified as contributing to a quality marriage relationship is openness (Montgomery, 1981; Kaslow and Robinson, 1996). Openness is similar to self-disclosure and transparency in business relationships. Transparency is characterized by visibility or accessibility of information on business practices (Rawlins, 2008). The three dimensions of transparency are informational transparency (information that is truthful, substantial, and useful), participatory transparency (the participation of stakeholders in identifying information they need), and accountability transparency (the balanced reporting of a firm's activities that holds the firm accountable) (Balkin, 1999; Rawlins, 2008). These three dimensions of transparency help to build, maintain, and restore trust with stakeholders (Rawlins, 2008). If a firm seeks transparency then it will

share information that enables stakeholders to make informed decisions regarding their relationship with the organization (Rawlins, 2008). In a marriage relationship transparency is established by giving a partner access to records such as telephone records and bank accounts. Transparency is established in the relationship between a firm and its stakeholders by providing stakeholders with access to records of the firm's CS strategies and activities.

Establishing transparency is important because it leads to improved trust in a business relationship. In a study using a sample of employees from a regional healthcare organization, the author found a positive relationship between trust and transparency (Rawlins, 2008). Some researchers have viewed transparency as a virtue that involves openness, availability, or disclosure of information (Murphy et al., 2007; Palanski et al., 2011). Additionally, another study found that transparency was positively related to team behavioral integrity (Palanski et al., 2011). Hence use of standardized reporting is beneficial because it promotes transparency.

## 2.2.2 Developed and Developing Country Context

We can expect differences and similarities in the drivers of CS investment for developed country firms and developing country firms because of the characteristics of the developed and developing country contexts. Institutional systems of developing countries are characterized by weak governance and governance gaps, which lead to higher transaction costs than those in developed countries. In developed countries because of strong enforcement of the CS regulations, firms will invest in CS to conform to the norms regarding CS. On the other hand, in developing countries where enforcement of CS regulations may be weak (Ozen and Kusku, 2009), firms will invest in CS so that they conform to international norms regarding CS and gain or maintain legitimacy and address governance gaps. International business research has found

that developing country firms will engage more in CSR when exposed to international regulatory pressure, pressure from trading partners, and exposure to Western influences (Wisner and Epstein, 2005; Christmann and Taylor, 2001; Chapple and Moon, 2005). Using a panel of 139 countries from 1996 to 2006 one study found a positive relationship between regulative forces and adoption of environmental management standards (Delmas and Montes-Sancho, 2011).

#### 2.2.3 Manufacturing and Retail Industry Context

Researchers have found systematic variation in CS engagement across industries. In the context of the French agri-food industry, one study found that the probability of registering for a certified environmental management system increases for firms from the meat industry (Grolleau et al., 2007). However the relationship was not significant for the fruit, dairy, and starch products industry (Grolleau et al., 2007). A study of the five most polluting industries in the U.S. (i.e., pulp and paper, chemicals, oil and gas, metals and mining, utilities industries) found a positive relationship between environmental performance and the level of discretionary environmental disclosures (Li et al., 2008). Another study found a positive relationship between consumer manufacturing, consumer services, and charitable giving of firms in the UK (Brammer et al., 2009). Firms in the manufacturing industry (i.e., capital goods, chemical, and consumer goods) communicate more on corporate social responsibility than non-manufacturing (i.e., banking and insurance, technology) (Lattemann et al., 2009).

Food businesses are influenced by public perceptions associating environmental quality and food safety (Grolleau et al., 2007). These perceptions influence the reputation of a firm since agri-food industries are very sensitive to environmental concerns (Grolleau et al., 2007).

Social and environmental issues include the way agri-food products are produced, processed, and consumed (Grolleau et al., 2007). Food manufacturers are often perceived as being more harmful to the environment than retailers. Hence CS investment for manufacturers helps the firms to improve a firm's reputation and maintain legitimacy. Investment in CS is therefore a response to institutional pressure to engage in corporate sustainability.

We can expect different drivers of CS investment for retailers and for manufacturers because of industry differences. Literature on the service and non-service industries provides a baseline for exploring differences between retailers and manufacturers. Four main differences exist between manufacturers and service firms. First, there is little to no interaction between the manufacturer and the consumer. In other words there is a larger social distance between the manufacturer and stakeholders such as consumers. In contrast, service firms such as retailers have closer encounters with their customers (Guchait et al., 2011). There is a smaller social distance between the retailers and the consumers (Guchait et al., 2011). Direct contact with stakeholders therefore can make the retailers relate more strongly with the consumers. Second, manufacturers have more experience in dealing with social and environmental strategy than retailers. Third, manufacturers are perceived as having a larger social and environmental impact on society than retailers (Pekovic, 2010). Manufacturing is considered to be a socially or environmentally sensitive industry, making sustainability issues greater for manufacturers than retailers (Barnejee et al., 2003). Fourth, physical asset investment (i.e., capital intensity) is generally higher for manufacturers than service firms such as retailers (Ehie and Olibe, 2010; Ekeledo and Sivakumar 1998; Erramilli and Rao, 1993). However service firms (such as retailers) tend to have higher investment in people but lower physical asset investments (Bouquet et al.,

2004; Brouthers and Brouthers, 2003). Furthermore, capital intensive projects are likely to generate more pollution and have a more significant impact on the local community than the labor intensive projects undertaken by service firms such as retailers (Bansal, 2005).

#### 2.3 Proposed Model

#### 2.3.1 Investment in CS Strategies

The dependent variable in this study is investment in CS strategies. Corporate sustainability investment refers to money a company invests in a range of activities that go beyond charitable activity and have a direct effect on society (Baskin, 2006). CS investment efforts of firms, especially in developing countries, can reflect the firm's commitment to sustainability. CS investment includes activities such as investing in energy efficient buildings, providing sustainability research grants, or investments in health, education, disaster relief, arts, culture, and sports (McGuire et al., 1988; Waddock and Graves, 1997). Hall (2007) claims that CS investment goes beyond philanthropy, especially in developing countries, because CS investment can address voids in the socio-economic environment. These voids can affect a company's ability to operate, compete, and succeed in its endeavors if they are not addressed. Although investment in CS strategy is not a sufficient indicator of a firm's commitment to CS, it is a necessary component of CS. There may be other indicators of a firm's commitment to CS such as less costly CS initiatives.

Figure 1. Determinants of Investment in CS Strategy



The proposed model, Figure 1, posits that institutional pressure and financial performance are positively related to CS investment.

## 2.3.2 Institutional Pressures

Institutional pressure originates from a firm's environment. The focus of this study is to analyze the relationship between institutional pressure and CS investment, therefore this study does not analyze how institutional pressure is created. In this study, institutional pressure includes regulatory pressure, mimetic pressure, and normative pressure. Regulatory pressure is measured by the number of CS regulations mentioned and mimetic pressure is measured by the number of years a firm is included in a sustainability index. While normative pressure is measured by the number of CS organizations a firm belongs to.

## 2.3.2.1 Regulatory Pressure→ Corporate Sustainability Investment

According to Institutional theory, firms seek to earn legitimacy by complying with regulations that promote CS (DiMaggio and Powell, 1983; Connelly et al., 2011). Researchers have found a positive relationship between regulatory pressure and engagement in CS (Henriques and Sardosky, 1996; Banerjee et al., 2003). For example, Henriques and Sardosky (1996) found a positive relationship between government regulation and the decision to formulate an environmental plan. Another study found a positive relationship between regulatory forces and environmental marketing strategy (Banerjee et al., 2003). Using a panel of 139 countries from 1996 to 2006, another study found a positive relationship between regulative forces and adoption of environmental management standards (Delmas and Montes-Sancho, 2011). In addition, a study on determinants of voluntary adoption of an environmental management standards in a positive effect on voluntary adoption of ISO 14001 (Welch et al., 2002). Hence, if a firm seeks legitimacy to improve its reputation then it will invest in CS. Therefore we would expect that regulatory pressure is positively related to corporate sustainability investment.

*Proposition 1: The greater the regulatory pressure the greater the corporate sustainability investment.* 

#### 2.3.2.2 Mimetic Pressure → Corporate Sustainability Investment

Socially responsible investment (SRI) takes into account societal and environmental concerns in decision-making. Eurosif (2010) defines socially responsible investment as a process that combines the investor's financial goals with their concerns about social, environmental, and governance issues. In 2010, the socially responsible investment market in the U.S. was estimated at US\$3.07 trillion, comprising 12.2% of the U.S. investment market (USSIF, 2011). In Europe, SRI assets under management were US\$4.3 trillion, comprising 10% of the total asset management market in Europe (Eurosif, 2010). These socially responsible investors urge firms to improve their practices on CS issues.

Past studies have consistently found either positive or neutral performance differences between socially screened and unscreened investments (Guerard, 1997; Angel and Rivoli, 1997; Waddock et al., 2000). This implies that there may be long-term positive financial benefits of investing in firms listed in the social or sustainability indexes, such as the Dow Jones Sustainability Index (DJSI), the Johannesburg Stock Exchange Socially Responsible Investment (JSE SRI) or Domini (Kinder, Lyndenberg, and Domini- (KLD)) Social Index. The Domini Social Index measures corporate social performance, and also includes measures for controversial business issues such as tobacco, gambling, and nuclear power (Carroll and Shabana, 2010). However, the Dow Jones Sustainability Index (DJSI) identifies the most sustainable companies on a range of social, environmental, and management-strategic criteria. The DJSI is a measure that compares the largest global companies' corporate sustainability performance. Therefore, firms included in the DJSI present an ideal target for other firms to imitate. In South Africa, firms listed on the JSE SRI index are more likely to invest in CS strategies. Investors can

therefore choose to exclude or select particular firms because of the firm's effect on the environment and stakeholders as shown by listing in a sustainability index (Eurosif, 2010).

From an Institutional theory perspective, to reduce cognitive uncertainty about how to implement CS strategies among supply chain members, the firm can imitate the strategies of other successful firms, or those listed on sustainability indices (mimetic isomorphism). Sustainability indices are composed of firms that are leaders in CS strategy and have passed screening criteria for CS performance (Nikolaeva and Bicho, 2011). According to Institutional theory, a firm seeks to gain legitimacy by adhering to societal norms.

A study of institutional and reputational factors influencing adoption of GRI found that firm inclusion in DJSI was positively related to adoption of GRI (Nikolaeva and Bicho, 2011). Similarly, Perez-Batres et al., (2010) found that Latin American firms with a greater European influence (normative pressure) were twice as likely to be enrolled in the Global Compact or GRI. Latin American firms listed on the New York Stock Exchange (NYSE) (mimetic pressure) were also twice as likely to sign up under the Global Compact and GRI than firms not listed on the NYSE (Perez-Batres et al., 2010). Therefore, if a firm is listed on a sustainability index, then it will invest more money into CS strategies. Mimetic pressure from inclusion in a sustainability index will influence money invested in CS strategies.

*Proposition 2: The greater the mimetic pressure the greater the corporate sustainability investment.* 

#### 2.3.2.3 Normative Pressure → Corporate Sustainability Investment

Regulation is not always the responsibility of the government alone, sometimes increased corporate sustainability investment is influenced by corporate peer pressure in selfregulation through membership in CS organizations. The government can encourage and authorize self-regulation, but it can also arise from industry concerns about government regulatory intervention, or firms' fears that state regulation is insufficent to protect the industry (Campbell, 2007). However, in some cases industry self-regulation has been developed to evade government regulation and control, and enable predatory opportunistic behavior (Campbell, 2007). Investment in CS is a proactive strategy that can limit the transaction costs and hassles of compliance (Sharfman et al., 2004).

Institutional theory posits that if a firm wants to gain, improve, or maintain legitimacy and conform to societal expectations, then it will invest in CS strategies because the firm experiences normative isomorphism (pressure arising from social factors such as trade associations and CS organizations). Herremans et al., (2008) found that characteristics of the institutional field, especially the trade associations influenced development of different logics for acceptable corporate social behavior. According to Institutional theory, a firm's legitimacy is established when the firm conforms to norms, values, and beliefs in society (DiMaggio and Powell, 1983; Palazzo and Scherer, 2006). If a firm complies with these social norms and values, then it is perceived as meaningful, predictable, and trustworthy. As a result, stakeholders are more likely to supply resources to legitimate firms (Palazzo and Scherer, 2006). However, if a firm lacks legitimacy it runs the risk of being perceived as irrational or unnecessary (i.e. lacking a justification for its existence) (Palazzo and Scherer, 2006). Normative or cultural institutions

that give incentives for sustainable behavior influence firms to invest in CS (Galaskiewicz, 1991). As membership in such organizations offers information on the benefits of investing in CS activities, firms learn from each other's experiences, develop a more sophisticated understanding of CS issues, and are exposed to peer pressure (mimetic) to invest in CS strategies (Bansal, 2005; Campbell, 2007). Membership in these organizations provides a way of diffusing information on CS strategies and best practices which is important, as the topic of CS is a complex evolving issue. CS organizations are strategic alliances or inteorganizational networks were firms learn from each other.

Investment in CS strategy is complex because there is much uncertainty on best practices and implementation. Furthermore, what passes as sustainable firm behavior has shifted historically (Campbell, 2007). For example, child labor used to be socially acceptable but it is presently considered a human rights violation. The expectations of what is sustainable behavior also differs across nations. The professional or trade organizations often have codes of conduct to which their members are compelled to adhere. Examples of organizations that promote CS are Business for Social Responsibility (BSR) and Ethical Corporation. BSR is a business association that provides firms with expertise on social responsibility and provides an opportunity for executives to advance the field and learn from one other. An additional example is the Ethical Corporation, which is based in Europe and was set up to encourage debate and discussion on business ethics and CS practices.

Researchers have found a positive relationship between membership in professional organizations and CS investment (Bansal, 2005). Institutional theory posits that if a firm wants to gain, improve, or maintain legitimacy and conform to societal expectations, then it will invest

in CS strategies because firms experience coercive isomorphism (pressure from regulators and actors on whom the organization is dependent for resources), mimetic, and normative isomorphism (pressure arising from social factors such as trade associations and the media) (DiMaggio and Powell, 1983; Connelly et al., 2011). Adhering to the norms of a CS organization demonstrates the firm as a responsible corporate citizen. If industry-leading firms define CS strategy as a source of competitive advantage, then follower firms may feel pressure to adopt CS strategies (Sharfman et al., 2004). However, some firms may not necessarily adopt a CS mindset but could change their behavior because of the pressures that other firms exert in their industry and internationally (Sharfman et al., 2004). Hence we can expect a positive relationship between normative pressure and corporate sustainability investment. *Proposition 3: The greater the normative pressure the greater the corporate sustainability investment.* 

## 2.3.3 Financial Performance

In this study, financial performance includes profitability (measured by profit margin) and firm value (measured by book value of equity).

#### 2.3.3.1 Profitability $\rightarrow$ Corporate Sustainability Investment

Profitable firms have slack resources available. Organizational slack has been defined as the extra amount of resources that allow an organization to successfully adapt to internal and external pressure for change (Bansal, 2005). Furthermore, organizational slack can be viewed as a signal of the firm's financial health that gives insurance against unanticipated or changing circumstances (Lin et al., 2009). Organizational slack serves two roles: first, it acts as a buffer

that allows the firm to adjust to dramatic shifts or discontinuities in the environment with minimal trauma. Second, organizational slack acts as a catalyst enabling the firm to initiate new strategies in response to changes in the social, economic, and environmental world (Tseng et al., 2007). This capacity of shielding the firm from changes, while also stimulating the firm to react to external influences, is especially important for CS strategy. Organizational slack enables a firm to seek new solutions that may not have an immediate pay-off. In other words, organizational slack allows the firm to compete with less binding constraints (Tseng et al., 2007). As a result, availability of slack allows the firm to experiment with new strategies, such as investing in CS strategies.

The Business Case perspective is the bottom line reasons why a firm invests in CS. Firms that are profitable have slack resources that can be used to invest in CS. If a firm is not profitable it will not have the freedom to invest either strategically or at its discretion in CS. Researchers have found a positive relationship between profit margin and investment in CS (Dilling, 2010; Waddock and Graves, 1997). For example, Waddock and Graves (1997) found a positive relationship between return on sales (i.e., profit margin) and corporate social performance. Furthermore, a study by Dilling (2010), found that firms with higher profit margin were more likely to engage in CS by producing high quality sustainability reports. Hence if a firm is profitable then it will invest in CS.

