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Corporate Environmental Reporting (CER) in Kenya and its link to Corporate Financial Performance (CEP)

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Declaration

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

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Dedication

I dedicate this study to my family, the Mbuthias: my mum Ruth, dad Alfred, brother Moffat, and my sister Joan for their love and unstinting support, both financial and emotional. You are awesome people!

I also would like to dedicate this study to all environmentalists in Kenya and globally for their passion and dedication to preserve the environment. I particularly single out Nobel laureate and renowned environmental champion, the late Prof. Wangari Mathai for her undying love for the environment.

Abstract

This study seeks to assess Corporate Environmental Reporting (CER) by publicly listed companies at Kenya's Nairobi Securities Exchange (NSE) and its relationship with Corporate Financial Performance (CFP) over a time period of four years, 2011 to 2014. Management perception on the value of CER, motivation and critical barriers to the adoption of CER was sought from company management of publicly listed companies through questionnaires. The amount of environmental information disclosed in each of the environmental reporting media used by the respondents: annual reports, sustainability reports, and stand-alone environmental reports was extracted through content analysis. A time series analysis was used to show the trend of CER among the sample companies and the different industry sectors. The study then established if there existed a relationship between CER and CFP among the publicly listed companies between the years 2011 to 2014. Pearson correlation coefficient was used to test the relationship between CER and CFP.

Majority of the companies' management was found to perceive CER as being important to the business and have adopted CER in their companies, and published their Corporate Environmental Reports (CERs). CER is found to be low, but on an upward trend from 2011 to 2014, with the telecommunication and technology industry publishing the highest amount of information in their CERs, while the Insurance industry published the least amount of information. This study finds the existence of a relationship between CER and CFP. Two control variables, firm size and industry, are introduced to check if they have a positive moderating effect on the relationship between CER and CFP. Firm size is found to have a positive moderating effect while Industry has no positive moderating effect.

The findings of this study will help company management, shareholders, potential investors, and stakeholders understand the association between environmental disclosure vis-à-vis the profitability of a firm, thus allowing these important stakeholders understand why responsible environmental behaviour by companies in Kenya is worth paying a premium for. The study contributes to the academic discourse on the status of environmental disclosure by companies in Kenya and its link to financial performance.

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List of Abbreviations

BOD	Board of Directors
CER	Corporate Environmental Reporting
CERs	Corporate Environmental Reports
CFP	Corporate Financial Performance
CMA	Capital Markets Authority
FIRE	Financial Reporting Excellence
GDP	Gross Domestic Product
GRI	Global Reporting Initiative
ICPAK	Institute of Certified Public Accountants of Kenya
IRA	Insurance Regulatory Authority
NEMA	National Environment Management Authority
NSE	Nairobi Securities Exchange
ROA	Return on Assets
SDGs	Sustainable Development Goals
SPSS	Statistical Package for Social Sciences
EMCA	Environmental Management and Coordination Act
KNCPC	Kenya National Cleaner Production Centre

Chapter 1

Introduction

1.1 Background of the Study

Many attempts have been made in literature to understand, explain and justify environmental disclosure by companies. As the interest in Corporate Environmental Reporting (CER) continues to increase both in the developed and developing nations, there have been different opinions as to what CER is intended to accomplish for a firm (Roslan, 2013). While contemporary environmental activists are strongly persuaded that corporations that behave in an environmentally desirable manner will also do better financially, there are opponents to this view who are inspired by renowned world economist Milton Friedman (Eweje, 2014). Friedman (1970) claimed that the sole social responsibility of a business is to generate profits for shareholders. Friedman maintained that firms that did adopt "responsible" attitudes would be faced with more binding constraints than companies that did not, rendering them less competitive (Chaudhry, 2016). Friedman's argument remained the basis for many corporate managers' contention that "Corporate Environmental Reporting," "Corporate Social Responsibility," "Sustainable Business" and other such monikers are a distraction from their core obligation: shareholder wealth maximization (Moyeen & West, 2014).

Increased awareness of environmental issues coupled with concerns over the impact of commercial activities on the environment have encouraged the concept of extending company reporting to include non-financial aspects (Villiers, Rinaldi, & Unerman, 2014). Different scholars have sought to advance the importance of companies adopting extensive CER. McWilliams (2014) while studying the economics of CER asserts that a company can 'do well by doing good': that is, it can perform better financially by attending not only to its core business operations, but also to its responsibilities towards creating an environmentally sustainable and better society. Clarkson, Li, Richardson, & Vasvari (2008) while reviewing literature on environmental reporting economics posit that firms that record good environmental performance and disclosure will enjoy "green goodwill" and improved reputation (Brammer & Pavelin, 2004; Hart, 1995; Surroca et al., 2010), cost advantages due to process innovation (Sharma & Vredenburg, 1998; Surroca et al., 2010), and strengthen

employee skills and involvement (Hart, 1995; Russo & Fouts, 1997; Waldman, Siegel, & Javidan, 2006; Weber, 2008), while poor environmental performers do not enjoy these benefits but instead face obligations to incur future abatement expenditures with no incremental return to shareholders as emission standards get tougher (Schminke, Caldwell, Ambrose, & McMahon, 2014).

Due to the debate regarding CER and its potential value creating capabilities, interest has emerged among scholars to study a possible link between CER and the Corporate Financial Performance (CFP) of companies (Edwards, 2014). Early examples of such research is by Bowman (1978); Fry & Hock (1976); Preston (1978); Hart & Ahuja, (1996); King & Lenox, (2001); Konar & Cohen, (2001); Russo & Fouts, (1997); Grieg-Gran (2002); Wagner & Schaltegger, (2004); Al-Tuwaijri et al., (2004) and more recently Clarkson et al., (2011) and Roslan (2013) who found that there does exist a positive association between financial performance and environmental disclosures. However, other scholars examined the same proposition and reported a neutral association (Abbott & Mansen, 1979; Cohen et al., 1997; Graves & Waddock, 1999) while another group of scholars found a negative association (Freedman & Jaggi, 1982; Ingram & Frazier, 1983; Cordeiro & Sarkis, 1997; Hassel et al., 2005; Morris, 1997; López-Gamero et al., 2009).