Proposition 4: Profitability and corporate sustainability investment will be positively related.

#### 2.3.3.2 Firm Value $\rightarrow$ Corporate Sustainability Investment

Firm value measured by the book value of equity is an indicator of the resources that a firm has available. Researchers have found a positive relationship between firm value and investment in CS (Cai, Hoje, and Pan, 2012; Jo and Harjoto, 2011; Maignan and Ralston, 2002). For example, Jo and Harjoto (2011) found a positive relationship between firm value and CSR engagement. From the Business Case perspective if a firm has the resources to invest in CS then it will invest in CS. Hence we can expect a positive relationship between firm value and corporate sustainability investment.

Proposition 5: Firm value and corporate sustainability investment will be positively related.

#### 2.4 Review of Analytical Methods for Modeling Multiple Group Data

Various analytical models have been used to analyze multiple group data (e.g., groups by country, region, industry) and features of each group and variation across groups (Bou and Satorra, 2009). Researchers have used ANOVA, multiple regression, and multiple group structural equation modeling to analyze determinants of engagement in CS.

The ANOVA model assumptions are normal distribution for error terms and homoscedasticity (i.e., constant variance of error term) (Bou and Satorra, 2009; Kline, 2012). Advantages of the ANOVA are that it is robust against violations of normality or homogeneity assumptions for large representative samples with equal group sizes (Bolker et al., 2009). However, a limitation of the ANOVA approach is that it leads to biased F-tests and t-tests for small samples and unequal group sizes (Kline, 2012, Tasoluk et al., 2011). ANOVA is inefficient for complicated random effect structures and unbalanced data. An example of a study using ANOVA is the study by Buysse and Verbeke (2003) who use ANOVA to analyze the relationship between environmental strategy and stakeholders.

The multiple regression approach requires a normal distribution for error terms and homoscedasticity (Bou and Satorra, 2009; Kline, 2012). Advantages of multiple regression analysis are that it produces more accurate estimates than ANOVA (Thompson, 1986). A drawback of multiple regression is that estimates for correlated data will not be accurate because of the violation of the regression assumptions i.e., independence of observations and homoscedasticity (Tasoluk et al., 2011). The majority of CS studies have used multiple regression analysis (Henriques and Sadorsky, 1996; Bansal, 2005; Aerts et al., 2006; Brammer et al., 2009; Brammer and Pavelin, 2006; Fernandez-Kranz and Santalo, 2010). For example, Bansal (2005) found that media pressure, mimicry, and organizational size were positively related to corporate sustainable development. Furthermore, Brammer et al., (2009) analyzed the determinants of charitable giving while controlling for industry effects with dummy variables. Brammer et al., (2009) found a positive relationship between firm size and charitable giving and a negative relationship between leverage and charitable giving.

Multiple group structural equation modeling requires normality or asymptotic distribution free methods (Bou and Satorra, 2009). Advantages of the multiple group structural equation modeling approach are that it allows for: covariates, theoretical latent variables, measurement error, heteroscedasticity (across groups), establishment of measurement invariance, and it can be used for complex models (Bou and Satorra, 2009). The shortcoming with the multiple group structural equation modeling approach is that it requires large samples in each group (Bou and Satorra, 2009). Barnejee et al., (2003) and Dabas-Srivastava (2011) used

multiple group structural equation modeling. Barnejee et al., (2003) used multiple group structural equation modeling to compare antecedents of CSR actions for the high environmental impact sector and the medium environmental impact sector. Furthermore, Dabas-Srivastava (2011) used multiple group structural equation modeling to compare antecedents of CSR actions for altruistically driven firms versus strategically motivated firms.

Generalized linear mixed modeling (GLMM) is an approach that has been incorporated to overcome the limitations of OLS regression and ANOVA for multiple group or clustered data. GLMM allows for relaxing assumptions of normality and homoscedasticity. With GLMM, nonnormal data is handled by using link functions. The link function is a continuous function that defines the response of variables to predictors in a generalized linear model. Applying the link function makes the expected value of the response linear and the expected variances homogeneous. Advantages of GLMM are that: it allows for modeling of random effects, it produces more efficient and accurate estimates in the presence of correlated data and nonnormal data than ANOVA and OLS regression, and it is able to handle complicated correlated data structures and unbalanced data (Gbur et al., 2012, Ghisletta and Spini, 2004). A shortcoming of GLMM is that complex GLMMs are difficult to fit (Bolker et al., 2009). GLMM uses maximum likelihood estimation to estimate parameters. Based our knowledge none of the CS studies have used GLMM.

This study uses generalized linear mixed modeling because it was the best tool for analyzing the multiple group data. There were three main challenges with the data - unequal sample sizes for the groups, non-normal data with random effects, and correlated data. Hence the GLMM was the most appropriate approach for handling all three issues with the data.

GLMM allows for incorporation of correlation in the model. Observations that share the same level of the random effect (e.g., region) were modeled as being correlated (Gbur et al., 2012).

Generalized linear mixed modeling is used to analyze differences in drivers of CS investment for standardized vs. non-standardized reporting, developed vs. developing country firms, and retailers vs. manufacturers. Nesting the drivers of CS investment in the group variables allows for testing of the relationship between institutional pressure and financial performance and CS investment for standardized vs. non-standardized reporting, developed vs. developing country firms, and retailers vs. manufacturers. Furthermore, with the generalized linear mixed modeling approach we can account for variation by region and company type. This is important because observations from the same region or industry can be correlated. Table 1 summarizes alternative analytical methods for modeling multiple group data. Table 1. Alternative analytical methods for modeling multiple group data

Method	Description	Assumptions	Advantages	Disadvantages	Examples
ANOVA	Descriptive	Normal	Robust against	Biased F-tests and t-tests	Buysse and Verbeke
	model	distribution for	violations of	for small samples and	(2003)
	<ul> <li>no structural</li> </ul>	error term	normality or	unequal group sizes	
	parameters		homogeneity		
		Homoscedasticity	assumptions for	Inefficient for complicated	
		– constant	large	random effect structures	
		variance of error	representative	and unbalanced data	
		term	samples with equal		
			group sizes		
Multiple	-individual	Normal	More accurate	Correlated data violates	Aerts et al., (2006);
regression	regression	distribution for	estimates than for	OLS assumption (i.e.,	Bansal (2005);
	equations for	error term	ANOVA	independence of	Brammer et al.
	each group			observations)	(2009);
		Homoscedasticity			Henriques and
	- dummy				Sadorsky (1996);
	variable to				Fernandez-Kranz
	control for				and Santalo (2010);
	group effects				Brammer and
					Pavelin (2006)
	-fixed effects				
	only				

# Table 1 (cont'd)

Method	Description	Assumptions	Advantages	Disadvantages	Examples
Multigroup	Several	Normality or	Allows for:	-requires large samples in	Barnejee et al.,
structural	endogenous	asymptotic	- covariates	each group	(2003);
equation	variables are	distribution free			Dabas-Srivastava
modeling	analyzed in their	(adf) methods	-theoretical latent	-method cannot be used	(2011)
	simultaneous		variables	when there are fewer	
	interrelationship			observations than	
	Endogenous		-measurement	parameters	
	variables and		error		
	covariates can				
	be latent and or		-heteroscedasticity		
	affected with		(across groups)		
	measurement				
	error		- time dependence		
			Structural		
			interpretation of		
			parameters		
			Can be used for		
			complex models		

Table 1 (cont'd)

Method	Description	Assumptions	Advantages	Disadvantages	Examples
Generalized	Model specified	Allows for	-more efficient and	-complex GLMMs are	
linear mixed	with fixed and	relaxing OLS	accurate estimates	challenging to fit	
modeling	random effects	regression	in the presence of		
(GLMM)		assumptions of	correlated data and		
		normality and	non-normal data		
		homoscedasticity	than ANOVA and		
			OLS regression		
			-can be used to		
			analyze non-normal		
			data		
			-able to handle		
			complicated		
			correlated data		
			structures and		
			unbalanced data		

This chapter has described the propositions for the institutional pressures and financial performance drivers of investment in CS using the Business Case Perspective, Institutional theory and Transaction Cost Analysis. This chapter has also provided a literature review of the analytical approaches that have been used by researchers. In the next chapter, the methodology is described.

#### **CHAPTER 3: METHODOLOGY**

#### 3.1 Research Approach

The proposed conceptual model of the determinants of a firm's investment in corporate sustainability (CS) strategies was first tested in a baseline model. The model was then tested in three contexts: (i) firms that use standardized reporting and those that use non-standardized reporting, (ii) firms from developed and developing countries, as well as (iii) retailers and manufacturers. Annual reports, CS reports, and business databases were used to construct the data set. The unit of analysis in this study is the firm.

#### 3.2 Data Collection Method

The research methodology included two steps. The first step involved the collection of firm annual and CS reports for 2010 from company websites and business resource databases including African Financials, Orbis, ISI Emerging Markets, and Mergent Online. The second step involved building a secondary database for empirical testing of the proposed models.

## 3.2.1 Sample

The sample included 250 (227 usable) of the largest manufacturers and retailers in the U.S., Europe, and Africa (by sales volume). Publicly traded firms were chosen because more published data is available from publicly traded firms than from private ones. For inclusion in the sample, the firm had to meet the following criteria: (1) annual and CS reports accessible for the year 2010 (2) listed on a Stock Exchange, (3) US and European retailers were part of the Deloitte Global Powers of Retailing top 250; African firms were part of the Africa Report top 500

companies in Africa (4) had financial data for the year 2010 and (5) company websites and reports were in English. Firms that did not meet these criteria were excluded from the study.

Firms that used non-standardized reporting were 72.7% of the sample while those that use standardized reporting were 27.3% of the sample. Also, firms from developed countries made up 67.8% of the sample while those from developing countries made up 32.2%. Furthermore, retailers made up 49.8% of the sample while manufacturers made up 50.2%. A summary of the sample characteristics is given in Table 2.

		Frequency	Percent
	Developed	15/	67.8
	Country	104	
Region	Developing	72	32.2
	Country	/3	
	Total	227	100.0
	Non standardized	165	72.7
	reporting	105	
Reporting	Standardized	62	27.3
	reporting	02	
	Total	227	100.0
Commonwe	Retailer	113	49.8
Company	Manufacturer	114	50.2
турет	Total	227	100.0
	Food	114	50.2
Company	manufacturer	114	
Type II	Food retailer	49	21.6
	Non-food retailer	64	28.2
	Total	227	100.0

Table 2. Firm Characteristics by Group

In addition, the distribution of firms by country of origin is summarized in Table 3. Firms included in the sample were from the U.S., Europe, and Africa.

Country	Frequency
USA	93
Belgium	4
Denmark	1
France	10
Germany	7
Ireland	3
Italy	3
Netherlands	5
UK	14
Norway	1
Poland	1
Spain	2
Finland	3
Switzerland	5
Sweden	1
Russia	2
Slovenia	1
Turkey	1
Portugal	1
Total Europe	65
Morocco	2
Namibia	1
South Africa	33
Zimbabwe	11
Kenya	3
Nigeria	7
Botswana	2
Cote d'Ivoire	1
Egypt	4
Swaziland	1
Tanzania	1
Zambia	2
Tunisia	1
Total Africa	69
<b>Overall Total</b>	227

Table 3: Distribution of Firms by Country

#### 3.3 Data Analysis Methods

The propositions were tested using marginal generalized linear mixed models (also known as the population averaged model or generalized estimating equations). The linear predictor of the marginal generalized linear mixed model includes fixed effects only. Random effects were not modeled explicitly but their impact on variation was embedded in the working correlation structure of the model.

One of the advantages of the marginal generalized linear mixed model is that it provides unbiased estimation of population-averaged regression coefficients for complicated correlated data structures (Ghisletta and Spini, 2004). If the correlation of firms within the same cluster (e.g., developed or developing country firm clusters) is not accounted for in the analysis, the parameter standard estimates may be biased (Ghisletta and Spini, 2004). The marginal generalized linear mixed model provides consistent and unbiased estimates even when the correlation structure is misspecified. Another advantage of the generalized linear mixed model is that it also is able to handle unbalanced data (McCulloch, 2003). Furthermore, the marginal generalized linear mixed model is useful when the conditional generalized linear mixed model is too complex to be computationally tractable (Gbur et al., 2012). Also, generalized linear mixed models are able to produce more efficient and accurate estimates in the presence of correlated data, and or non-normal data, than ANOVA and regression (Gbur et al., 2012).

#### 3.3.1 Model Specification

The general form of the marginal generalized linear mixed model includes a linear predictor (η),  $\eta_j = g(\mu_j) = \beta_0 + \Sigma \beta_i X_{ij}$  where j = 1,...,n

where g(.) is the identity link function

 $\mu_{j}$  is the mean of the jth observation

x<sub>ij</sub> is the observed value of the ith explanatory variable for the jth observation
 In this study the explanatory variables include regulatory pressure, normative pressure,
 mimetic pressure, profitability, and firm value.

In matrix form, the response variable investment in CS follows a multivariate normal

 $Y \sim MVN [E(Y), V]$  where V = ZGZ' + R

distribution with mean  $\mu$ = E(Y) and variance V

Where Z is the matrix of the random effects, G is the matrix of residuals, R is a covariance matrix, Y is the vector for investment in CS, X is the fixed effects matrix, and  $\beta$  is the vector of fixed effects coefficients.

 $\eta = E[Y] = X\beta$ 

## 3.3.2 Preliminary Data Analysis

Data were checked for missing values and outliers. Outliers were deleted and missing values were imputed using expectation-maximization (EM) approach in SPSS 20. Data were transformed to reduce skewness and kurtosis. The natural log of the investment in corporate sustainability and financial performance variables were used in the analysis. Data for the institutional pressure variables were transformed using the square root transformation. Generalized linear mixed modeling was then used to test the hypothesized relationships between the constructs.

#### 3.4 Variables Used in Analysis

#### 3.4.1 Dependent Variables

#### 3.4.1.1 Corporate Sustainability Investment

Corporate sustainability investment is the money a firm invests in social and environmental programs as a percentage of total investments. The CS investment data source is the CS report. Total investments are the sum of social investments, environmental investments, and other capital expenditures not related to CS.

#### 3.4.2 Independent Variables

#### 3.4.2.1 Institutional Pressure

Institutional pressure includes: regulatory pressure (measured by number of CS regulations), mimetic pressure (measured by inclusion in sustainability index) and normative pressure (measured by membership in CS organizations).

Sustainability index inclusion represents the number of years a firm has been listed on a sustainability index such as DJSI World, DJSI Europe, DJSI North America, JSE SRI (Artiach et al., 2010; Nikolaeva and Bicho, 2011). The data source for inclusion in the sustainability index is the website of the sustainability index, and the CS report.

Membership in organizations promoting CS refers to the number of organizations that promote CS (such as, Business for Social Responsibility) in which a firm has membership. Normative pressure refers to pressure arising from social factors such as trade organization and CS organizations. The data source for the variable membership in an organization that promotes CS was the annual and CS report.

## 3.4.2.2 Financial Performance

In this study, financial performance includes profitability (measured by profit margin) and firm value (measured by book value of equity). The profit margin is the net income divided by sales. The book value of equity is the total equity found in the Balance Sheet. The data sources for the book value of equity were the annual reports, Mergent, ISI Emerging Markets, and Orbis online databases. Operationalization of variables, sources of data, and examples of studies using similar variables are given in Table 4.

Variable	Definition	Data Source	Use of the variable by other authors
Corporate	CS investment =	Annual and CS	Brammer et al.,
Investment	(social + environmental investment)÷	reports	(2009)
investment	Where, total investment = CS		
	investment + other investments		
	Social investment examples-		
	donations to charity, donations to		
	community healthcare projects,		
	humanitarian aid, prizes, grants for		
	community development and		
	education projects		
	Environmental investment examples-		
	investment for a waste water		
	treatment plant, investment in eco-		
	investments for energy savings and		
	transition to renewable energies.		
	consulting fees, ISO 14001		
	certification		
	Other investments examples-		
	property and equipment investments		
	which are not related to CS		

Table 4: Description of Variables and Data Source

# Table 4 (cont'd)

Variable	Definition	Data Source	Use of the variable by other authors
Independent Variables			
Institutional			
Pressure			
Regulatory Pressure	Number of CS regulations mentioned <i>CS regulations examples</i> - California Transparency in Supply Chain Act, National Environmental Waste Act	CS reports	Henriques and Sadorsky (1996)
Mimetic Pressure	Sustainability index inclusion - number of years the firm has been included in a sustainability index Sustainability index examples- DJSI, JSE SRI, FTSE4Good	DJSI , JSE SRI, Annual and CS reports	Nikolaeva and Bicho (2011)
Normative Pressure	Membership in CS organizations - number of organizations promoting CS in which a firm has membership <i>CS organizations examples</i> - British Retail Consortium, Beverage Industry Environmental Roundtable, Sustainability Consortium, Sustainable Packaging Coalition	DJSI , JSE SRI, Annual and CS reports	Tashman and Rivera (2010)

## Table 4 (cont'd)

Variable	Definition	Data Source	Use of the variable by other authors
Financial Performance			
Profitability		Annual report	Waddock and
	Profit margin =Net income ÷ Sales	-financial	Graves (1997)
		statements,	
		Mergent,	
		Orbis,	
		ISI Emerging	
		Markets	
Firm Value	Book value of equity	Annual report	
		-financial	
		statements,	
		Mergent,	
		Orbis,	
		ISI Emerging	
		Markets	

In the next chapter the results from the generalized linear mixed models are given.

#### **CHAPTER 4: RESULTS**

## 4.1 Descriptive Analysis Results

The average social investment in the pooled sample was \$12,908,790. On average social investment was much higher for food retailers (M= \$39,650,080) than for food manufacturers (M=\$6,044,770) and non-food retailers (M=\$4,661,500). This is most likely because food retailers have close and more frequent encounters with the customers than food manufacturers. The direct contact with the customer makes the food retailers relate more strongly with social sustainability issues and hence the food retailers make larger social investments. The average social investment was much higher for developed country firms (M=\$17,419,450) than developing country firms (M=\$3,393,130). This result is expected given differences in economic development between regions. On average social investment was much higher for standardized reporting firms (M=\$23,095,780) than non-standardized reporting firms have specific guidelines on social sustainability issues and reduced transaction costs of obtaining information on CS best practices.

The average environmental investment in the pooled sample was 5,963,430. On average environmental investment was higher for food manufacturers (M=8,310,020) than food retailers (M=7,650,970) and non-food retailers (M=491,530). This is most likely because non-food retailers are less visible in terms of their environmental impact than food retailers. Food retailers and manufacturers are subject to more scrutiny therefore they make larger environmental investments to counter the negative image and change public perceptions. The
average environmental investment was much higher for developed country firms (M=\$8,643,180) than developing country firms (M=\$310,250). The average environmental investment was much higher for standardized reporting firms (M=\$11,699,140) than non-standardized reporting firms (M=\$3,808,190). This result is expected since standardized reporting firms have specific environmental performance standards and reduced transaction costs of obtaining information on CS best practices.

The average total CS investment in the pooled sample is \$18,870,350. On average total CS investment is higher for food retailers (M= \$47,301,080) than non-food retailers (M=\$5,146,450) and food manufacturers (M=\$14,354,770). The average total CS investment is much higher for developed country firms (M=\$26,059,890) than developing country firms (M=\$3,703,380). On average total CS investment was higher for standardized reporting firms (M=\$34,794,940) than non-standardized reporting firms (M=\$12,886,570). This is most likely because standardized reporting firms use CS investment as a signal of their commitment to CS.

The average CS investment level in the pooled sample is 4.1%. CS investment was the highest for standardized reporting firms (M=6.94%) and for developing countries (M=5.61%). In contrast the average CS investment level for developed country firms was 3.4%. Non-standardized reporting firms had the lowest CS investment (M=2.99%). The average CS investment levels for food manufacturers, retailers, food retailers, and non-food retailers were 4.25%, 3.96%, 3.98% and 3.94% respectively. On average the total CS investment is higher for developed country firms (M=\$26,059,890) than for developing country firms (M=\$3,703,380). However, the average amount of money invested in CS as a percentage of total investment is higher for bight for developing countries (5.61%) than developed countries (3.4%). This may be because

firms from developing countries desire access to global markets therefore they are motivated to improve their legitimacy by investing a larger portion of their total investments to CS. CS investment is highest for standardized reporting firms because standardized reporting firms incorporate CS strategy fully into their business strategy whilst non-standardized reporting firms engage in some CS issues only symbolically.

The average number of CS regulations in the pooled sample for all firms was 1.52. Standardized reporting firms (M= 2.23) had the highest CS regulations mentioned. In contrast non-standardized reporting firms (M= 1.26) had nearly half the number of CS regulations of standardized reporting firms (M= 2.23). The average CS regulations for food manufacturers, retailers, food retailers, and non-food retailers were 1.22, 1.83, 1.47 and 2.11 respectively. CS regulations mentioned for developing countries (M= 2.10) were nearly double those of developed countries (M=1.25). However enforcement of regulations in developing countries is weaker than in developed countries. Having more CS regulations does not necessarily imply that the regulations are effective in inducing CS investment.

In the pooled sample the average number of years for inclusion in a sustainability index for all firms was 1.39. The average number of years for inclusion in a sustainability index was highest for standardized reporting firms (M=2.84). In contrast, the average number of years for inclusion in a sustainability index for non-standardized reporting firms was only 0.84. For developed countries inclusion in a sustainability index was more than double (M= 1.71) that of developing countries (M=0.70). Furthermore the average number of years for inclusion in a sustainability index was much lower for manufacturers (M=0.95) than retailers (M=1.83). The

average number of years for inclusion in a sustainability index was higher for food retailers (M = 2.29) than non-food retailers (M=1.48).

In the pooled sample the average CS organization membership was 6.51. The average number of CS organizations was highest for standardized reporting firms (M=13.57). In contrast the average number of CS organizations for non-standardized reporting firms was 3.85. The average number of CS organizations was much higher for developed country firms (M=8.30) than developing country firms (M=2.59). Membership in CS organizations was nearly the same for manufacturers (M=6.44) and retailers (M=6.58). However membership in CS organizations was much higher for food retailers (M=9.43) than non-food retailers (M=4.49).

In the pooled sample the average profit margin for all firms was 5.64. Profit margin was highest for food manufacturers (M=7.05). However retailers had lower profit margins- retailer (M=4.23), food retailer (M=3.63), non-food retailer (M=4.69). The low profit margin can represent the general nature of the retail industry as a low profit margin high inventory turnover industry (Corstjens and Corstjens, 1995). On average, profit margin was higher for standardized reporting (M=6.66) than non-standardized reporting firms (M=5.26). Furthermore, on average developing country firms had higher profit margins (M=6.79) than developed country firms (M=5.10).

In the pooled sample the average book value of equity was \$3,675,596,000. Book value of equity was highest for non-food retailers (M= \$5,110,194,000). On average, book value of equity was lower for food manufacturers (M=\$2,629,449,000), retailers (M=\$4,731,000,000), food retailers (M= \$4,235,726,000) than non-food retailers. On average book value of equity was much higher for developed country firms (M=\$4,849,004,000) than developing country

firms (M=\$1,200,186,000). On average, book value of equity was higher for non-standardized reporting firms (M=\$4,270,477,000) than standardized reporting firms (M=\$2,092,443,000)

The average firm age in the pooled sample is 63.08 years. The average number of employees is 59,330 in the pooled sample. Furthermore, on average firms operate in 20.92 countries. In the sample average sales are relatively large, \$12,685,340,140 while average income is \$533,128, 870.

#### 4.2 Marginal Generalized Linear Mixed Model Analysis Results

Analysis of the drivers of investment in CS was conducted using the marginal generalized mixed model. Six models were included in the analysis. Model 1 analyzed the effects of financial performance variables on investment in CS. Model 2 is the baseline model, in this model the effects of both financial performance and institutional pressures on investment in CS were analyzed with the pooled data. Model 3 analyzed the effects of financial performance and institutional pressures nested within the use of standardized reporting variable (standardized reporting versus non-standardized reporting). Model 4 analyzed the effects of financial performance and institutional pressures nested within region variable (developed versus developing countries). Model 5 analyzed the effects of financial performance and institutional pressures nested within company type variable (retailer versus manufacturer). Model 6 analyzed the effects of financial performance and institutional pressures nested within company type variable (retailer versus manufacturer). Model 6 analyzed the effects of financial performance and institutional pressures nested within company type variable (retailer versus manufacturer). Model 3, 4, 5 and 6 are multilevel models were the explanatory variables are nested within use of standardized reporting, region, and company type variables respectively.

# 4.2.1. Model 1 Financial Performance Effects (Pooled Sample)

Model 1 analyzed the effect of profit margin and book value of equity on investment in CS while taking into account correlation by region. Observations for firms from the same region can be correlated, so in Model 1, region is used as a repeated measure in the analysis to take this correlation into account.

	F	Df1	Df2	Significance
Fixed effects source				
Profit margin	5.14	1	224	0.024*
Book value of equity	1.319	1	224	0.252
Model	3.501	2	224	0.032*
-2log likelihood	1135.017			
AICC	1139.071			
BIC	1145.840			

Table 5: Model 1 Financial Performance Fixed Effects Tests (Pooled Sample)

\*p<0.05, \*\*p<0.01, \*\*\*p<0.001

Tables 5 indicates that overall Model 1 is statistically significant F (2,224) =3.501, p<0.05. It also

shows that profit margin has a significant effect on investment in CS.

Table 6: Model 1 Fixed Effects Estimates for Financial Performance (Pooled Sample)

					95% Confidence Interval	
	Estimate	Std. Error	t-stat	p-value	Lower	Upper
Fixed coefficient						
Intercept	-5.896	2.259	-2.610	0.010*	-10.346	-1.445
Profit margin	1.732	0.764	2.267	0.024*	0.227	3.237
Book value of equity	-0.650	0.566	-1.148	0.252	-1.767	0.466

Table 6 indicates that in Model 1 profit margin positively influences investment in CS. However book value of equity does not influence investment in CS.

Table 7: Model 1 Residual Effects Estimates (Developed vs. Developing country)

					95% Confidence Interval	
	Estimate	Std. Error	Z	Sig.	Lower	Upper
Residual effect						
Var (Developed country)	8.054	0.927	8.692	0.000***	6.428	10.091
Var (Developing country)	10.715	1.790	5.986	0.000***	7.723	14.886

Table 7 shows that the residual effect for developed and developing countries on investment in CS is significant. The residual effect estimates account for variability by region (developed vs. developing country) but the estimates do not have an interpretation *per se* (Gbur et al., 2012).

# 4.2.2. Model 2 Baseline Model, Institutional Pressure and Financial Performance Effects

# (Pooled Sample)

Model 2 is an extension of Model 1. In Model 2 institutional pressure variables (inclusion in sustainability index, membership in sustainability organizations, and CS regulations) are added. The model also accounted for variation in the response variable due to region. Observations for firms from the same region can be correlated, so in Model 2, region is used as a repeated measure in the analysis to take this correlation into account. 

 Table 8: Model 2 Baseline Model Fixed Effects Tests (Pooled Sample)

	F	Df1	Df2	Significance
Fixed effects source				
CS regulations	6.480	1	221	0.012*
Inclusion in sustainability index	9.421	1	220	0.002**
Membership in sustainability organizations	19.309	1	192	0.000***
Profit margin	4.475	1	221	0.036*
Book value of equity	4.389	1	171	0.038*
Model	16.491	5	221	0.000***
-2log likelihood	1085.872			
AICC	1089.927			
BIC	1096.668			

Table 8 indicates that overall model 2 is statistically significant F (5,221) =16.491, p<0.001. Table 8 also shows that CS regulations, inclusion in sustainability index, membership in sustainability organizations, profit margin, and book value of equity have a significant effect on investment in CS.

The information criteria for Model 1 and Model 2 indicate that Model 2 provides a better model fit than Model 1. The Corrected Akaike's Information Criterion (AICC) and Bayesian Information Criterion (BIC) of Model 2 are lower (AICC= 1089.927, BIC=1096.668) than Model 1 (AICC= 1139.071, BIC=1145.840). Therefore, Model 2 which includes both financial performance and institutional pressure, is better at explaining variation in CS investment than Model 1, which only includes financial performance drivers. As a result, Model 2 is used as the baseline model for comparing drivers of investment in CS across groups.

					95% Con Interval	fidence
	Estimate	Std. Error	t-stat	p-value	Lower	Upper
Fixed coefficient						
Intercept	-6.314	1.860	-3.395	0.001**	-9.980	-2.649
CS regulations	0.524	0.206	2.546	0.012*	0.118	0.930
Inclusion in sustainability index	0.555	0.181	3.069	0.002**	0.199	0.911
Membership in sustainability	0.523	0.119	4.394	0.000***	0.288	0.758
organizations						
Profit margin	1.332	0.630	2.115	0.036*	0.091	2.574
Book value of equity	-1.087	0.519	-2.095	0.038*	-2.111	-0.063

Table 9: Model 2 Fixed Effects Estimates (Pooled Sample)

Regulatory pressure is posited to have a positive effect on investment in CS (P1). Results from Model 2 (table 9) indicate a positive relationship between CS regulations and investment in CS ( $\beta$ =0.524, p<0.05), supporting P1. Mimetic pressure is hypothesized to have a positive effect on investment in CS (P2). Results from Model 2 (table 9) indicate a positive relationship between inclusion in sustainability index and investment in CS ( $\beta$ =0.555, p<0.01), supporting P2. Normative pressure is posited to have a positive effect on investment in CS (P3). Results from Model 2 (table 9) indicate a positive relationship between membership in sustainability organizations and investment in CS ( $\beta$ =0.523, p<0.001), supporting P3.

Profitability is hypothesized to have a positive effect investment in CS (P4). Results from Model 2 (table 9) indicate a positive relationship between profit margin and investment in CS ( $\beta$ =1.332, p<0.05), supporting P4. Results from Model 2 (table 9) indicate a negative relationship between book value of equity and investment in CS ( $\beta$ =-1.087, p<0.05). Therefore P5 was not supported.

					95% Confidence	
					Interval	
	Estimate	Std. Error	Z	Sig.	Lower	Upper
Residual effect						
Var (Developed country)	6.617	0.769	8.605	0.000***	5.269	8.309
Var (Developing country)	7.932	1.340	5.920	0.000***	5.697	11.045

Table 10: Model 2 Residual Effects (Developed vs. Developing Country)

Table 10 shows that the residual effect for developed and developing countries on investment in CS is significant. The residual effects estimates account for variability by region but do not have an interpretation *per se* (Gbur et al., 2012).

# 4.2.3 Model 3 Fixed Effects for Standardized versus Non-standardized Reporting

Model 3 was included to test the effect of the institutional pressure and financial performance on investment in CS when firms use standardized or non-standardized reporting. Each explanatory variable was nested within the use of standardized reporting variable during analysis. Furthermore, observations for firms from the same region can be correlated, so in Model 3, region is used as a repeated measure in the analysis to take this correlation into account.

	F	Df1	Df2	Significance
Fixed effects source				
CS regulations (use of standardized	2.466	2	216	0.087
reporting)				
Inclusion in sustainability index (use of	3.818	2	171	0.024*
standardized reporting)				
Membership in sustainability organizations	5.578	2	173	0.004**
(use of standardized reporting)				
Profit margin (use of standardized	2.735	2	216	0.067
reporting)				
Book value of equity (use of standardized	1.809	2	216	0.166
reporting)				
Model	11.358	10	216	0.000***
-2log likelihood	1082.375			
AICC	1086.431			
BIC	1093.125			

Table 11: Model 3 Fixed Effects Tests (Use of Standardized Reporting)

Tables 11 indicates that the overall model 3 is statistically significant F (10,216) = 11.358,

p<0.001. Table 11 also shows that inclusion in the sustainability index and membership in

sustainability organizations (when nested within use of standardized reporting) have a

significant effect on investment in CS.