Several explanations for the apparent inconsistency in findings have been advanced including both methodological and theoretical issues (Ruf, Muralidhar, Brown, Janney, & Paul, 2001; López-Gamero et al., 2009). Some researchers have noted the inconsistency to be caused by difference in selecting methodology e.g. quantitative vs. quality, and regression (Busch & Hoffmann, 2011; Griffin & Mahon, 1997; McWilliams, Siegel, & Wright, 2006). Other scholars cited the lack of a sound theoretical foundation (Correa & Sharma, 2003; Ullmann, 1985); the lack of a clear idea of the direction of causality i.e. whether CER influences CFP, whether CFP influences CER, or whether there is a bidirectional relationship (Ambec & Lanoie, 2008; Azorín et al., 2009), the inconsistency of defining and measuring the constructs of interest - Sustainability Reporting, Corporate Social and Environmental Reporting, Corporate Environmental Reporting (Carroll & Shabana, 2010; Gran, 2002; Gamero et al., 2009), as well as the use of misspecified models due to omitted variables and a lack of consideration of moderating or mediating influences (Russo & Minto, 2012; Telle, 2006).

Inconsistency from previous studies' results is also caused by the use of different types of environmental indicators and measures which present a difficulty in identifying general relationships between those indicators and financial performance ((Surroca et al., 2010; Waddock & Graves, 1997; Wagner, 2003). Past studies have measured CER as quantity (Al-Tuwaijri et al., 2004), volume (Gao, Heravi, and Xiao, 2005), and quality (Hasseldine et al., 2005; Wang'ombe, 2013a), or a variant thereof (Lu & Abeysekra, 2014).

Determining if there exists a link between CER and CFP is further complicated by the use of different environmental disclosure media to measure CER. CER can be published in Annual reports (Gray et al., 1995), Stand-alone reports (FEE, 2000), Sustainability Reports posted on the GRI website (GRI, 2006), and Company websites (Tagesson, Blank, Broberg & Collin, 2009). Most studies have, however, only focused on the annual report (Amran & Haniffa, 2011; Brown & Deegan, 1998; Deegan & Rankin, 1997; Deegan, Rankin, & Tobin, 2002; McMurtrie, 2005). The difference in geographical scope in which different studies are conducted presents another inconsistency. Sumiani, Haslinda, & Lehman (2007) argue that most studies on the relationship between CER and CFP have been concentrated in developed countries and that this limits the opportunity to generalize results as the degree of governance, environmental policies and regulation, and business practices vary globally. The authors propose that research in this area would benefit immensely from input from developing countries as most of these countries are vulnerable economies that are largely dependent on natural resources and suffer most from environmental degradation (Sumiani, Haslinda, & Lehman 2007).

Although measuring financial performance of companies is considered a simpler task as compared to measuring CER, it presents another source of inconsistency in the findings on the relationship between CER and CFP as there is little consensus about which measurement instrument to apply (Grieg-Gran, 2002). Some researchers use accounting based measures e.g. Return on Assets (Waddock & Graves 1997; Cochran & Wood 1984); others use market based measures such as Earnings per Share (Alexander & Buchholz, 1978; Vance, 1975), while others adopt both of these measures (McGuire, Sundgren, Schneeweis, 1988). The use of different CFP measures has different theoretical implications and complicates the comparison

of the results of different studies (Hillman & Keim, 2001), and each is subject to particular biases (McGuire, Schneeweis, & Hill, 1986).

These inconsistencies justify the need for a study that incorporates multiple aspects of environmental activities to reflect a more comprehensive measure of environmental disclosure. The Global Reporting Initiative (GRI), an international independent organization that helps businesses, governments and other organizations understand and communicate the impact of business on critical sustainability issues such as climate change and environment, identifies forty six environmental disclosure indicators relating to environmental information with business implications which this study adopts. This study, unlike most studies on the relationship between CER and CFP which are cross-sectional (Al-Tuwaijri et al., 2004; López-Gamero et al., 2009; Roslan, 2013), adopts a longitudinal approach (Alrazi, Sulaiman, & Nik Ahmad, 2009; Ojala, 2015) over a time series of four years to not only determine the availability of a link between CER and CFP, but also determine the trend of CER in each year of study using panel data. Wangombe et al., (2013) have called for the use of longitudinal studies in the study of CER due to the evolving nature of environmental reporting frameworks as well as the number of reporting items. A focus on time series rather than a cross section helps examine whether CER has improved over time and whether the increased awareness of the value of CER has led to improved disclosure.

1.2 Statement of the Problem

Although environmental disclosure by companies has become an increasing expectation for shareholders and regulators alike, Corporate Environmental Reporting in Kenya is still low, lacking in completeness, uniformity and reliability (Kalunda, 2012); and of low quality (Wang'ombe, 2013a). CER in Kenya is largely voluntary, but there have been some efforts to encourage adoption of CER by Kenyan companies (Wangombe, 2013). CER varies among firms and among the reporting media, and metrics to determine its link to CFP are still not clear (Arnold, 2008). Confusion still reigns over what CER is intended to accomplish for a firm and its relationship with a firm's financial performance (McWilliams, 2014).

At the core of the debate on the value of CER to a firm is a fundamental question: Can environmental disclosure by a company impact on its financial performance? A clearly

demonstrated link between CER and CFP has proved elusive (Edwards, 2014). A long tradition of scholars has examined this proposition, primarily with a focus on conceptualizing, specifying, and testing some relationship between environmental disclosure and financial performance, and the results have been decidedly mixed (Roslan, 2013). Most of the existing studies on the relationship between CER and CFP have been conducted in the developed nations with only pockets of CER research found in a number of developing countries including Bangladesh (Belal, 2000), Malaysia (Ahmad, Hassan, & Mohammad, 2003,), India (Chatterjee & Mir, 2008), Brazil (Global Reporters, 2008), South Africa (Antonites & Villiers, 2003). Studies on CER in Kenya have even been more limited, mainly focused on studying the rationale for CER research in a developing country (Wangombe, Assad, & McFie, 2013), the quality of CER in Kenya (Wangombe, 2013), and the level of social and environmental reporting in Kenya (Kalunda, 2012). Peng and Yang (2014) argues that the lack of sufficient research on the relationship between CER and CFP in developing countries limits the opportunity to generalize results as the degree of governance, environmental policies and business practices varies significantly between developed and developing nations.