					95% Confidence	
					Interval	
	Estimate	St. Error	t-stat	p-value	Lower	Upper
Fixed coefficient						
Intercept	-5.739	1.928	-2.977	0.003**	-9.538	-1.939
CS regulations (non-	0.383	0.292	1.312	0.192	-0.194	0.961
standardized reporting)						
CS regulations (standardized	0.534	0.298	1.790	0.075	-0.054	1.122
reporting)						
Inclusion in sustainability index	0.457	0.268	1.704	0.091	-0.073	0.987
(non-standardized reporting)						
Inclusion in sustainability index	0.560	0.259	2.161	0.032*	0.049	1.071
(standardized reporting)						
Membership in sustainability	0.567	0.181	3.129	0.002**	0.209	0.926
organizations (non-						
standardized reporting)						
Membership in sustainability	0.240	0.207	1.157	0.249	-0.169	0.649
organizations (standardized						
reporting)						
Profit margin (non-	1.096	0.666	1.647	0.101	-0.216	2.409
standardized reporting)						
Profit margin (standardized	1.519	0.665	2.285	0.023*	0.209	2.829
reporting)						
Book value of equity (non-	-0.990	0.620	-1.597	0.112	-2.215	0.235
standardized reporting)						
Book value of equity	-0.862	0.809	-1.066	0.288	-2.456	0.732
(standardized reporting)						

Table 12: Model 3 Fixed Effects Estimates (Standardized vs. Non-standardized Reporting)

Regulatory pressure is posited to have a positive effect on investment in CS for nonstandardized reporting firms. Results from Model 3 (table 12) indicate a non- significant relationship between CS regulations and investment in CS for non-standardized reporting firms ( $\beta$ =0.383, p=0.192). Results from Model 3 (table 12) indicate a positive relationship between inclusion in a sustainability index and investment in CS for standardized reporting firms ( $\beta$ =0.560, p<0.05). Normative pressure is posited to have a positive effect on investment in CS for nonstandardized reporting firms. Results from Model 3 (table 12) indicate a positive relationship between membership in CS organizations and investment in CS for non-standardized reporting firms ( $\beta$ =0.567, p<0.01). Results from Model 3 (table 12) indicate a positive relationship between profit margin and investment in CS for standardized reporting firms ( $\beta$ =1.519, p<0.05). Results from Model 3 (table 12) indicate a negative non-significant relationship between book value of equity and investment in CS for non-standardized reporting firms ( $\beta$ =-0.990, p=0.112) and standardized reporting firms ( $\beta$ =-0.862, p=0.288).

Table 13: Model 3 Residual Effects	(Developed vs. Developing Country)
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					95% Confidence	
					Interval	
	Estimate	Std. Error	Z	Sig.	Lower	Upper
Residual effect						
Var (Developed country)	6.708	0.788	8.516	0.000***	5.329	8.444
Var (Developing country)	7.918	1.340	5.908	0.000***	5.682	11.033

Table 13 shows that the residual effect for developed and developing countries on investment in CS is significant. The residual effect estimates account for variability by region but do not have an interpretation *per se* (Gbur et al., 2012).

## 4.2.4 Model 4 Fixed Effects for Developed versus Developing Countries

Model 4 tested the effect of institutional and financial performance on investment in CS for firms from developed and developing countries, while taking into account variation by company type (i.e., retailer or manufacturer). Each explanatory variable was nested within region during analysis. Furthermore, observations for firms from the same company type can be correlated, so in Model 4, company type is used as a repeated measure in the analysis to take this

correlation into account.

Table 14: Model 4 Fixed Effects Tests (Region)

	F	Df1	Df2	Significance
Fixed effects source				
CS regulations (region)	1.267	2	150	0.285
Inclusion in sustainability index (region)	9.449	2	216	0.000***
Membership in sustainability organizations	11.195	2	202	0.000***
(region)				
Profit margin (region)	1.354	2	206	0.261
Book value (region)	1.373	2	149	0.257
Model	13.348	10	216	0.000***
-2log likelihood	1078.337			
AICC	1082.394			
BIC	1089.088			

Tables 14 indicates that the overall model 4 is statistically significant F (10,216) =13.348,

p<0.001. Table 14 also shows that inclusion in the sustainability index and membership in

sustainability organizations (when nested within region) have a significant effect on investment

in CS.

					95% Confidence	
					Interval	
	Estimate	Std.	t-stat	p-value	Lower	Upper
		Error				
Fixed coefficient						
Intercept	-5.569	1.891	-2.945	0.004**	-9.297	-1.842
CS regulations (Developed country)	0.289	0.275	1.048	0.296	-0.254	0.831
CS regulations (Developing country)	0.511	0.430	1.189	0.237	-0.340	1.363
Inclusion in sustainability index	0.396	0.200	1.984	0.048*	0.003	0.790
(Developed country)						
Inclusion in sustainability index	1.263	0.326	3.879	0.000***	0.621	1.905
(Developing country)						
Membership in sustainability	0.573	0.133	4.293	0.000***	0.310	0.836
organizations (Developed country)						
Membership in sustainability	0.671	0.335	2.000	0.047*	0.009	1.332
organizations (Developing country)						
Profit margin (Developed country)	1.065	0.652	1.633	0.104	-0.220	2.350
Profit margin (Developing country)	0.960	0.670	1.432	0.154	-0.361	2.281
Book value of equity (Developed	-0.917	0.562	-1.631	0.104	-2.027	0.192
country)						
Book value of equity (Developing	-0.691	1.937	-0.357	0.722	-4.527	3.145
country)						

Table 15: Model 4 Fixed Effects Estimates (Developed vs. Developing Country)

Regulatory pressure is posited to have a positive effect on investment in CS for developed country firms and developing country firms. Results from Model 4 (table 15) indicate a non-significant relationship between CS regulations and investment in CS for developed country firms ( $\beta$ =0.289, p=0.296) and for developing country firms ( $\beta$ =0.511, p=0.237). Results from Model 4 (table 15) indicate a positive relationship between inclusion in a sustainability index ( $\beta$ =0.396, p<0.05) and investment in CS for developed country firms and developing country firms ( $\beta$ =1.263, p<0.001).

Results from Model 4 (table 15) indicate a positive relationship between membership in CS organizations and investment in CS for developed countries ( $\beta$ =0.573, p<0.001) and developing countries ( $\beta$ =0.671, p<0.05). Profitability is posited to have a positive effect on investment in CS for developed country firms. Results from Model 4 (table 15) indicate a nonsignificant relationship between profitability and investment in CS for developed country firms ( $\beta$ =1.003, p=0.185). Results from Model 4 (table 15) indicate a non-significant relationship between book value of equity and investment in CS for developed country firms ( $\beta$ =-0.917, p=0.104) and developing country firms ( $\beta$ =-0.691, p=0.722).

Table 16: Model 4 Residual Effects (Retailer vs. Manufacturer)

					95% Confi Interval	dence
	Estimate	Std. Error	Z	Sig.	Lower	Upper
Residual effect						
Var (Retailer)	6.465	0.917	7.048	0.000***	4.896	8.538
Var	7.514	1.034	7.265	0.000***	5.737	9.841
(Manufacturer)						

Table 16 shows that the residual effect for retailers and manufacturers on investment in CS is significant. The residual effect estimates account for variability by company type but do not have an interpretation *per se* (Gbur et al., 2012).

# 4.2.5 Model 5 Fixed Effects for Retailer vs. Manufacturer

Model 5 tested the effect of institutional and financial performance on investment in CS for retailers and manufacturers, while also taking into account variation by region (i.e., developed or developing country). Each explanatory variable was nested within the company type variable during analysis. Furthermore, observations for firms from the same region can be correlated, so in Model 5, region is used as a repeated measure in the analysis to take this correlation into

account.

Table 17: Model 5 Fixed Effects Tests (Company Type I)

	F	Df1	Df2	Significance
Fixed effects source				
CS regulations (company type I)	6.382	2	216	0.002**
Inclusion in sustainability index (company type I)	4.595	2	206	0.011*
Membership in sustainability organizations	14.494	2	157	0.000***
(company type I)				
Profit margin (company type I)	4.614	2	216	0.011**
Book value of equity (company type I)	10.589	2	216	0.000***
Model	12.766	10	216	0.000***
-2log likelihood	1077.525			
AICC	1081.581			
BIC	1088.275			

Tables 17 indicates that the overall model 5 is statistically significant F (10,216) = 12.766,

p<0.001. Table 17 also shows that: CS regulations, inclusion in the sustainability index,

membership in sustainability organizations, profit margin, and book value of equity (when

nested within company type) have a significant effect on investment in CS.

					95% Confidence	
					Interval	
	Estimate	Std.	t-stat	p-value	Lower	Upper
		Error				
Fixed coefficient						
Intercept	-6.080	1.882	-3.231	0.001**	-9.790	-2.371
CS regulations (Retailer)	0.893	0.250	3.568	0.000***	0.399	1.386
CS regulations (Manufacturer)	0.043	0.317	0.136	0.892	-0.581	0.667
Inclusion in sustainability index	0.255	0.235	1.085	0.279	-0.208	0.718
(Retailer)						
Inclusion in sustainability index	0.811	0.285	2.841	0.005**	0.248	1.373
(Manufacturer)						
Membership in sustainability	0.654	0.141	4.635	0.000***	0.376	0.933
organizations (Retailer)						
Membership in sustainability	0.508	0.187	2.711	0.009**	0.137	0.879
organizations (Manufacturer)						
Profit margin (Retailer)	0.911	0.686	1.327	0.186	-0.442	2.263
Profit margin (Manufacturer)	1.469	0.638	2.301	0.022*	0.211	2.727
Book value of equity (Retailer)	-0.222	0.666	-0.333	0.740	-1.536	1.092
Book value of equity	-1.883	0.410	-4.595	0.000***	-2.690	-1.075
(Manufacturer)						

Table 18: Model 5 Fixed Effects Estimates (Retailer vs. Manufacturer)

Regulatory pressure is posited to have a positive effect on investment in CS for retailers. Results from Model 5 (table 18) indicate a positive relationship between CS regulations and investment in CS for retailers ( $\beta$ =0.893, p<0.001) but a non-significant relationship for manufacturers ( $\beta$ =0.043, p=0.892). Mimetic pressure is hypothesized to have a positive effect on investment in CS for manufacturers. Results from Model 5 (table 18) indicate a significant relationship between inclusion in a sustainability index and investment in CS for retailers ( $\beta$ =0.811, p<0.01). Normative pressure is posited to have a positive effect on investment in CS for retailers. Results from Model 5 (table 18) indicate a significant between membership in CS organizations and investment in CS for retailers ( $\beta$ =0.654, p<0.001) and manufacturers ( $\beta$ =0.508, p<0.01).

Results from Model 5 (table 18) indicate a positive relationship between profit margin and investment in CS for manufacturers ( $\beta$ =1.469, p<0.05). Results from Model 5 (table 18) indicate a negative relationship between book value of equity and investment in CS for manufacturers ( $\beta$ =-1.883, p<0.001

Table 19: Model 5 Residual Effects (Developed vs. Developing Country)

					95% Confi Interval	dence
	Estimate	Std. Error	Z	Sig.	Lower	Upper
Residual effect						
Var (developed	6.271	0.744	8.427	0.000***	4.970	7.913
country						
Var (developing	8.296	1.431	5.797	0.000***	5.916	11.633
country)						

Table 19 shows that the residual effect for developed and developing countries on investment in CS is significant. The residual effect estimates account for variability by region but do not have an interpretation *per se* (Gbur et al., 2012).

## 4.2.6 Model 6 Fixed Effects for Food Retailer vs. Non-Food Retailer vs. Food Manufacturer

Model 6 tested the effect of institutional and financial performance on investment in CS for food retailers, non-food retailers, and food manufacturers, while also taking into account variation by region (i.e., developed or developing country). Each explanatory variable was nested within the company type variable during analysis. Furthermore, observations for firms from the same region can be correlated, so in Model 6, region is used as a repeated measure in

the analysis to take this correlation into account.

Table 20: Model 6 Fixed Effects Tests (Company Type II)

	F	Df1	Df2	Significance
Fixed effects sources				
CS regulations (company type II)	7.447	3	211	0.000***
Inclusion in sustainability index (company type II)	3.193	3	205	0.025**
Membership in sustainability organizations	8.779	3	175	0.000***
(company type II)				
Profit margin (company type II)	3.539	3	211	0.016**
Book value of equity (company type II)	6.913	3	211	0.000***
Model	11.359	15	211	0.000***
-2log likelihood	1066.121			
AICC	1070.179			
BIC	1076.825			

Tables 20 indicates that the overall model 6 is statistically significant F (15,211) = 11.359,

p<0.001. Table 20 also shows that: CS regulations, inclusion in the sustainability index,

membership in sustainability organizations, profit margin, and book value of equity (when

nested within company type) have a significant effect on investment in CS.

Table 21: Model 6 Fixed Effects Estimates (Food Retailer vs. Non- Food Retailer vs. Food Manufacturer)

					95% Con	fidence
					Interval	
Fixed coefficient	Estimate	Std.	t-sat	p-value	Lower	Upper
		Error				
Intercept	-6.460	1.846	-3.499	0.001**	-10.099	-2.821
CS regulations	0.051	0.316	0.160	0.873	-0.572	0.673
(food manufacturer)						
CS regulations (food retailer)	0.284	0.386	0.735	0.463	-0.478	1.046
CS regulations	1.472	0.316	4.662	0.000***	0.850	2.094
(non-food retailer)						
Inclusion in sustainability index	0.804	0.285	2.817	0.005**	0.241	1.367
(food manufacturer)						
Inclusion in sustainability index	0.396	0.307	1.291	0.198	-0.209	1.001
(food retailer)						
Inclusion in sustainability index	0.050	0.350	0.143	0.886	-0.641	0.741
(non-food retailer)						
Membership in sustainability	0.507	0.187	2.714	0.008**	0.137	0.878
organizations						
(food manufacturer)						
Membership in sustainability	0.866	0.205	4.219	0.000***	0.461	1.270
organizations (food retailer)						
Membership in sustainability	0.226	0.211	1.070	0.286	-0.190	0.642
organizations						
(non-food retailer)						
Profit margin	1.593	0.627	2.539	0.012*	0.356	2.830
(food manufacturer)						
Profit margin (food retailer)	1.046	0.729	1.435	0.153	-0.391	2.484
Profit margin	0.975	0.682	1.430	0.154	-0.369	2.319
(non-food retailer)						
Book value of equity	-1.862	0.409	-4.548	0.000***	-2.669	-1.055
(food manufacturer)						
Book value of equity	-0.090	1.121	-0.081	0.936	-2.304	2.124
(food retailer)						
Book value of equity	0.104	0.771	0.135	0.893	-1.415	1.623
(non-food retailer)						

Results from Model 6 (table 21) indicate a positive relationship between CS regulations

and investment in CS for non-food retailers ( $\beta$ =1.472, p<0.001) but a non-significant

relationship for food retailers ( $\beta$ =0.284, p=0.463), and food manufacturers ( $\beta$ =0.051, p=0.873). Results from Model 6 (table 21) indicate a positive relationship between inclusion in a sustainability index and investment in CS for food manufacturers ( $\beta$ =0.804, p<0.01) but a nonsignificant relationship for food retailers ( $\beta$ = 0.396, p=0.198) and non-food retailers ( $\beta$ = 0.050, p=0.886). Results from Model 6 (table 21) indicate a positive relationship between membership in CS organizations and investment in CS for food retailers ( $\beta$ =0.866, p<0.000) and food manufacturers ( $\beta$ =0.507, p<0.01). However the relationship between membership in CS organizations and investment in CS for non- food retailers was not significant ( $\beta$ =0.226, p<0.286)

Results from Model 6 (table 21) indicate a positive relationship between profit margin and investment in CS for food manufacturers ( $\beta$ =1.593, p<0.05) but a non-significant relationship for food retailers ( $\beta$ =1.046, p=0.153), and non-food retailers ( $\beta$ =0.975, p=0.154). Results from Model 6 (table 21) indicate a negative relationship between book value of equity and investment in CS for food manufacturers ( $\beta$ =-1.862, p<0.001) but a non-significant relationship for food retailers ( $\beta$ =-0.090, p=0.936) and non-food retailers ( $\beta$ =0.104, p=0.893). Table 22: Model 6 Residual Effects (Developed vs. Developing Country)

					95% Confidence Interval	
Residual effects	Estimate	Std. Error	Z	Sig	Lower	Upper
Var (Developed country)	6.137	0.739	8.305	0.000***	4.847	7.770
Var (Developing country)	8.129	1.414	5.749	0.000***	5.781	11.432

Table 22 shows that the residual effect for developed and developing countries on investment

in CS is significant. The residual effect estimates account for variability by region but do not

have an interpretation per se (Gbur et al., 2012).

# 4.2.7 Summary of Results

Table 23 summarizes the results of marginal generalized linear mixed models.