Private sector actors have an inherent interest in fostering environmental sustainability as their ability to prosper and grow depends on the existence of a prosperous and sustainable society (Pramanik et al., 2008). However, it is widely believed that firms will not adopt voluntary disclosure unless its benefits outweigh the cost (Nishitani, Kaneko, Fujii & Komatsu, 2012). There is therefore a need to provide further empirical evidence on whether firms that disclose more information in their CERs record better financial performance compared to firms with less extensive CER in Kenya. If the relationship between CER and CFP is found to be positive, Kenyan companies could be encouraged to adopt CER by reporting comprehensively on their environmental initiatives, environmental management frameworks, and environmental performance to their stakeholders. Conversely, if the relationship between CER and CFP is found to be neutral or negative, Kenyan companies might benefit financially by limiting the amount of information in their CERs to minimal levels.

1.3 Research Objectives

1.3.1 Main Objective

The purpose of this study is to assess Corporate Environmental Reporting (CER) by publicly listed companies at Kenya's Nairobi Securities Exchange (NSE) and determine its relationship with Corporate Financial Performance (CFP) over a time period of four years, 2011 to 2014.

1.3.2 Specific Objectives

1. Seeking management's perception of the value of CER to a firm, motivation and critical barriers to adoption of CER.
2. Assessing CER by publicly listed companies at Kenya's Nairobi Securities Exchange (NSE) over a time period of four years, 2011 to 2014.
3. Establishing if there exists a relationship between CER and CFP of publicly listed companies in Kenya over a time period of four years, 2011 to 2014.

1.3.3 Research Questions

1. What perception do management of publicly listed companies in Kenya have of the value of CER to a firm, motivation and critical barriers to adoption of CER?
2. How much environmental information did Kenya's publicly listed Companies disclose in the annual reports, sustainability reports and stand-alone environmental reports for the years 2011 to 2014?
3. Is there a relationship between CER and CFP of publicly listed companies at Kenya's Nairobi Securities Exchange for the years 2011 to 2014?

1.4 Scope of the Research

The scope of this study is limited to publicly listed companies at the Nairobi Securities Exchange's main and alternative segments over a period of four years only, 2011 to 2014. The choice of listed companies was preferred because these companies are believed to make improved disclosures because of their investor orientation, the reports are availed to the public and these companies are expected to make non-financial disclosures because of the stakeholders' expectations. Publicly listed companies are required by Kenyan law to

produce and make public their annual reports. The choice of four year study period starting from 2011 to 2014 is justified by the use of the Global Reporting Initiative (GRI) G4 Content Index Tool to measure CER. The Global Reporting Initiative introduced the G4 Content Index Tool to replace the GRI G3 from 2011 onwards (GRI, 2016a). The year 2015 is not included in the study period because a number of companies had not declared their full year financial results and published their year 2015 annual report by February, 2016 when the study was conducted.

The study tests the relationship between CER, as the independent variable, and CFP as the dependent variable. Firm size, measured by the number of employees, and the Industry sector of the different companies are introduced as control variables as each has been found to have a moderating effect on the relationship between CER and CFP. Firm size has been found to have a significant positive relationship with environmental disclosure (Burke et al., 1986; Blacconiere & Patten, 1994) while Graves & Waddock (1994) found that different industries displayed different levels of environmental performance disclosure since the problems faced by different industries in a given area could vary significantly.

The study targets both mid-level as well as top corporate managers as they mostly have the discretion on the amount of environmental information to disclose and what media to use since CER is largely voluntary in Kenya. Corporate managers also have the fiduciary role of ensuring they uphold their primary task of maximizing shareholder wealth (Elijido-Ten, 2004; Francis, 1990; Tilling, 2004). The area of focus is Kenya whose economy is largely dependent on natural resources and the environment (GoK, 2015).

1.5 Significance of the Study

Given the attention of environmental issues in development, and the recognition of the role of the environment in corporate sustainability, this study is a response to the invitation by Wangombe et al., (2013) to document CER in Kenya. The use of longitudinal studies over a time series of four years, 2011 to 2014, helps examine whether CER has improved over time and whether the increased awareness of the value of CER has led to improved disclosure. The study also goes ahead to establish if there exists a relationship between the CER and the CFP of publicly listed companies in Kenya. This will help determine if companies that make

extensive environmental disclosures in their Corporate Environmental Reports (CERs) record superior financial performance or are punished with inferior financial performance compared with companies that make less extensive environmental disclosures. Findings of this study contribute to the academic discourse on CER and its link to CFP in Kenya, as most studies on the relationship between environmental disclosures and financial performance have been concentrated in developed nations (Roslan, 2013).

The findings of this study will help company management, shareholders, potential investors, and stakeholders understand the association between environmental disclosure vis-à-vis the profitability of a firm. Private sector participation in fostering environmental sustainability as well as sustainable development is critical in developing economies (UNCTAD, 2015). Private sector actors have an inherent interest in seeing sustainable development succeed as their ability to prosper and grow depends on the existence of a prosperous and sustainable society. Understanding the value of CER would enable Kenyan businesses to better internalize their externalities, incrementally leading to less water and air pollution, deforestation and land degradation.

Findings of this study should also guide governments, professional and regulatory bodies such as the Institute of Certified Public Accountants of Kenya (ICPAK) and the National Environment Management Authority (NEMA) in the development of Environmental reporting structures to provide timely, readily accessible and reliable environmental information to satisfy the interests of stakeholders. This will give a level of prominence to environmental costs, benefits, and sustainability within financial statements and ensure that CER becomes as routine and comparable as financial reporting. The rest of the chapters are organized as follows; Chapter 2 presents the literature pertinent to the study, Chapter 3 presents the methodology used, Chapter four presents the findings, while Chapter 5 presents the conclusions, implications and suggestions for further studies.

Chapter 2

Literature Review

2.1 Introduction

This Chapter examines the historical context of research findings on the evidence for a relationship between Corporate Environmental Reporting (CER) and Corporate Financial Performance (CFP). Section 2.2 provides the theoretical framework on which the study is anchored. Three theories: Shareholder, Legitimacy and Stakeholder theory are outlined, and their relevance to this study. A conceptual analysis of CER and its adoption in Kenya is presented in section 2.3. Section 2.4 outlines an empirical review of previous studies on the relationship between CER and CFP and the study's hypothesis developed from the literature.

2.2 Theoretical Framework

Research on the relationship between Corporate Environmental Reporting and Corporate Financial Performance has been based on several theoretical arguments, with a tendency to herd around Social-Political theories (Gray et al., 1995a). This is anchored on the argument that CER is primarily voluntary in nature (Gray et al., 1995a; Van Der Laan, 2004). The choice of an appropriate theory in studying CER is critical because theory is a mental state or a framework (Gray, et al., 2010) that influences the way we perceive the meaning of CER, the determinants of CER, change over time and differences of CER across reporting environments (Wang'ombe, 2013b).

2.2.1 Shareholder Theory

Shareholders theory has been used to study the concept of environmental disclosure and if there are any linkages and relationships with financial performance of a firm. Some studies reported a positive association between financial performance and environmental disclosures (Bowman, 1978; Fry and Hock, 1976; Preston, 1978), others reported a neutral association (Abbott and Mansen, 1979; Freedman and Jaggi, 1982a), or even a negative association (Jaggi and Freedman, 1982a; Ingram and Frazier, 1983). The key point of discussion in this debate has been if the concept of environmental disclosure is realistic and workable, and how it would reconcile with the pursuit of shareholder value maximization.

This theory posits that corporate managers will engage in social responsibility activities insofar as those initiatives are in the best interest of shareholders (Sundaram & Inkpen, 2004). The only objective for a corporation should be to lawfully pursue profit for the benefit of its shareholders (Penrose, 1959) and the objective of maximising shareholder value is valid. (Sundaram & Inkpen 2004). Friedman (1970) argued that the only social responsibility of business was to increase profits for the benefit of its shareholders, and corporate executives investing assets in arbitrarily chosen "socially responsible" projects reduced money available for owners, employees, customers and suppliers.

Shareholder theory argues that any engagement in social activities is outside the theoretical scope of a corporation (Friedman, 1970; Jensen, 2001). Business organizations cannot have social responsibility because engaging in social responsibility activities outside shareholder wealth maximization is an exercise that in essence involves taxing people and deciding how that tax should be spent (Freidman, 1970), a task that can only be executed by governments and not corporations or individuals (Sternberg, 1997). However, shareholder theory does not ignore society and the environment altogether, but rather, it advocates for shareholders' wealth maximization within the confines of the law (Friedman, 1970) and in a non-deceptive manner (Smith, 2003).

Shareholder theory argues that since shareholders' payoff is the residue pay, then taking care of shareholders involves taking care of all other stakeholders (Sundaram & Inkpen, 2004). However, Shareholder theorists are quick to note that at some level, social problems are the responsibilities of government and not the business and its executives (Friedman, 1970; Sundaram & Inkpen, 2004), particularly because the business and its executives are not equipped to deal with social problems (Freidman, 1970). The weak position of the Shareholder theory is amplified by the existence of legislative laws and judicial response that suggest that the duties to stockholders are just but one of the considerations in corporate governance (Key, 1999). Responding to this conceptual limitation has led to the use of social-political theories such as Legitimacy and Stakeholder theories.

2.2.2 Legitimacy Theory

The relation between profitability and environmental disclosure is consistent with Legitimacy theory because more profitable firms need to be seen as environmentally responsive. It is also consistent with the argument that profitable firms can afford the cost of environmental disclosure, and that transparent firms are rewarded through transparency-induced higher stock market valuation (Blacconiere & Patten, 1994). Legitimacy theory posits that organizations are expected to act in a socially acceptable manner so as to access resources, gain approval of their goals and place in the society, and guarantee continued existence (Guthrie & Parker, 1989).

Organizational legitimacy occurs when an entity's value system becomes congruent with the value system of the larger social system (Lindbolm, 1984), thus enhancing both resource supply assurance and the credibility of organizational activities (Suchman, 1995). Organizational legitimacy is the general perception or assumption that "the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995, p. 574) because society provides an organization with its legal standing and attributes the authority to own and use natural resources and hire employees (Matthews, 1993). Organization legitimacy is a result of the process of legitimation taken by that organization (Lindbolm, 1984), and the actions affecting relevant norms and values taken by other groups and organizations (Dowling & Pfeffer, 1975). A change in social norms and values may result from either the legitimacy seeking actions of a focal organization, or from competition between the focal organization and other organizations.

2.2.2.1 Legitimacy theory's predictions about CER motivation

To align with legitimacy theory, organizations might engage in CER in order to retain, gain, and regain their legitimacy. Therefore, in legitimacy theory, the desire to legitimize an organization's operations through environmental disclosure is considered as the predicted motivation to drive disclosure related decisions (Deegan, 2002). When corporate managers are driven by this motivation, "corporations will do whatever they regard as necessary in order to preserve their image of a legitimate business with legitimate aims and methods of achieving it" (de Villiers & van Staden, 2006, p. 763). In order to improve the legitimacy of organizations, with respect to empirical evidence, the organizations refrain from disclosing

negative or bad news related to them, provide explanations about unhealthy mass media news related to them, and even reduce CER if they think that would help to increase or maintain the level of their organizations' legitimacy.