Table 23: Summary of Results of Marginal Generalized Linear Mixed Models

Proposition	Summary of Propositions	Predicted	Actual	Proposition
Proposition 1 (P1)	Regulatory pressure -> investment in CS	Positive	Positive	Yes
	Regulatory pressure -> investment in CS (non standardized reporting)	Positive	Not significant	No
	Regulatory pressure -> investment in CS (developed and developing)	Positive	Not significant	Νο
	Regulatory pressure -> investment in CS (retailer and manufacturer)	Positive	Positive for retailers	Yes
	Regulatory pressure -> investment in CS (food retailer and non-food retailer)	Positive	Positive for non-food retailers	Yes

# Table 23 (cont'd)

Proposition	Summary of Propositions	Predicted	Actual	Proposition
		Relationship	Relationship	Supported
Proposition 2	Mimetic pressure->investment	Positive	Positive	Yes
(P2)	in CS			
	Mimetic pressure->investment	Positive	Positive	Yes
	in CS (standardized reporting)			
	Mimetic pressure->investment	Positive	Positive	Yes
	in CS (developed and			
	developing)			
	Mimetic pressure->investment	Positive	Positive	Yes
	in CS (manufacturer)			
Proposition 3	Normative pressure ->	Positive	Positive	Yes
(P3)	investment in CS			
· ·	Normative pressure->	Positive	Positive	Yes
	investment in CS			
	(non standardized reporting)			
_	Normative pressure ->	Positive	Positive	Yes
	investment in CS			
	(developed and developing)			
	Normative pressure ->	Positive	Positive	Yes
	investment in CS			
	(retailer and manufacturer)			
	Normative pressure ->	Positive	Positive for	Yes
	investment in CS		food	
	(food retailer and non-food		retailers	
	retailer)			
Proposition 4	Profitability-> investment in CS	Positive	Positive	Yes
(P4)				
	Profitability-> investment in CS	Positive	Positive	Yes
	(standardized reporting)			
	Profitability-> investment in CS	Positive	Not	No
	(developed)		significant	
	Profitability-> investment in CS	Positive	Positive	Yes
	(manufacturer)			

Table 23 (cont'd)

Proposition	Summary of Propositions	Predicted Relationship	Actual Relationship	Proposition Supported
Proposition 5 (P5)	Firm value-> investment in CS	Positive	Negative	No
	Firm value -> investment in CS (standardized reporting and non-standardized)	Positive	Not significant	No
	Firm value -> investment in CS (developed and developing)	Positive	Not significant	No
	Firm value -> investment in CS (manufacturer)	Positive	Negative	No

Figure 2. Determinants of Investment in CS Strategy (Pooled Sample)



Figure 2 shows that the regulatory pressure, mimetic pressure, normative pressure, and profitability has a positive effect on investment in CS. However firm value has a negative effect on CS investment.

Figure 3. Determinants of Investment in CS Strategy (Standardized vs. Non-standardized Reporting)



Standardized reporting

----→ Non-Standardized reporting

Figure 3 shows that the mimetic pressure has positive effect for firms that use standardized reporting. In addition, normative pressure has a positive effect for firms that use non-standardized reporting. Furthermore, profitability has a positive effect on investment in CS for firms that use standardized reporting.

Figure 4. Determinants of Investment in CS Strategy (Developed vs. Developing Country)



----→ Developing country

Figure 4 shows that the mimetic pressure and normative pressure have a positive effect on

investment in CS for firms from both developed and developing countries.

Figure 5. Determinants of Investment in CS Strategy (Retailer vs. Manufacturer)



→ Retailer

---- ► Manufacturer

Figure 5 shows that regulatory pressure and normative pressure have a positive effect on investment in CS for retailers. On the other hand, profitability, mimetic pressure, and normative pressure have a positive effect on investment in CS for manufacturers. Furthermore, firm value has a negative effect on investment in CS for manufacturers.

In summary, the results from a general baseline model show that as regulatory pressure, mimetic pressure, normative pressure, and profitability increase, investment in CS increases. However the results also indicate that as firm value increases, investment in CS decreases. For standardized reporting firms, higher levels of mimetic pressure and profitability lead to higher CS investment levels. In contrast for non-standardized reporting firms, as normative pressure increases, investment in CS increases.

For developed country firms, as mimetic pressure and normative pressure increase, investment in CS increases. Similarly for developing country firms, as mimetic pressure and normative pressure increase, investment in CS increases. For retailers in general, higher regulatory pressure and mimetic pressure levels leads to higher CS investment levels. In contrast for manufacturers, as regulatory pressure, mimetic pressure, normative pressure, and profitability increase CS investment increases. However, as firm value increases CS investment decreases. For non-food retailers, regulatory pressure leads to higher CS investment levels. While for food retailers, normative pressure leads to higher CS investment levels. In the next chapter the results are discussed.

#### **CHAPTER 5: DISCUSSION**

## 5.1 Influence of Institutional Pressures on Investment in Corporate Sustainability (CS)

Overall, the results indicate that institutional pressures influence investment in CS. This implies that institutions such as CS organizations, sustainability indices, and CS regulations are needed to ensure that firms are responsive to societal concerns regarding CS. Firms will invest more heavily in CS to maintain legitimacy, reputation, and their competitive position. However this relationship also depends upon whether a firm uses standardized reporting or not, whether a firm is from a developed or developing country, and whether the firm is a retailer or a manufacturer.

#### 5.1.1 Regulatory Pressure

## 5.1.1.1 Regulatory Pressure $\rightarrow$ Corporate Sustainability Investment

We hypothesized a positive relationship between regulatory pressure and CS investment. The results indicate a positive relationship between regulatory pressure and corporate sustainability investment. CS investment increases as a response to regulatory pressure to gain or maintain legitimacy. This result supports the findings of Henriques and Sardosky (1996) who found a positive relationship between government regulation and the probability that a firm would formulate an environmental plan. In another study, Darnall (2003) found a positive relationship between regulatory pressure and adoption of an environmental management system.

One possible explanation comes from Institutional Theory. This theory posits that a firm maintains legitimacy by conforming to regulatory pressures and investing in CS. The formal

rules influence strategic choice, especially the extent to which firms invest in CS. Firms gain legitimacy by following the formalized procedures regarding CS. Implementation of these formalized procedures will lead to greater investment in CS. Furthermore, a positive relationship between regulatory pressure and CS investment implies that firms will invest in CS as they seek acceptance and endorsement from state regulatory agencies. Failure of a firm to meet regulatory standards could lead to the state regulatory agency's closure of the firm and the firm's subsequent loss of reputation. This can also lead to penalties, fines, or higher taxes, which all discourage firms from unsustainable practices.

5.1.1.2 Regulatory Pressure, Use of Standardized Reporting  $\rightarrow$  Corporate Sustainability Investment

We hypothesized a positive relationship between regulatory pressure and CS investment for non-standardized reporting firms. The results indicate that regulatory pressure did not have a significant effect on CS investment for non-standardized reporting firms. This may be because the country's regulatory environment may have a stronger effect on CS investment than its standardized reporting context.

# 5.1.1.3 Regulatory Pressure, Region $\rightarrow$ Corporate Sustainability Investment

We hypothesized a positive relationship between regulatory pressure and CS investment for developed and developing country firms. The results indicate that regulatory pressure is not a driver of CS investment for either developed or developing country firms. Regulatory pressure may not have a significant effect on CS investment for developed and developing country firms because international standards and hypernorms may have a more salient effect on CS investment than regulatory pressure. Firms face pressure to invest in CS

from the country's regulatory environment and from the regional regulatory environment (e.g., EU regulations). It may be that the country's regulatory environment may have a stronger effect on CS investment than the regional regulatory environment. It was not feasible for us to conduct this study while considering country's regulatory environment separately.

Furthermore, the lack of a significant relationship between regulatory pressure and CS investment for developed and developing country firms may imply that it is not the regulation *per se* that drives CS investment, but something beyond regulatory requirements such as self-regulation that drives CS investment. For a firm to demonstrate credible CS engagement, a firm must exceed mere compliance with regulatory pressures (Brammer et al., 2006).

This study uses the number of CS regulations mentioned in a report to measure regulatory pressure. However, the effectiveness of the regulation and level of enforcement of the regulations may drive CS investment rather than the number of CS regulations mentioned. Regulatory enforcement in developing countries is weak, however results from this study indicate that normative pressure has a greater impact on CS investment than regulatory pressure for developing countries.

## 5.1.1.4 Regulatory Pressure, Company Type $\rightarrow$ Corporate Sustainability Investment

As predicted by Institutional Theory, regulatory pressure had a positive effect on CS investment. The results support the Institutional Theory argument that if a firm desires to attain or maintain legitimacy in its industry, then it will conform to regulatory pressures and invest in CS. Firms will invest in CS as a response to the threat of punishment. To avoid fines and penalties, firms will invest in CS strategies that reduce or eliminate any potentially harmful social or environmental practices.

We expected a positive relationship between regulatory pressure and CS investment for retailers and manufacturers. The results indicate that regulatory pressure is an important driver of CS investment for retailers but not for manufacturers. These results support the findings from prior research (Husted and Allen, 2006). Contrary to prior research (Henriques and Sardosky, 1996; Banerjee et al., 2003), regulatory pressure did not have a significant effect on CS investment for manufacturers. This may be because manufacturers may have an industry substitute for national CS regulations that firms prefer. Although CS regulations may exist for manufacturers, the firms may prefer to comply with the industry standards. When we compare food versus non-food retailers, the results indicate that regulatory pressure had a positive effect on CS investment for non-food retailers but not for food retailers. This implies that regulatory pressure is not an effective tool for promoting CS investment for food retailers. It may be that the current CS regulations do not provide credible sanctions for low CS investment or that they are not effective at inducing better CS performance.

## 5.1.2 Mimetic Pressure

## 5.1.2.1 Mimetic Pressure→ Corporate Sustainability Investment

As hypothesized, we found a positive relationship between mimetic pressure (proxied by the number of years a firm is included in a sustainability index) and CS investment. These results support previous findings of Nikolaeva and Bicho (2010) who found a positive, relationship between membership in the Dow Jones Sustainability Index (DJSI) and adoption of GRI reporting principles. Herremans et al., (2008) also found that characteristics of the institutional field, especially the structure of the industry, trade associations, and local context

influenced development of different logics for acceptable corporate social behavior. This result supports the Institutional Theory argument that if a firm desires to maintain legitimacy, then it will conform to mimetic pressures by investing in CS. This is because firms will imitate others to reduce uncertainty of CS strategies and enhance conformity to CS norms. When a clear CS strategy is not available, firms may decide to mimic a peer that they perceive to be successful (i.e., one that is a member of a sustainability index). Membership in a sustainability index confers legitimacy regarding CS strategy. Sustainability index inclusion confers legitimacy because inclusion in a sustainability index requires (1) specific performance based CS standards adopted by firms, (2) periodic 3<sup>rd</sup> party audits of adoption of these standards by participating firms, (3) rewards such as public recognition of CS performance by being listed on a sustainability index (4) credible sanctions i.e., delisting from sustainability index if the firm does not meet standards set by the index (Darnall and Sides, 2008). Therefore, if a firm is part of a sustainability index, then it will invest more in CS to meet the norms and requirements of the sustainability index.

Information-based imitation and rivalry-based imitation behavior (Lieberman and Asala, 2006), can be used to explain the positive association between mimetic pressure and CS investment. Information-based imitation occurs when firms face uncertainty of CS strategies and challenges (e.g., climate change and limited non-renewable resources). Due to uncertainty firms will interpret actions of firms (indirect competitors) that are leaders in sustainability that are investing in CS (i.e., part of the sustainability index) as information which pressures them to invest in CS. Another explanation for the positive association between mimetic pressure and CS investment comes from rivalry-based imitation. Firms may face pressure to imitate other firms

that are investing in CS as a risk mitigation strategy to avoid being left behind by direct competitors i.e., rivalry-based imitation (Lieberman and Asala, 2006). The firms may feel that they would be left at a competitive disadvantage if they do not invest in CS as their rivals (Lieberman and Asala, 2006). As more firms invest in CS, firms that do not invest in CS may be perceived as abnormal and not conforming to CS norms.

#### 5.1.2.2 Mimetic Pressure, Use of Standardized Reporting $\rightarrow$ Corporate Sustainability Investment

We found a positive relationship between mimetic pressure and CS investment for standardized reporting firms. This result could be explained by the fact that the reduced transaction costs felt by firms that are included in a sustainability index and standardized reporting firms may enhance the incentives for CS investment. Searching for information on CS investment can be costly when there is uncertainty regarding CS strategy. The standardized CS reporting provides formalization of CS reporting procedures, which helps improve the quality of the CS report. The greater the formalization using standardized reporting, as well as membership in a sustainability index, the greater the investment in CS.

This result supports the Institutional Theory argument that if a firm desires to maintain legitimacy in its industry, then it will conform to mimetic pressures and invest in CS. The result supports previous findings of Nikolaeva and Bicho (2010) who found a positive relationship between membership in the Dow Jones Sustainability Index (DJSI) and adoption of GRI reporting principles. Furthermore, Latin American firms listed on the New York Stock Exchange (NYSE) (mimetic pressure) were also twice as likely to sign up under the Global Compact and GRI than firms not listed on the NYSE (Perez-Batres et al., 2010).

#### 5.1.2.3 Mimetic Pressure, Region→ Corporate Sustainability Investment

We found a positive relationship between mimetic pressure and CS investment for developed and developing country firms. The result supports the Institutional Theory argument that if a firm desires to maintain legitimacy in its region, then it will conform to mimetic pressures and invest in CS. Firms imitate other firms that are successful in CS strategy when the choice of an appropriate CS strategy is uncertain. Firms will imitate other firms to keep pace with other firms' CS investments because mimicking other firms provides a quick and less costly way of developing a CS strategy and improving the firm's reputation.

The result also supports previous findings of Nikolaeva and Bicho (2010) who found a positive relationship between membership in the Dow Jones Sustainability Index (DJSI) and adoption of GRI reporting principles. Another study found that global institutional pressures influenced the form of CSR that firms in Kenya implemented (Muthuri and Gilbert, 2010). A combination of Institutional theory and Signaling theory (Spence, 1974) suggests that CS investments that bring the firm into alignment with social norms will be more effective at maintaining the firm's legitimacy when those investments are costly and observable to stakeholders (Connelly et al., 2010).

#### 5.1.2.4 Mimetic Pressure, Company Type $\rightarrow$ Corporate Sustainability Investment

We hypothesized a positive relationship between mimetic pressure and CS investment for manufacturers. The results show that mimetic pressure (proxied by the number of years a firm is included in a sustainability index) had a positive effect on CS investment for manufacturers. These results support previous findings of Nikolaeva and Bicho (2010) who found a positive relationship between membership in the Dow Jones Sustainability Index (DJSI)

and adoption of Global Reporting Initiative reporting principles. The results could be explained by the fact that manufacturers desire to gain legitimacy and they will therefore imitate other firms that are also members of a sustainability index. Firms that are part of a sustainability index can benchmark their CS activities against each other to reduce cognitive uncertainty regarding CS, ensure approval, relevance and to legitimize their CS strategies (Aerts et al., 2010).

Arora and Gangopadadhyay (1995) suggest that public image of a firm is the key driving force behind voluntary over compliance of environmental regulation. Cases of manufacturers not acting in a sustainable manner are more visible to stakeholders. Hence, mimetic pressures are more likely to influence investment in CS for manufacturers than for retailers. When a manufacturer is part of a sustainability index, it will invest more in CS to improve its reputation because of its visibility. The manufacturers model themselves after others due to gain legitimacy and improve their reputation and avoid having to navigate the complexity of researching CS strategies. The sustainability index is influential in defining what is legitimate regarding CS strategy (Connelly, 2011).

#### 5.1.3 Normative Pressure

#### 5.1.3.1 Normative Pressure→ Corporate Sustainability Investment

As hypothesized, we found a positive relationship between normative pressure and CS investment. In accordance with Institutional theory and Transaction Cost Analysis, normative pressure (proxied by the number of CS organizations a firm belongs to) is an important driver of CS investment. Institutional theory posits that if a firm wants to gain, improve, or maintain
legitimacy and conform to societal expectations, then it will invest in CS strategies because firms experience normative isomorphism (pressure arising from social factors such as trade associations and the media). When firms belong to organizations that promote CS, they experience peer pressure to invest in CS. If they do not conform to the norms of the CS organizations, they may be discredited (Tate et al., 2011). In addition, collaborative problem solving CS organizations help firms adjust to changes regarding CS.