2.2.3 Stakeholder Theory

Underpinning the interest in the CER – CFP link is the stakeholder theory. Within this framework a firm must be able to accommodate to the different demands of various stakeholder groups, and that cooperation of a firm's multiple stakeholder groups is a "necessary condition for excellence" (Chakravarthy, 1986). Accordingly, firms should not be judged by their financial performance alone, but also by their ability to adequately respond to wider societal expectations. Stakeholder theory argues that managers have a moral obligation to consider and appropriately balance the interests of all stakeholders (Freeman, 1984). A better environmental performance can provide competitive advantage (low cost and differentiation) which will subsequently improve financial performance (Klassen and McLaughlin, 1996; Sharma and Vredenburg, 1998).

Waddock and Graves (1997) noted that investors in the United States held some $650 billion in social investment funds and analysts within these funds used both financial and social performance criteria to screen potential investments. Prior research also revealed that institutional investors were favourably inclined towards companies with higher corporate social performance if information on corporate social performance was available (Teoh and Shiu, 1990; Graves and Waddock, 1994). These studies suggested a nexus between social and environmental disclosures and financial performance. However, the overall empirical evidence on this possible linkage has been inconclusive, ranging from findings of positive association to neutral association to negative association.

Some researchers found evidence that company management had tried to satisfy the environmental information needs of stakeholders (Elijido-Ten, 2004; McMurtrie, 2005), while others found no significant evidence on stakeholder management or pressure on environmental reporting other than that of foreign parent companies (Moneva & Llena, 2000). Ullman (1985) argued that stakeholder and economic power influence social reporting, Elijido-Ten (2004) and Brammer and Pavelin (2008) could not confirm such argument. Whereas most

of the researchers reviewed have used the instrumental stakeholder research perspective, at least McMurtrie (2005) has used a managerial stakeholder approach.

2.2.3.1 Ethical perspective of stakeholder theory

The ethical branch of stakeholder theory suggests that irrespective of the stakeholder power, all the stakeholders have the same right to be treated fairly by an organization (Deegan, 2009). Seemingly, the ethical perspective of stakeholder theory is grounded in Critical Accounting Theory (CAT) which is broadly concerned with the approach to accounting research that focuses on the role of accounting or on the particular accounting method that should be employed. Rather than considering only specific privileged parties (or powerful stakeholders) of those in control of providing critical resources to the organization (Deegan & Unerman, 2006), the ethical perspective calls for consideration all its stakeholders.

Within the ethical perspective, managers of an organization are expected to manage the business for the benefit of all stakeholders, regardless of whether management of stakeholders leads to improved financial performance (Hasnas, 1998). In this perspective, the organization is not viewed as a mechanism which drives the maximization of shareholders' wealth, but, rather, as one which meets the expectations of all stakeholders. Stoney and Winstanley (2001) in explaining the ethical branch of stakeholder theory emphasize the ethical treatment of stakeholders which "may require that the economic motive of organizations – to be profitable – be tempered to take account of the moral role of organizations and their enormous social effects on people's lives" (p. 608).

This ethical perspective relates directly to the accountability model of stakeholder theory proposed by Gray et al. (1996). Thus, in the ethical perspective, "the organization owes an accountability to all its stakeholders" rather than only to more powerful or financial stakeholders (Gray et al., 2010, p. 25). The main limitation of the ethical perspective is the managers' challenge to treat all stakeholders fairly, especially when the stakeholders have different and contradictory interests. However, Hasnas (1998) suggests that when these interests conflict, the business should manage "to attain the optimal balance among them" (p. 32). According to Gray et al. (2010), the ethical perspective of stakeholder theory or normative

approach to accountability has limited descriptive or explanatory power in a social accounting context.

2.2.3.2 Managerial perspective of stakeholder theory

The managerial (positive) perspective of stakeholder theory asserts that managers of an organization attempt to meet the expectations of stakeholders who control the critical resources required by the organization (Deegan, 2009). According to Mitchell et al. (1997) the more critical the stakeholder resources are to the organization, the greater the effort of the management of the organization to meet the expectations of those stakeholders should be. According to Gray et al. (2010), this perspective may be employed in an "organization-centered" way. In addition, the stakeholders are identified by a focal organization on the basis of "the extent to which the organization believes the interplay with each group needs to be managed in order to further the interests of the organization (The interests of the organization need not be restricted to conventional profit-seeking assumptions)" (Gray et al., 1996, p. 45).

In the managerial perspective, an organization is expected to be accountable to its economically powerful stakeholders, rather than all stakeholders as in the ethical perspective. In this managerial perspective, stakeholder activism or involvement is considered of paramount importance to the organization, which can positively or negatively affect the firm (Murray & Vogel, 1997). The main challenge here is the task relating to how organizations should decide to whom they are responsible, and to what extent that responsibility extends (O'Riordan & Fairbrass, 2008). Thus, the managerial perspective of stakeholder theory focuses mainly on managing the relationship between an organization and its critical stakeholders. Unlike the ethical perspective, the organization-centered managerial perspective of stakeholder theory can be, and frequently is, tested by empirical studies (Deegan, 2009).

2.2.3.3 Stakeholder theory's predictions about CER motivation

An organization might engage in CER in order to discharge its accountability towards its stakeholders: in the ethical perspective, towards all stakeholders, and in the managerial perspective, towards economically powerful stakeholders. By disclosing environmental information, an organization clearly accepts its stakeholders' right to know about the environmental impact of its operations. The provision of environmental information reduces

the information asymmetry and places different kinds of stakeholders on a level playing field. In return, an organization could expect or bring certain benefits such as improving its image/reputation, attracting investors, lowering the cost of capital, improving the retention of existing employees, attracting prospective employees, improved financial performance, and improving the relationship with stakeholders in order to gain their support and approval (Deegan, 2009; Gray et al., 1996).

2.3 Conceptual Analysis of the value of CER

Corporate managers, as the prime custodians and light bearers of economic development, can no longer shut their eyes to the effect of environmental issues on business management and sustainability (Dobler, Lajili, & Zéghal, 2015). Protection of the environment and the potential involvement of corporate managers is becoming a common subject of discussion all over the world. Managers are therefore expected to take a proactive role in the environmental protection initiative (Jacobs, Singhal, & Subramanian, 2010). Ultimately, CER has been considered by the management of companies as an important issue and has also become a "global issue" with a pressing need to harmonize accounting and reporting of environmental costs and liabilities (Pramanik, Shil, & Das, 2009).

The important role of CER in the modern company lays ground for regarding disclosure as an indicator of business commitment to environmental improvement. Prior research has found that companies that demonstrate social and environmental responsibility gain specific benefits, (Adams and Ambika, 2005). The commitment to environmental disclosure needs to be evaluated against the predominant attitude amongst business organizations, as practised with their financial reporting, that it is sensible to give the minimum information required so as to minimize the exposure to critical questioning or risk of liabilities. In this context the record with respect to environmental reporting might be viewed as positive and encouraging (Collier, 1995, p.127).

The expected standard of reporting has increased with both environmental and business organizations encouraging greater commitment to the publication of logical, honest and quantified data (Collier, 1995, p. 123). Disclosure is an additional driver for organizations to focus on environmental improvement. Environmental reporting is most widely practised where

companies are required to collect relevant data for other purposes, as reporting then makes use of existing investment rather than adding significant additional costs (Brophyand Starkey, 1996, p. 184). On the other hand, disclosure has acquired a status as an environmental initiative in its own right and some organizations may modify environmental investment to generate material for reporting.

Proponents of the existence of a link between CER and CFP claim that direct economic benefits from CER improve return on investment and market value of firms. Benefits include energy, raw material, and abatement cost reductions, as well as intangible advantages of improved consumer perception, community relations, employee morale, and access to new markets (Jacobs et al., 2010).

2.3.1 CER in Kenya

CER practices vary widely both within and across countries (Hope, 2003; Gray et al., 1996). Whereas most studies on CER have been concentrated in developed countries, pockets of CER research have been found in a number of developing countries including Bangladesh (Belal, 2000), Malaysia (Ahmad, Hassan, & Mohammad, 2003,), India (Chatterjee & Mir, 2008), Brazil (Global Reporters, 2008), South Africa (Antonites & Villiers, 2003) and Kenya (Barako, 2007; Kalunda, 2012; Wang'ombe, 2013a, 2013b; Wang'ombe et al., 2013). Studies to document the level of CER by Kenyan companies have been limited, with existing research mainly focusing on studying the rationale for CER research in a developing country (Wangombe, Assad, & McFie, 2013), the quality of CER in Kenya (Wang'ombe, 2013a), and the level of social and environmental reporting in Kenya (Kalunda, 2012).

Kalunda, (2012) while investigating the level of social and environmental reporting in Kenya, found CER to be low, lacking in completeness, uniformity and reliability. The researcher further found most of the environmental disclosure in the annual reports to be concentrated in the chairman's statement, director's statement (14.3%) and in the corporate governance section (38.1%). The CERs were not structured as per any specific international guidelines on environmental reporting and only a few companies attempted to use the GRI guidelines and AccountAbility 1000 but did not fully comply. Most companies (50%) presented the environmental information in qualitative form, some (38%) in both qualitative and pictorial

while 32 % used qualitative, pictorial and quantitative form. None of the companies presented the information solely in quantitative form. However, Kalunda, (2012) focuses on annual reports only, omitting other reporting media such as sustainability reports, stand-alone environmental reports and company websites, with the basis that annual reports are regarded as important documents in CER due to the high degree of credibility (Tilt, 1994), their use by a large number of stakeholders (Deegan and Rankin, 1997), and their widespread distribution. There is therefore a need to study CER by Kenyan companies by reviewing all reporting media used: sustainability reports, stand-alone environmental reports and company websites alongside the annual report.

The quality of CER in Kenya is low (Kalunda, 2012; Wang'ombe, 2013a). Kalunda, (2012) evaluated the CERs by publicly listed companies in Kenya by assessing their understandability, relevance, reliability and comparability. The researcher found the CERs to be understandable with simple and clear narratives. Although the information captured was relevant, it was not reliable due to lack of proper guidelines on what was to be disclosed, media to be used and lack of an audit by specialized accountants. Relevance of the information was tolerable because the disclosures made were capable of influencing the economic decision of the users by enabling them to evaluate the firms past, present and future social and environmental performance. Comparability of the reports was not possible due to lack of uniformity in presentation of the reports (Kalunda, 2012).

Wang'ombe, 2013a in his study "The Quality of CER in Kenya" observed that CER in Kenya, like that of other developing countries (Elijido-Ten, 2009; Yusoff & Lehman, 2008), is at the embryonic stage and has a long way to go to achieve HQCER as defined in Wangombe et al. (2013). The researcher found the quality of CER as very low but has a high dispersion with some companies achieving a high score of 70%, yet others had a score of 0%, and that companies that have adopted the use of GRI standards have achieved a remarkably higher quality of CER. Except for the sustainability reporting medium, there is very low quality of CER reported in all the reporting media (Mandatory Reports, Annual Reports, Websites reports) (Wang'ombe, 2013a). The difference in the quality reported in different reporting media indicates that each medium presents a different construct of quality and that managers

of different companies choose what environmental information to report on, in what media and for which audience (Wang'ombe, 2013a).

Wang'ombe, 2013a found Sustainability reports to have the highest level of quality but only three of the large companies in Kenya had issued sustainability reports by the year 2010. The researcher accessed the Sustainability Disclosure Database on the GRI website in the year 2016 and found only 5 companies had profiles on the GRI database. One company published a Corporate Citizenship Report in the year 2004 and had not posted any other report on the GRI website. The second company posted a Social Report in the year 2006/2007 and had also not posted any other report on the GRI website. The third company had posted a Sustainability report in the year 2014 only. The fourth company posted its Sustainability report in the year 2013 only, while the fifth company posted its Sustainability Report for 3 consecutive years, 2013 to 2015. All the five companies are publicly listed at the NSE. This makes a total of only 7 reports against a total of 33,349 reports posted by companies globally on the GRI website (GRI, 2016b). It can thus be inferred that the level of structured CER as provided for by the Global Reporting Initiative is still quite low in Kenya.