Furthermore, the results corroborate findings of Delmas and Montes-Sancho (2011) who found a positive relationship between normative forces and adoption of environmental management standards. Another study found a positive relationship between membership in professional organizations and CS investment (Bansal, 2005). Another possible explanation for the positive association between normative pressure and CS investment, is that when firms belong to CS organizations they interact in a more systematic and frequent basis with their peers, hence they are more likely to develop a long-term view that may supplant their short-term views (Campbell, 2007).

From a Social Network theory perspective, diffusion of CS strategies occurs through networks of interconnected firms (Granovetter, 1973; Burt, 1992; Connelly et al., 2011). When firms are members of CS organizations they have benefits such as: (1) increased access to timely and novel information about sustainability practices and (2) they are able to leverage CS information from one context to another (Connelly, 2011). As part of these networks of CS organizations firms experience peer pressure to invest in CS. The greater the number of CS organizations a firm belongs to the greater the peer pressure to invest in CS.

5.1.3.2 Normative Pressures, Standardized CS Reporting  $\rightarrow$  Corporate Sustainability Investment

We expected a positive relationship between normative pressure and CS investment for non-standardized reporting firms. The results show that normative pressure is an important driver of CS investment for non-standardized reporting firms. This is because although the firms are not using standardized reporting, they still need to obtain information on CS investment strategies. Even firms that use non-standardized CS reporting may still desire to build and maintain credibility regarding CS issues. This is because the CS organization confers credibility to the non-standardized reporting firms. Hence non-standardized reporting firms which are perceived as having poor performance regarding CS issues have a special incentive to maintain legitimacy by responding to CS organization norms to invest in CS. When non-standardized reporting firms belong to a CS organization, they experience pressure to conform to the norms of the CS organization which encourage investment in CS.

In accordance with Institutional theory, we found that normative pressure is an important determinant and it is positively related to CS investment for non-standardized reporting firms. These findings corroborate findings of Herremans et al., (2008) who found that characteristics of the institutional field, especially trade associations, influenced development of different logics for acceptable corporate social behavior.

# 5.1.3.3 Normative Pressure, Region $\rightarrow$ Corporate Sustainability Investment

We expected a positive relationship between normative pressure and CS investment for developed and developing country firms. As predicted by Institutional theory and Transaction Cost Analysis, normative pressure (proxied by the number of CS organizations a firm has membership) is an important driver of CS investment for developed country firms and developing country firms. CS investment and international CS governance are complex issues for developed and developing country firms. Membership in organizations that promote CS (i.e. normative pressure) enables developed country firms and developing country firms to obtain and share information regarding choice and implementation of CS investment strategies. This, in turn, enables a firm to reduce transaction costs of an information search, to maintain legitimacy, and to improve credibility regarding CS issues. These findings corroborate the findings of a study of 341 Chinese manufacturers found that normative pressure influenced firms to have greater environmental performance (Zhu and Sarkis, 2007). Zeng and Eastin (2012) also found that normative pressure through reputational considerations and global market competition can induce environmental stewardship for developing country firms. The positive association between normative pressure and CS investment for both developed and developing countries reflects convergence in CS governance across regions.

# 5.1.3.4 Normative Pressure, Company Type $\rightarrow$ Corporate Sustainability Investment

We expected a positive relationship between normative pressure and CS investment for retailers and manufacturers. In accordance with Institutional theory and Transaction Cost Analysis, we found that normative pressure is positively related to CS investment for retailers and manufacturers. As predicted by Institutional theory and Transaction Cost Analysis, normative pressure (proxied by the number of corporate sustainability organizations a firm has membership) is an important driver of CS investment for retailers and manufacturers. These findings corroborate findings from previous studies (Husted and Allen, 2006; Dabas-Srivastava, 2011; Tashman and Rivera, 2010). For example, Dabas- Srivastava (2011) found that social pressures positively influence corporate social responsibility actions for retailers. Furthermore,

Tashman and Rivera (2010) found that membership in Business for Social Responsibility led to greater levels of social impact. Husted and Allen (2006) found that institutional pressures guide decision making on CSR because firms respond to industry and regulatory expectations regarding corporate social responsibility. Normative pressure is important within industries because when a few companies act irresponsibly, it can affect the credibility and reputation of an entire industry (Tate et al., 2011).

It is difficult for retailers and manufacturers to determine all their effects on society and the physical environment through manufacturing, distribution, retailing, consumption, and disposal (Iles, 2007). This is because supply chains are complex, and firms face principal agent problems and transaction costs (i.e., costs of collecting information, making standards, and verifying compliance) regarding CS (Iles, 2007). Firms gather information on CS through CS organizations to reduce these transaction costs.

When we compare food versus non-food retailers, the results indicate that normative pressure had a positive effect on CS investment for food retailers but not for non-food retailers. One possible explanation for this result is that food retailing has risks such as food safety issues which are highly visible to the public and thus food retailers may face more public scrutiny. From a legitimacy theory perspective, firms in industries that are perceived as more sensitive to CS issues experience more normative pressure to invest in CS. In other words food retailers have to work harder than non-food retailers to change their image in the eyes of stakeholders regarding CS. Therefore CS organizations will have a greater effect on CS investment for food retailers than non-food retailers.

# 5.2 Influence of Financial Performance on Investment in CS

Overall, the results indicate that financial performance influences CS investment. However, this relationship also depends upon whether a firm uses standardized reporting or not, whether a firm is from the developed or developing country group, and whether the firm is a retailer or manufacturer. Rather than examining whether financial performance is a consequence or antecedent of CS investment this study focuses on the overall relationship/association between the variables.

## 5.2.1 Profitability

# 5.2.1.1 Profitability $\rightarrow$ Corporate Sustainability Investment

We expected a positive relationship between profitability and CS investment. The results show a positive relationship between profitability and CS investment. Profitable firms will tend to make larger CS investments than less profitable firms. This is because profitable firms are likely to have the funds to invest in CS, whereas less profitable firms will face financial restrictions (Adams and Hardwick, 1998; Chiu and Sharfman, 2011). As predicted by the Business Case perspective, profitability positively influences CS investment. This result also corroborates previous findings (Adams and Hardwick 1998; Seifert et al., 2004). A positive relationship was found between profit margin and corporate charitable donations (Adams and Hardwick 1998). Another study found a positive relationship between slack resources (cash flow) and corporate philanthropy (Seifert et al., 2004). In this study we only show a relationship between profitability and CS investment. We do not specify the direction of the relationship. Causation can be shown in future studies using longitudinal data. From a Business Case

perspective firms will invest in CS when they have the resources to do so. However, some studies have also shown that engagement in CS leads to improved financial performance (Orlitzky et al., 2003; Dabas-Srivastava, 2011). CS investment can be good for a firm's bottomline and can lead to higher profits.

### 5.2.1.2 Profitability, Use of standardized Reporting $\rightarrow$ Corporate Sustainability Investment

We expected a positive, relationship between profitability and CS investment for standardized reporting firms. As predicted by the Business Case perspective, the results provide evidence that profitability is positively related to CS investment for standardized reporting firms. This is because standardized reporting firms that are profitable are more likely to have the funds to invest in CS than less profitable firms. Standardized reporting firms desire to signal their commitment to CS through transparent reporting and investment in CS when they have the resources to do so. Furthermore, the transaction costs of standardized reporting firms are lower than non-standardized reporting firms, which allows more funds to be available to firms that are already profitable, which, in turn, leads to increased CS investment.

This result corroborates previous research findings (Easley and O'Hara, 2004; Seifert et al., 2004; Waddock and Graves, 1997). For example, Waddock and Graves (1997) found a positive relationship between return on sales (i.e., profit margin) and corporate social performance. In addition, Easley and O'Hara (2004) found that firms with lower costs of capital (i.e. more slack resources) generally engaged in more corporate disclosures. Furthermore, Seifert et al. (2004) found that high slack resources lead to higher corporate philanthropy.

#### 5.2.1.3 Profitability, Region $\rightarrow$ Corporate Sustainability Investment

We expected a positive relationship between profitability and CS investment for developed country firms. Contrary to the prediction by the Business Case perspective, the results show that profitability is not an important driver of investment in CS for developed country firms. This may be because the developed country firms may decide to invest in CS even during periods of low profitability (Brammer and Millington, 2004). Alternatively, lack of a significant relationship between profitability and CS investment for developed country firms may occur because a mediator may exist. For example, using data from 599 companies from 28 countries, Surroca et al., (2010) found that there was no direct relationship between CSR and CFP. However an indirect relationship existed that relies on the mediating effect of a firm's intangible resources (i.e., innovation, human capital, reputation, culture) (Surroca et al., 2010). 5.2.1.4 Profitability, Company Type  $\rightarrow$  Corporate Sustainability Investment

We expected a positive relationship between profitability and CS investment for manufacturers. As predicted by the Business Case perspective, profitability positively influences CS investment for manufacturers. Thus the nature of a firm's response to social and environmental challenges depends on the firm's financial performance. There is evidence that profitability is an important driver of CS investment for manufacturers. This result corroborates previous research findings: Waddock and Graves (1997) found a positive relationship between return on sales (i.e., profit margin) and corporate social performance. Furthermore, a study of 124 firms from 25 countries found a positive relationship between profit margin and quality of sustainability reports (Dilling, 2010).

According to the Business Case perspective firms will invest in CS because they have the excess resources to commit (Brammer and Millington, 2004; Amato and Amato, 2011). Profitability influences the extent to which the firm has resources to participate in CS investment. The results show that profitability influences CS investment for manufacturers only. This is consistent with the findings from Chiu and Sharfman (2011) who found that more profitable firms may not be motivated to engage actively in CSP unless they are under greater scrutiny by stakeholders. Since manufacturers have a higher perceived impact on CS issues than retailers, their actions are more visible and are under more scrutiny than retailers. Therefore, the more profitable a manufacturer is, the more they well invest in CS. Due to the sensitivity of the public regarding manufacturers CS activities, the manufacturers they are more motivated to improve their legitimacy when they are profitable. Profitability does not influence CS investment for retailers. This may be because investment in corporate sustainability serves a strategic purpose for the retailers, and hence, the retailers may decide to invest in CS even during periods of low profitability (Brammer and Millington, 2004). The descriptive analysis shows that the retail industry is characterized by lower profit margins than manufacturers. However retailers overall profitability (i.e., return on equity) may be comparable to manufacturers (Corstjens and Corstjens, 1995).

The Resource Based View (Barney, 1991) suggests that firm specific differences in financial resources drive strategy. Therefore profitability is positively associated with CS investment. Furthermore, Porter's five forces analysis (Porter, 1980) posits that the conditions within an industry determine strategy and performance. Therefore we can expect differences in the relationship between profitability and CS investment across industries.

# 5.2.2 Firm value

#### 5.2.2 .1 Firm Value $\rightarrow$ Corporate Sustainability Investment

We expected a positive relationship between firm value and CS investment. However, contrary to the prediction of the Business Case perspective, firm value was found to negatively influence CS investment. This implies that firms with a higher firm value will invest less in CS. This result is contrary to previous research (Cai et al., 2012; Jo and Harjoto, 2011; Maignan and Ralston, 2002). For example, Jo and Harjoto (2011) found a positive relationship between firm value (measured by Tobin's q) and CSR engagement. Contrary to previous studies, we found a negative relationship between firm value (i.e., book value of equity) and investment in CS. This is because firms with higher book value of equity are strategic in engaging in CS activities that are cost reducing and require less investment in CS. In contrast, firms with lower book value of equity are engaging in altruistic costly CS investments.

Firm value may also reflect the influence of shareholders on CS strategy. From a Resource Dependency theory perspective (Pfeffer and Salancik, 1978), the firm is dependent on the shareholders for resources; the shareholders have the ability to influence decisions on CS investment. Shareholders include short term investors who may not be concerned about CS issues and long term legitimacy, long term investors, and investors that are concerned about CS issues. Given the conflicting goals of these investors it is more difficult for firms to make decisions on CS investments the larger the firm value due to bureaucracy issues. This leads to a negative association between firm value and CS investment. The larger the firm value, the larger the firm size, and the more bureaucratic the firm. Hence CS investment may be an outcome of power influences of the different shareholders rather than financial performance

*per se*. If the shareholders that are concerned about CS issues have less power over resources than other shareholders firms are not likely to pay attention for their request for CS investments (Artiach et al., 2010).

## 5.2.2 .2 Firm Value, Use of Standardized Reporting $\rightarrow$ Corporate Sustainability Investment

We expected a positive relationship between firm value and CS investment for standardized reporting firms and non-standardized reporting firms. However, contrary to *a priori* expectations, firm value does not influence CS investment for standardized reporting firms and non-standardized reporting firms. The non-significant relationship between book value equity and CS investment for standardized and non-standardized reporting firms suggests that CS investment is influenced by other determinants that are not strictly financial performance-based. There may be other mediating variables that influence the relationship such as CEO ethical values or management commitment to CS. Barnejee et al., (2003) found that top management commitment and values of the CEO have been found to positively influence investment in CS. Firm value may influence CS investment when top management is highly committed to CS issues.

# 5.2.2 .3 Firm Value, Region $\rightarrow$ Corporate Sustainability Investment

We expected a positive relationship between firm value and CS investment for developed and developing country firms. Contrary to the prediction of the Business Case perspective, firm value is not positively associated with CS investment for developed and developing country firms. The non-significant relationship implies CS investment is influenced by other determinants.

#### 5.2.2 .4 Firm Value, Company Type $\rightarrow$ Corporate Sustainability Investment

We expected a positive relationship between firm value for manufacturers and CS investment. The results indicate that firm value negatively influences CS investment for manufacturers. This result is contrary to previous research findings: Jo and Harjoto (2011) found a positive relationship between firm value and corporate social responsibility engagement. A study of U.S. firms in controversial industries found that firm value is positively related to corporate social responsibility engagement (Cai et al., 2012). A probable explanation for the difference is that the relationship between firm value and investment in corporate sustainability is sensitive to the measure of firm value specified, with a positive relationship for Tobin's Q but a negative relationship for book value of equity. This is because Tobin's Q and book value of equity are measuring different aspects of firm value.

From an Institutional theory perspective, one possible interpretation for this negative relationship is that manufacturers that have low firm value invest in corporate sustainability to gain legitimacy. However, once they have achieved this legitimacy, they will then invest less in corporate sustainability. Manufacturers with high firm value will invest less in corporate sustainability because their corporate sustainability strategies are more visible than manufacturers with lower firm value. Manufacturers with low firm value desire to make their corporate sustainability investment strategies more visible, and will thereby make higher corporate sustainability investments.

Alternatively, the negative relationship between firm value and CS investment may be due to the composite nature of the dependent variable (which incorporates social, economic and environmental dimensions), or it may reflect the short term costs of investing in corporate sustainability (Bansal, 2005). Furthermore, a larger firm value may hinder radical changes in CS strategy, such as increased CS investment (Surroca et al., 2010).

The non-significant relationship between firm value and CS investment for retailers implies CS investment is influenced by other determinants that are not strictly financial performance-based for retailers. There may be other mediating variables that influence the relationship. Examples of possible mediating variables include sustainability orientation, reputation, or top management commitment.

Surprisingly, the performance variables of profitability and firm value have opposite effects on CS investment. This is because profitability and firm value are measuring different aspects of financial performance. Furthermore, for publicly traded firms the more a firm draws from a large number of shareholders the less the CS investment because there can be competing objectives of shareholders. Some shareholders may be short term investors who may not be interested in long term investments of CS strategy. Publicly traded firms depend on shareholders for resources therefore the shareholders have the power to coerce the firms to focus only on profit maximization and not CS issues.

The results helps to provide insight into the mixed results that have been found in the CSP-CFP literature. Results from past studies in CSP-CFP literature suggest that there can be a positive, negative, or non-significant relationship between CSP and CFP (McGuire et al., 1988; Orlitzky et al., 2003). Based on the results from this study, we can conclude that there is a negative relationship between firm value and CS investment for manufacturers. Hence, the relationship between CSP and CFP is sensitive to chosen measures of financial performance and to the industry context.