2.3.2 Environmental Reporting Initiatives in Kenya

CER in Kenya is largely voluntary as there exists no accounting standard requiring environmental reporting similar to financial reporting. Mandatory CER is only applicable to companies whose operations have an effect on the environment. The Environmental Management and Coordination Act (Laws of Kenya) (EMCA, 1999) requires such companies to submit to the National Environment Management Authority (NEMA) an annual environmental self-audit report.

There have, however, been some efforts to encourage voluntary CER in Kenya (Wangombe, 2013). The annual Financial Reporting Excellence (FIRE) award, a joint initiative of the Institute of Certified Public Accountants of Kenya (ICPAK), the Capital Markets Authority (CMA), and the Nairobi Securities Exchange (NSE), recognizes environmental disclosure as one of the elements for evaluation of participating organizations. Among the three key objectives of the award is the need to enhance corporate investment and environmental

reporting (ICPAK, 2016). One of the parameters that the FIRE Award assesses is corporate social and environmental reporting which accounts for 5 % of total possible score.

Another initiative developed to promote CER in Kenya is the Kenya National Cleaner Production Centre (KNCPC): a Trust under the Ministry of Industrialization and Enterprise Development established by the Government of Kenya and UNDP through the Kenya Industrial Research and Development Institute (KIRDI), to encourage environmental management particularly in the private sector (KNCPC, 2016). KNCPC was established in July 2000 as part of the global UNEP/UNIDO National Cleaner Production Centre program. The Centre promotes Resource Efficient and Cleaner Production tools in manufacturing and service enterprises to improve competitiveness and environmental excellence by embracing the "triple win kind" approach of integrating economics, environment and social accountability. KNCPC's objective is to promote environmental cost accounting, environmental audit and environmental reporting of initiatives which seek to increase the productivity of enterprises by reducing wastage of resources (water, energy and raw material) and their associated negative environmental impacts (KNCPC, 2016). KNCPC has an award system to recognize corporations that have the best corporate environmental practices (KNCPC, 2016). The KNCPC Award system assesses several categories of the operations of business, including demonstrable economic and environmental benefits, occupational health and safety, good housekeeping practices, corporate social responsibility and corporate environmental reporting (KNCPC, 2016).

2.4 Empirical Review on the Link between CER and CFP

The dominant proposition, today, in the debate on the link between Corporate Environmental Reporting (CER) and Corporate Financial Performance (CFP) is that superior profitability could be driven by extensive disclosure of "eco-efficiency"- the ability to gain greater process efficiencies and create more product from less resources by a firm (Edwards, 2014; Grieg-Gran, 2002). CER, it has been argued, enables companies not only to communicate their environmental performance, but also to manage their downside risks (Cohen et al., 1997; Graves & Waddock, 1999), capitalize on upside opportunities stemming from environment related innovation (Achchige & Jeewanthi, 2013), and thus enhancing the business on strategic and operational levels resulting in higher financial returns to the shareholders (Roslan, 2013).

Existing studies, particularly quantitative studies carried out in the US, suggest the existence of a "business case" for CER (Edwards, 2014). There appears to be insignificant evidence of firms paying a financial penalty for good environmental performance and reporting, as long as investments made to achieve this are taken with the same care as other capital and operating investment decisions (Jacobs et al., 2010).

A number of studies have yielded a significant relationship between environmental disclosure and firm performance. In an investigation of the change in environmental disclosures by petroleum firms following the 1989 Alaskan Exxon Valdez oil spill, Patten (1992) reported of a link between environmental disclosure and financial performance. They invoked the legitimacy theory which suggests that social disclosures represent one of the methods that firms can use to influence the public policy process. In other words, increased environmental disclosures in annual reports could be motivated by a desire to minimize exposure to the social and political environment.

Guthrie and Parker (1990) explained that corporations used accounting reports to provide information that served corporate political or ideological objectives. In this regard, environmental disclosures should be viewed as furthering the self-interest of these corporations. Guthrie and Parker (1990) also advanced an alternative user utility model to explain that environmental disclosure was driven by stakeholder demand for specific information and CER was the corporate response to this demand.

Blacconiere and Patten (1994) reported that firms with more extensive environmental disclosures would be less negatively affected by the expected increased regulatory costs resulting from the Bhopal chemical leak. Patten (1992) provided evidence that supported the legitimacy theory when the author reported a significant increase of annual report environmental disclosures in the aftermath of the Exxon Valdez oil spill. Waldern and Schwartz (1997) however also noted that environmental disclosures were time and event specific, as the vast majority of firms appeared to have responded to public policy pressure subsequent to the 1989 oil spill.

Al-Tuwaijri, Christensen and Hughes (2004) employ a simultaneous equations approach to investigate the relations among environmental disclosure, environmental performance and

economic performance. Using the data from 2004 of Standard and Poor's 500 companies, the study reveals that good environmental performance is significantly associated with good economic performance, and also with more extensive quantifiable environmental disclosures of specific pollution measures and occurrences.

Moneva and Cueller (2009) analyzed the value relevance of different types of financial and non-financial environmental disclosures of 44 Spanish companies listed on the Madrid Stock Exchange for the period 1996–2004. Using a regression model, results suggest two financial environmental disclosure variable, expenditure on environmental activities and provision for contingencies have a negative influence on the market value of the companies. However, the only financial environmental disclosure that has a positive significant relationship with the value of the company is disclosure of environmental assets or investments, suggesting that investors think that these investments can generate a higher return in future.