In summary, regulatory pressure, mimetic pressure, normative pressure, profitability, and firm value influence CS investment. However, these relationships differ when we take into account region, use of standardized CS reporting, and company type. The results from this study indicate that regulatory pressure influences CS investment for retailers. Furthermore, mimetic pressure influences CS investment for standardized reporting firms, developed and developing country firms, and manufacturers. In addition, normative pressure influences CS investment for non-standardized reporting firms, developed and developing country firms, as well as manufacturers and retailers. Also, profitability influences CS investment for standardized reporting firms and manufacturers.

#### **5.3 Managerial Implications**

The results from this study emphasize the importance of contextual conditions (i.e., use of standardized reporting vs. non-standardized reporting, developed vs. developing country, retailer vs. manufacturer). Specifically, they show that the context of the drivers of CS investment matters. Thus, it is important for CS managers to take into account the context of the firm when developing a CS strategy. This study has important implications for practitioners regarding CS strategy. CS managers should avoid adopting a "one-size-fits-all approach to CS strategy. The key institutional pressures to which firms respond vary by industry, region, and standardized reporting context. For example, for manufacturers, as mimetic pressure increases CS investment increases. However for retailers, mimetic pressure does not influence CS investment. CS strategy is evolving and is subject to rapid change. Firms therefore need to continuously monitor CS trends and apply the best CS strategy that is appropriate for the firm in

its specific context (i.e., industry, developing vs. developing country, and standardized reporting vs. non-standardized reporting).

Comparison of the drivers of CS investments across industries, regions, CS reporting context helps firms identify the most relevant institutional pressures in their particular context which they can concentrate on increasing legitimacy for the firm regarding CS. Normative pressure from CS organizations is the most important institutional driver of CS investment for food retailers. Therefore food retailers should focus on responding to and conforming to the norms of the CS organizations that encourage CS investment. Regulatory pressure is the most important driver of CS investment for non-food retailers. Therefore if food retailers focus only on regulatory pressure they will waste their resources because regulatory pressure is not an effective tool for increasing CS investment in the context of food retailers. Although public regulation is needed so that there are basic guidelines regarding CS engagement, a public regulatory approach is not effective in increasing CS investment for food retailers. Therefore comparison of the determinants of CS investment can help firms conserve their financial and time resources. In both developed and developing countries mimetic pressure is positively associated with CS investment. Therefore firms should respond to mimetic pressure for investing in CS by imitating leaders in CS that are part of sustainability indices in both developed and developing countries. Furthermore, CS managers can reduce uncertainty regarding their CS investment strategy by imitating CS investment strategy of firms that are leaders in sustainability strategy. It is important for CS managers to keep track of CS trends and institutional pressures both globally and locally so that the firm can address them. This is important because CS strategy is constantly evolving with rapid changes and uncertainty.

It is important for CS managers to understand the role of institutional pressure in CS strategy so that they can strategically manage the pressures and respond to them accordingly. When CS managers prepare their CS budgets and justify expenditure to other senior executives they should frame CS investment as a long term investment in their reputation management and legitimacy and not as a cost. Managers of firms that desire to rebuild public trust and credibility and those that desire to be perceived as legitimate regarding CS to customers, investors, and the general public should respond to institutional pressures by conforming to CS norms of investing in CS. CS managers who are uncertain of the appropriate response to CS issues such as climate change should mimic and benchmark their firms with those firms perceived as being more successful in CS strategy. Firms that desire to improve their ability to understand evolving CS issues should be aware of and conform to emerging CS norms and CS regulations. Managers of CS initiatives need to recognize the major role of institutional pressure in shaping the CS strategy.

From a marketing perspective, legitimacy of the firm regarding CS needs to be maintained by constant communication with stakeholders though tools such as public relations, social media, and CS reporting. Due to cases of green washing (a gap existing between what the firm says it does regarding CS and what it actually does) credibility of CS marketing communications has been severely eroded. Hence marketing managers need to rebuild customer trust by signaling their commitment to CS through actions such as responding to CS norms when they participate in CS organizations and sustainability indices. Furthermore in their communications CS managers should frame CS strategy as an opportunity for long term investment that reduces risk and improves the firm's reputation. Managers should not view CS

investment as an economic liability that takes scarce resources away from their budget but as a channel to signal their commitment to CS by aligning to CS norms.

From a marketing perspective, for a firm to have a valid claim as a sustainable company it needs to first respond to institutional pressures and conform to CS norms so that its claims are credible. Merely stating that a firm is concerned about CS issues without evidence to back up the claim (e.g., substantial investments in CS and engagement in CS organizations) is not enough. Achieving legitimacy is essential for firms because it is required for effective reputation management. Therefore firms that want to be categorized as sustainable firms can prove their membership as sustainable firms by adhering accountability standards of the CS organizations and sustainability indices.

Inter-organizational networks of CS organizations were associated with higher CS investment. This result emphasizes the importance of relying on collaborative network based CS governance mechanisms that facilitate diffusion of CS practices through normative and mimetic pressure to induce higher CS investment levels. Therefore, to increase CS investment, policy makers should focus on network based CS governance strategies in both developed and developing countries and in the retail and manufacturing industries. An advantage private selfregulation has in contrast to public regulation is that it is more flexible to changes in the environment and can be tailored to address complex global supply chain issues regarding CS.

Policy makers should take an industry specific approach to CS policy rather than a "onesize-fits all approach. This is because firms in an industry face common institutional pressures to invest in CS; hence the firm's conformance to these pressures is likely to be similar over time. For example, food manufacturers face normative pressure to invest in CS therefore policies that

provide firms with tools to conform to norms in their industry. Legitimacy is context specific, thus the industry context provides a domain with norms for establishing legitimacy.

This study contributes to the debate on public regulation versus private/ self-regulation. The results emphasize the importance of self-regulation in pressuring firms to invest in CS. However regulation still has a role in establishing minimum baselines in CS. However regulation alone does not promote high levels of CS investment. The results from this study provide policymakers with a list of factors that influence CS investments that can guide policy makers on whether to focus on private or public CS governance approaches in specific contexts. If policy makers desire that retailers have increased CS investment, then they should focus on promoting CS regulations and CS organizations where firms can learn more about best practices in CS in the retail industry. In contrast, if policy makers desire that manufacturers have increased CS investment, then they should focus on encouraging firms to participate in a sustainability index and membership in organizations that promote CS. When public policy is designed to induce firms to invest in CS, it should take into acccount variations in drivers of CS investment based on the context.

Firms tend to down-play the role of CS organizations on CS strategy. For example, Henriques and Sadorsky (1996) found that firms ranked regulatory pressures as the most important factor influencing environmental strategy, while environmental groups, suppliers, and lobby groups were ranked the lowest. However our results suggest that CS organizations are positively associated with CS investment. Managers therefore should not ignore CS organizations and sustainability indices but they should conform to their CS norms.

From a Resource Dependency perspective, firms are dependent on stakeholders such as socially responsible investors for resources. Therefore firms that desire to ensure access to resources and to improve their reputation will invest in CS. Furthermore from a Signaling theory perspective, firms can use CS investment to signal to stakeholders the level of commitment of a firm to CS. Firms that aspire to be perceived as being sustainable will make observable and costly CS investments to signal their commitment to CS. Low CS investment may reflect minimal conformance to institutional pressure that is merely symbolic. Therefore firms can use CS investment to establish their reputation as a legitimate corporate citizen.

It is difficult for buyers, suppliers, investors, regulators, and other stakeholders to establish the extent to which a firm's products and processes are sustainable. Therefore firms need to reduce this information asymmetry by making signals that are costly and observable that demonstrate their commitment to CS e.g., membership in CS organizations, inclusion in sustainability indices, substantial social and environmental investments. Reducing the information asymmetry helps to increase credibility and legitimacy of firms regarding CS strategy. It is important for firms to reduce information asymmetry along the supply chain regarding CS because failure to do so can lead to negative consequences such as investor and consumer boycotts. For example, following the death of over 1,100 people when a Bangladesh garment factory building collapsed, customers protested against retailers they perceived as not being committed to strict safety standards in factories. In supply chains firms face principal agent problems with principals and agents being located in different countries. It is difficult for a company to ensure that the products it has sourced have been produced and distributed in a

sustainable manner. Therefore firms should participate in CS organizations and sustainability indices to reduce information asymmetry regarding CS and transaction costs.

From a Signaling theory perspective, a large investment in solar panels for a food manufacturing plant is an observable and costly signal that the firm is committed to sustainability. In CS reports, most firms measure CS performance by indicators such as reduction in greenhouses gases and carbon footprints. These measures are difficult to compute and not easily observable or verifiable by stakeholders. However investors should also consider looking at CS investment as a signal of the firm's commitment to sustainability. Managers can emphasize CS investment as a costly and observable signal of their commitment to CS. Emphasis on CS investment as signal of firm's commitment to CS may provide the firms with access to new markets and customers. For example, H&M's investment in collection of used clothing in their stores for recycling and reuse in car insulation can attract customers concerned about environmental issues. Costly and observable signals of the firms can enable firms to market their products to customers who are receptive to green appeals in a credible manner without green washing.

Following the Bangladesh garment factory building disaster which killed 1,127 garment workers in 2013, retailers, government, and other stakeholders responded by developing the Accord on Fire and Building Safety to promote safety in factories. The accord is a legally binding international governance agreement that requires retailers to invest in fire and safety improvements in the factories they use in Bangladesh. The accord requires independent safety inspections and public reporting of the findings of the inspections. As part of the accord retailers agree to terminate business with factories that refuse to make safety upgrades. Some

retailers (such as H&M, Inditex, PVH, Tesco, Marks & Spencer, Mango, Carrefour, Benetton, and Abercrombie & Fitch) responded to the Bangladesh building disaster by agreeing to sign the agreement. By signing the accord the retailers signaled their commitment to CS in global supply chains by agreeing to make costly visible investments in safety initiatives. However other retailers such as Wal-Mart and Uniqlo opted to increase stringency of their own safety initiatives but declined to sign the agreement.

The findings from this study also have implications for the multi-stakeholder organizations that promote engagement in CS. The results from this study provide evidence that firms with higher levels of CS investment participate in CS organizations and are included in a sustainability index. Furthermore managers of CS organizations and sustainability indices should emphasize benefits of membership in CS organizations such as reputation and legitimacy.

Traditionally the manufacturing industry has been perceived as having a greater negative social and environmental impact on society than retailing. Therefore manufacturers face more normative and mimetic pressures to invest in CS. In order to change these negative stakeholder perceptions of the manufacturing industry, manufacturers need to respond to CS norms and standards of investing in CS.

The results of the study also have implications for socially responsible investors (i.e., those who apply social responsibility screens to evaluate potential investments). The results show that firms that aspire to be perceived as sustainable signal their commitment to CS through high CS investment levels and membership in CS organizations and sustainability indices. Investors can identify firms with a strong commitment to CS issues by looking at

whether the firms invest in CS and whether they participate in CS organizations or sustainability indices. Socially responsible investors can use this information to identify leaders in CS strategy and this helps them in evaluating potential investments. Furthermore if firms want to attract socially responsible investors they should signal their commitment to CS with observable and measurable actions. In the next chapter, research implications and limitations of the study are discussed together with suggestions for future research.

#### **CHAPTER 6: CONCLUSION**

This study sought to answer why and under which circumstances firms invest in CS. In contrast to other studies that only examine why firms engage in CS broadly, we go one step further by also analyzing circumstances under which firms invest in CS. Specifically, we focus on the relationships between institutional pressure, financial performance and CS investment within the context of firms that use standardized versus non-standardized CS reporting, firms from developed versus developing countries, as well as the context of retailers versus manufacturers. Differences in CS investment levels are due to institutional pressure in the firm's environment and financial performance.

Overall, the analysis indicated that firms with high levels of CS investment are more profitable (measured by profit margin), and have higher levels of regulatory pressure, mimetic pressure, and normative pressure. However, firms with low levels of CS investment had higher firm value. These relationships differ when we take into account firm context – developed versus developing country, use of standardized or non-standardized CS reporting, and whether the firm is a retailer or manufacturer. The results from this study indicate that mimetic pressure and normative pressure are the key determinants of investment in CS for developed and developing country firms. The results from this study also show that mimetic pressure, normative pressure, and profitability are the key determinants of CS investment for manufacturers, while regulatory pressure and normative pressure were the key determinants of CS investment for retailers. Furthermore, normative pressure influences CS investment for

firms that use non-standardized reporting. In contrast, mimetic pressure and profitability were the key drivers of investment in CS for firms that use standardized reporting.

## 6.1 Research Implications

Findings from this study have both theoretical implications for research as well as managerial implications. One research implication is that the choice of variables used to measure corporate financial performance and corporate sustainability are important. This is because the relationship between financial performance and corporate sustainability can be positive, negative, or neutral based on the measures chosen. Researchers should therefore carefully select their measures to obtain a deeper analysis of the relationship. This study adds to a growing body of literature indicating that the choice of performance variables can have substantitive implications for the results of research and that researchers must carefully choose performance measures that are appropriate to the particular research question they are investigating.

This study contributes to empirical studies by making comparisons of drivers of CS investment, while taking into account the type of industry and whether it is a developed country firm or developing country firm. In comparison, other studies only incorporate the industry effect as a dummy variable. This study also contributes to the research literature on drivers of engagement in corporate sustainability by using a measure of investment in corporate sustainability that incorporates social and economic investment in corporate sustainability as a percentage of total investment. The majority of studies on corporate sustainability use the Kinder, Lydenberg, and Domini (KLD) index of concerns and strengths (a

reputation based measure) to measure engagement in corporate sustainability (Siegel and Vitaliano, 2007; Tashman and Rivera, 2010). Other studies use adoption of environmental systems such as ISO 14000 as a measure of engagement in corporate sustainability (e.g., Grolleau et al., 2007).

# **6.2 Theoretical Implications**

This study provides a theoretically-grounded empirical research on the drivers of investment in corporate sustainability. The results indicate that Institutional theory, Transaction cost Analysis, and the Business Case perspective can be used to explain why firms invest in CS. This study also contributes to the literature on the relationship between CSP and CFP by incorporating financial performance determinants of investment in CS. Furthermore, the determinants are also examined comparatively within the context of standardized reporting firms versus non-standardized reporting firms, developed country firms versus developing country firms, and retailers versus manufacturers. The results from the study indicate that a "one- size- fits-all" model of the drivers of investment in CS may not be appropriate.

This study uses two opposing theoretical explanations of why firms invest in CS. On one hand, the Business Case perspective suggests that firms can justify CS investment only when the economic rationale for investment is clear i.e., when the firm has the resources. On the other hand, Institutional theory suggests that firms justify CS investment as a need to conform to CS norms and maintain legitimacy.

#### 6.3 Limitations

One of the limitations of this study is that it is a cross-sectional analysis of data for one year. In reality, the relationship between institutional pressures, financial performance, and investment in CS may change over time. For example, using data from 1986 to 1995, Bansal (2005) found that media pressures were important determinants of corporate sustainable development during the early periods, while resource-based pressures endured over time. This study used data that only covers a single accounting period and could therefore reflect time specific effects such as annual fluctuations in the CS investment levels (Adams and Hardwick, 1998). In addition, CS investment could be affected by the economic recession. Furthermore, firms in different industries and countries may be at different stages of engagement in CS. A firm can be an early or late adopter of engagement in CS. However, over time, when a sufficient number of firms adopt CS strategies, it becomes accepted as an emerging norm through mimetic, coercive, and normative institutional pressures.

Another limitation of this study is that the results of these models do not prove causality. The models only show an association between financial performance, institutional pressure and CS investment. Despite these limitations, the results from this study provide insights into the drivers of CS investment across various contexts and provide a starting point for future studies to build on.

### 6.4 Future Research

In response to these observations, future work may seek to extend our analysis in several directions. First, future research could analyze the drivers of CS by distinguishing

between drivers of short-term philanthropic investments and drivers of strategic long-term impact CS investments. Investigating this relationship is important because it can help managers to choose between a discretionary short term CS investment strategy and a strategic long-term impact investment based on the institutional pressures they face and their financial performance.

Second, a longitudinal study of the link between investment in CS, financial performance, and institutional pressures would delve deeper into the relationship between these variables. Research on CS strategies is an emerging and evolving area, as researchers seek to develop more accurate measures of CS performance. As more firms begin to engage in CS initiatives and invest in CS, more data will become available to study the drivers of investment in CS over time. This data will allow researchers to see if institutional pressures still influence investment in CS over time. It would also be useful to analyze how investment in CS changes over time, and whether firms increase or decrease their investment in CS over time. It is important to conduct a longitudinal study in the future because some firms have just started implementing CS initiatives. Therefore, it would be interesting to analyze in the future whether the drivers of investment in CS change with time. For example, institutional pressures may be a more salient driver of investment in CS when firms are beginning to implement CS strategies, but may be less important when the firm has gained more experience in implementing CS strategies. Furthermore, a longitudinal study would also enable testing of a possible bidirectional relationship between financial performance and investment in corporate sustainability.

Third, future research can extend this study by including variables that would enable further investigation of the degree to which multinational companies adapt to local institutional pressures versus standardizing their CS investment strategies across countries. Fourth, this study uses a measure of CS investment that includes investment in social and environmental investment as a percentage of total investment. Future research could test the robustness of these results by using other measures of investment in CS, such as comparing social versus environmental investment.

Finally, in this study we take the view that investment in CS is a measure of corporate sustainability performance which signals a firm's commitment to CS. However, an alternative view involves looking at investment in CS as a cost cutting strategy with minimal levels of investment. This alternative view suggests that investment in CS is associated with long term benefits that exceed short term costs, and hence implies that the lower the investment in CS, the greater the firm's commitment to CS. Future research could incorporate this alternative view and focus on the effectiveness of investments in CS. For example, researchers could analyze whether low/high levels of investment improve the quality of performance or the cost performance of the firm.

APPENDIX

Table 24: Descriptive Statistics Raw Data

	Minimum	Maximum	Mean	Std. deviation
Number of CS regulation	0	12	1.53	2.29
mentioned				
Inclusion in sustainability	0	12	1.41	2.70
index (number of years)				
Membership in CS	0	43	6.51	8.65
organizations (number of				
organizations)				
Profit margin	-3.37	28.23	5.72	5.35
Book value of equity (US \$	-1,673,551	72,648,000	3,540,791	7,330,889
thousands)				
CS Investment (% of total	0	58.28	4.101	9.52
investment)				

Table 25: Descriptive Statistics for Transformed Variables

	Minimum	Maximum	Mean	Std dev
Number of CS regulation	0.10	3.47	0.89	0.87
mentioned (sqrt)				
Inclusion in sustainability	0.00	3.46	0.60	1.02
index (sqrt)				
Membership in CS	0.10	6.56	1.95	1.65
organizations(sqrt)				
Profit margin (In)	2.22	3.71	2.87	0.26
Book value of equity (sqrt)	0.00	2.73	0.65	0.34
CS Investment (In)	-4.61	4.07	-1.37	3.01

Variable	Pooled	Standardized	Non-	Developed	Developing
		reporting	standardized	Country	Country
			reporting		
Number of CS	1.52	2.23	1.26	1.25	2.10
regulations					
mentioned					
Inclusion in	1.39	2.84	0.84	1.71	0.70
CS index					
(years)					
Membership	6.51	13.57	3.85	8.30	2.59
in CS					
organizations					
(number of					
organizations)					
Profit margin	5.64	6.66	5.26	5.10	6.79
Book value of	3,675,596	2,092,443	4,270,477	4,849,004	1,200,186
equity					
(\$ '000s)					
CS	4.10	6.94	2.99	3.40	5.61
investment					
(% of total					
investment)					

Table 26: Table of means for variables (use of standardized reporting and region)

Variable	Pooled	Food Manufacturer	Retailer (food and	Food Retailer	Non- Food Retailer
Number of CS regulations mentioned	1.52	1.22	1.83	1.47	2.11
Inclusion in CS index (years)	1.39	0.95	1.83	2.29	1.48
Membership in CS organizations (number of organizations)	6.51	6.44	6.58	9.43	4.49
Profit margin	5.64	7.05	4.23	3.63	4.69
Book value of equity (\$ '000s)	3,675,596	2,629,449	4,731,000	4,235,726	5,110,194
CS investment (% of total investment)	4.10	4.25	3.96	3.98	3.94

Table 27: Table of means for variables by company type

Table 28: Summary statistics (pooled)

	Minimum	Maximum	Mean	Std. Deviation
Social investment (\$ '000s)	0	624,000	12,908.79	52,635.1
Environmental investment (\$ '000s)	0	332,369	5,963.43	30,341.96
Total CS investment (\$ '000s)	0	624,000	18,870.35	62,319.47
Other investments (\$ '000s)	0	378,865,668	2,151,789.58	25,712,752.31
Total investments (\$ '000s)	17	378,884,747	2,161,573.78	25,655,889.62
Firm age (years)	2	245	63.08	43.49
Number of employees ( '000s)	0.09	2,200	59.33	170.53
Number of countries	1	200	20.92	36.48
which firms operate in				
Sales (\$ '000s)	6146	40,513,2000	12,685,340.14	32,200,884.81
Income (\$ '000s)	-1,097,500	14,370,000	533,128.87	1,320,365.03

Table 29: Summary statistics by company type

Company type		Minimum	Maximum	Mean	Std. Deviation
	Social investment (\$ '000s)	0	101,251	6,044.77	17,277.65
	Environmental investment (\$ '000s)	0	332,369	8,310.02	38,489.25
	Total CS investment (\$ '000s)	0	371,016	14,354.77	44,852.50
Food manufacturer	Other investments (\$ '000s)	135	3,253,000	242,226.98	511,916.76
	Total investments(\$ '000s)	135	3,331,600	254,912.41	531,337.49
	Firm age (years)	2	125	52.25	31.98
	Number of employees ('000s)	0.09	2,200	71.94	227.10
	Number of countries which firms operate in	1	119	7.76	16.32
	Sales (\$ '000s)	9,683	61,682,000	6,014,811.45	11,590,337.36
	Income (\$ '000s)	-157,147	6,320,000	432,144.34	1,018,230.40

Table 29	(cont'd)
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Company type		Minimum	Maximum	Mean	Std. Deviation
	Social investment (\$ '000s)	0	624,000	39,650.08	106,260.10
	Environmental investment	0	154,590	7,650.97	27,962.24
	(\$ '000s)				
	Total CS investment (\$ '000s)	0	624,000	47,301.08	110,854.00
	Other investments (\$ '000s)	0	378,865,668	9,179,809.81	55,754,834.17
Food Retailer	Total investments (\$ '000s)	1,160	378,884,747	9,230,195.70	55,753,810.62
	Firm age (years)	5	180	69.09	50.03
	Number of employees ('000s)	0.69	297	42.86	61.89
	Number of countries which firms	1	200	38.63	52.95
	operate in				
	Sales (\$ '000s)	30,141	405,132,000	28,396,821.90	61,508,327.89
	Income (\$ '000s)	-1,097,500	14,370,000	820,465.35	2,190,888.60

# Table 29 (cont'd)

Company type		Minimum	Maximum	Mean	Std. Deviation
	Social investment (\$ '000s)	0	44,000	4,661.50	9 <i>,</i> 468.56
	Environmental investment	0	17,126	491.53	2,668.46
	(\$ '000s)				
	Total CS investment (\$ '000s)	0	44,000	5,146.45	10,199.27
Non food rotailar	Other investments (\$ '000s)	17	2,005,000	294,586.24	377,490.98
Non-rood retailer	Total investments (\$ '000s)	17	2,018,300	299,898.68	381,282.03
	Firm age (years)	4	245	77.78	50.84
	Number of employees ('000s)	0.45	519.67	49.47	91.08
	Number of countries which firms	1	170	30.80	38.78
	operate in				
	Sales (\$ '000s)	6,146	95,778,000	12,538,116.15	17,991,170.57
	Income (\$ '000s)	-506,676	4,057,945	493,015.58	808,013.93

Table 30: Descriptive statistics by company type I

Company	Variable	Minimum	Maximum	Mean	Std.
type					Deviation
	Number of CS regulations	0	12	1.83	2.47
	mentioned				
	Inclusion in CS index (years)	0	10	1.83	2.89
	Membership in CS organizations	0	40	6.58	8.72
Retailer	(number of organizations)				
	Profit margin	-2.69	20.55	4.23	4.11
	Book value of equity (\$ '000s)	-738,765	38,799,000	4,731,000.19	6,961,895.12
	CS investment	0.00	58.28	3.96	9.49
	(% of total investment)				
	Number of CS regulations	0	10	1.22	2.03
	mentioned				
	Inclusion in CS index (years)	0	12	0.95	2.39
	Membership in CS organizations	0	43	6.44	8.63
Manufacturer	(number of organizations)				
	Profit margin	-3.37	28.23	7.05	6.02
	Book value of equity (\$ '000s)	-1,673,551	72,648,000	2,629,449.02	8,150,630.66
	CS investment	0.00	50.15	4.25	9.58
	(% of total investment)				
Table 31: Descriptive statistics by company type II

Company	Variable	Minimum	Maximum	Mean	Std.
Туре					Deviation
	Number of CS regulations mentioned	0	10	1.22	2.03
	Inclusion in CS index (years)	0	12	0.95	2.39
	Membership in CS organizations	0	43	6.44	8.63
Food	(number of organizations)				
manufacturer	Profit margin	-3.37	28.23	7.05	6.02
manufacturer	Book value of equity	-1,673,551	72,648,000	2,629,449.02	8,150,630.66
	(\$ '000s)				
	CS investment	0	50.15	4.25	9.58
	(% of total investment)				
	Number of CS regulations mentioned	0	12	1.47	2.08
	Inclusion in CS index (years)	0	10	2.29	3.29
	Membership in CS organizations	0	40	9.43	10.09
Food retailer	(number of organizations)				
	Profit margin	-2.69	20.55	3.63	3.60
	Book value of equity (\$ '000s)	25,799	38,799,000	4,235,726.22	6,857,966.15
	CS investment	0	49.58	3.98	8.23
	(% of total investment)				
	Number of CS regulations mentioned	0	12	2.11	2.72
	Inclusion in CS index (years)	0	10	1.48	2.53
	Membership in CS organizations	0	37	4.49	6.93
Non-food	(number of organizations)				
retailer	Profit margin	-1.97	20.37	4.69	4.43
	Book value of equity (\$ '000s)	-738,765	35,942,000	5,110,194.32	7,070,698.12
	CS investment	0	58.28	3.94	10.38
	(% of total investment)				

## Table 32: Summary statistics by region

Region		Minimum	Maximum	Mean	Std.
					Deviation
	Social investment (\$ '000s)	0	624,000	17,419.45	62,978.23
	Environmental investment (\$ '000s)	0	332,369	8,643.18	36,542.09
	Total CS investment (\$ '000s)	0	624,000	26,059.89	74,235.20
	Other investments (\$ '000s)	0	12,699,000	572,874.93	1,233,656.83
Developed	Total investments (\$ '000s)	5,390	13,323,000	595,972.42	1,289,145.82
country	Firm age (years)	2	245	67.92	44.85
	Number of employees ('000s )	0.09	2,200	75.84	198.30
	Number of countries which firms operate in	1	200	24.26	38.87
	Sales (\$ '000s)	143,289	405,132,000	18,011,782.27	37,947,343.35
	Income (\$ '000s)	-1,097,500	14,370,000	756,699.16	1,553,913.36
	Social investment (\$ '000s)	0	90,149	3,393.13	11,512.00
	Environmental investment (\$ '000s)	0	17,885	310.25	2,107.99
	Total CS investment (\$ '000s)	0	90,149	3,703.38	11,669.49
	Other investments (\$ '000s)	17	378,865,668	5,538,447.09	45,604,338.03
Developing	Total investments (\$ '000s)	17	378,884,747	5,542,365.13	45,606,198.84
country	Firm age (years)	2	143	52.89	38.84
	Number of employees ('000s)	0.13	632	24.50	76.84
	Number of countries which firms operate in	1	135	13.88	29.89
	Sales (\$ '000s)	6,146	11,280,492	1,448,736.21	2,450,569.85
	Income (\$ '000s)	-157,147	395,272	61,487.45	93,039.47

Table 33: Descriptive statistics by region

Region	Variable	Minimum	Maximum	Mean	Std.
					Deviation
	Number of CS regulations	0	12	1.25	1.88
	mentioned				
	Inclusion in CS index	0	12	1.71	2.94
	(years)				
	Membership in CS	0	43	8.30	9.56
Developed	organizations				
country	(number of organizations)				
	Profit margin	-2.69	28.23	5.10	4.84
	Book value of equity	-1,673,551	72,648,000	4,849,003.93	8,903,862.59
	(\$ '000s)				
	CS investment	0.00	49.48	3.40	7.77
	(% of total investment)				
	Number of CS regulations	0	12	2.10	2.87
	mentioned				
	Inclusion in CS index	0	7	0.70	1.90
	(years)				
	Membership in CS	0	22	2.59	4.12
Developing	organizations				
country	(number of organizations)				
	Profit margin	-3.37	26.02	6.79	6.13
	Book value of equity	-738,765	14,631,000	1,200,186.37	2,347,989.76
	(\$ '000s)				
	CS investment	0.00	58.28	5.61	12.38
	(% of total investment)				

Use of	Variable	Minimum	Maximum	Mean	Std.
standardized					Deviation
reporting					
	Social investment (\$ '000s)	0	624,000	9,080.95	52,858.80
	Environmental investment (\$ '000s)	0	154,590	3,808.19	19,072.06
	Total CS investment (\$ '000s)	0	624,000	12,886.57	57,744.07
Non	Other investments (\$ '000s)	17	12,699,000	325,107.50	1,130,624.63
standardized	Total investments (\$ '000s)	17	13,323,000	336,661.06	1,181,757.00
reporting	Firm age (years)	2	245	64.85	45.48
reporting	Number of employees ('000s)	0.13	2,200	72.72	196.59
	Number of countries which firms operate in	1	180	20.64	33.43
	Sales (\$ '000s)	6,146	405,132,000	10,772,110.94	34,710,638.71
	Income (\$ '000s)	-1,097,500	14,370,000	357,142.55	1,238,887.53
	Social investment (\$ '000s)	0	332,437	23,095.78	51,061.87
Standardized reporting	Environmental investment (\$ '000s)	0	332,369	11,699.14	48,856.32
	Total CS investment (\$ '000s)	0	371,016	34,794.94	71,201.79
	Other investments (\$ '000s)	0	378,865,668	6,718,494.77	48,043,764.21
	Total investments (\$ '000s)	1,176	378,884,747	6,753,289.66	48,042,256.32
	Firm age (years)	5	167	58.39	37.63
	Number of employees ('000s)	0.09	297	23.69	45.39
	Number of countries which firms operate in	1	200	21.68	43.87
	Sales (\$ '000s)	30,141	120,586,007	17,776,998.51	23,794,038.16
	Income (\$ '000s)	-157,147	6,320,000	1,001,479.57	1,423,318.63

Table 34: Summary statistics by use of standardized reporting

Use of	Variable	Minimum	Maximum	Mean	Std.
standardized					Deviation
reporting					
	Number of CS regulations	0	12	1.26	2.02
	mentioned				
	Inclusion in CS index (years)	0	10	0.84	2.15
Non	Membership in CS	0	31	3.85	5.78
standardized	organizations				
reporting	(number of organizations)				
reporting	Profit margin	-3.37	28.23	5.26	5.28
	Book value of equity (\$ '000s)	-1,673,551	72,648,000	42,70477.25	8,266,632.64
	CS investment	0.00	50.15	2.99	8.48
	(% of total investment)				
	Number of CS regulations	0	12	2.23	2.73
	mentioned				
	Inclusion in CS index (years)	0	12	2.84	3.37
	Membership in CS	0	43	13.57	10.85
Standardized	organizations				
reporting	(number of organizations)				
	Profit margin	-1.64	26.02	6.66	5.38
	Book value of equity (\$ '000s)	-738,765	35,942,000	2,092,442.97	5,378,862.02
	CS investment	0.00	58.28	6.9434	11.33
	(% of total investment)				

Table 35: Descriptive statistics by use of standardized reporting

Table 36: Correlation of model variables

Variable	1	2	3	4	5	6
1. CS Investment						
2. CS index	0.329 <sup>**</sup>					
3. CS organizations	0.398 <sup>**</sup>	0.408 <sup>**</sup>				
4. CS Regulations	0.233 <sup>**</sup>	0.111	0.253 <sup>**</sup>			
5. Profit margin	0.145 <sup>*</sup>	0.093	0.054	-0.071		
6. Book value of	-0.083	0.078	0.091	0.077	0098	
equity						

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