In China, Zhongfu, Jianhui and Pinglin (2011) explore the impact of environmental information disclosure on economic performance of 445 listed companies of the manufacturing industries at Shanghai Stock Exchange. The data are collected independently from among the environmental information disclosure material of the 2008-2009 year annual reports. With Tobin's Q as the indicator of economic performance, the environmental information disclosure has a positive effect on the Tobin's Q of economic performance of the current year and the following year.

2.4.1 Hypothesis Development

Based on the review of previous studies examining the relationship between environmental reporting and firm performance, although the results are mixed, works where a significant positive relationship between environment and firm performance is obtained are predominant and it would thus be expected that firms would adopt CER in order to obtain the potential financial benefits that may occur. Therefore, the hypotheses to be empirically tested are the following:

H_1 - There is a significant relationship between CER and CFP of listed companies at the NSE for the years 2011 to 2014

2.4.2 Firm Size

Firm size has been found to have a significant positive relationship with social disclosures (Burke et al., 1986; Blacconiere and Patten, 1994). Larger firms were more likely to display better pollution control performance because they tended to be subject to increased public scrutiny and so would need to respond more openly to stakeholder demands. Size was thus a proxy for political sensitivity (Watts and Zimmerman, 1986). Belkaoui and Karpik (1989) found that firms which disclosed environmental information were larger in size. This sets stage for the second hypothesis:

H_2 – Firm size has a positive moderating effect on the relationship between CER and CFP of listed companies at the NSE for the years 2011 to 2014

2.4.3 Industry Sector

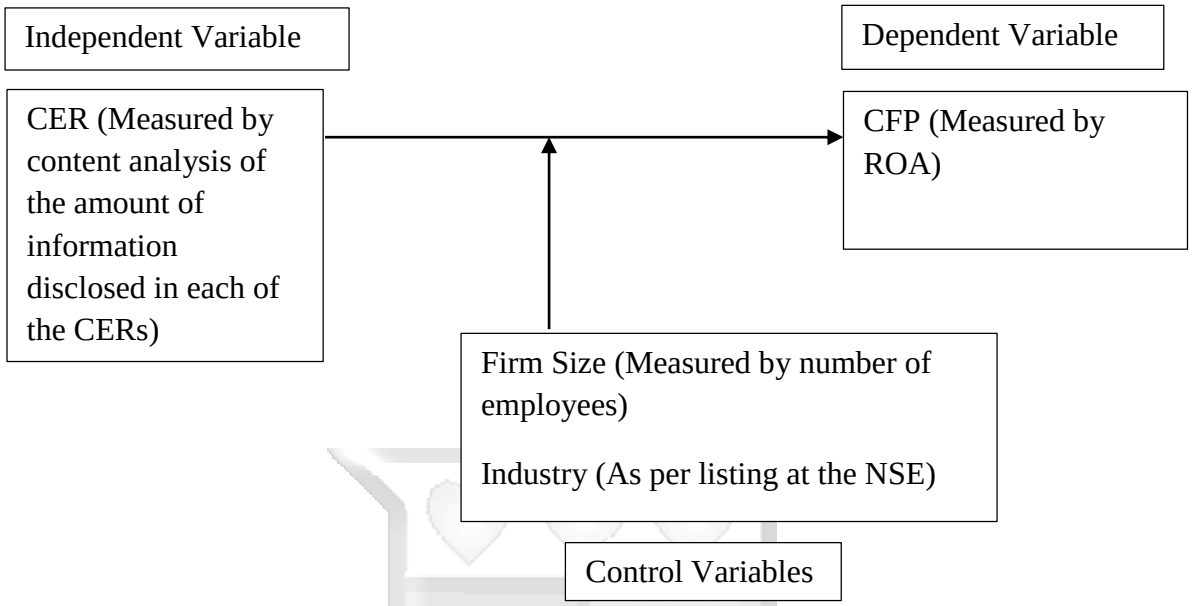
The type of industries to which firms belong has been found to have an impact on the relationship between environmental disclosure and financial performance. Graves and Waddock (1994) found that different industries displayed different levels of social performance since the problems faced by different industries in a given social area could vary significantly. Waddock and Graves (1997) then suggested that industry effect should be controlled to take account of the overall differences in corporate social performance among different industries. The third hypothesis to be tested, therefore, is:

H_3 – Industry has a positive moderating effect on the relationship between CER and CFP of listed companies at the NSE for the years 2011 to 2014

2.5 Conceptual Framework

From the review of literature, it is clear that there are certain variables that influence the relationship between CER and the CFP of firms. A conceptual framework illustrating the association between the independent, dependent, and control variables is provided below.

Figure 2.1 Conceptual Framework



Source (Author)

Chapter 3

Research Methodology

3.1 Introduction

This chapter provides the systematic process the researcher used in studying and analyzing the research problem as well as the statistical treatment of data. This research employs a descriptive research design, with the use of both quantitative and qualitative data to achieve the research objectives. The target population, data collection methods, sample and the research instruments used to analyze data are presented. Ethical considerations on data collection and the quality of data are also outlined.

3.2 Philosophical framework

The researcher adopted both the ontological and epistemological philosophical assumptions in conducting the research. The researcher adopted a positivistic approach, seeking factual information through a research questionnaire. Management perception of the value of CER, motivation and critical barriers to adoption of CER was sought from company management of publicly listed companies through questionnaires. Results from the questionnaires provided data for comparative analysis between the different firms. This approach helped to understand CER in Kenya, mainly through the perceptions, values, and beliefs of corporate managers and the "meanings" they construct around the issues of CER and its link to CFP. According to the nominalist perspective, social reality is constructed by values, beliefs, norms, concepts, and perceptions of individuals or society and thus managers' perception of CER and its link to CFP are sought (Belbase, 2007).

Philosophically, the researcher, in determining if there exists a relationship between CER and CFP took the views of both interpretivist and constructivist paradigms. The main reason behind the selection of interpretivist and constructivist approaches is to understand the meanings and explanations of research participants' responses. Interpretivists and constructivists consider research participants' responses as part of research (Belbase, 2007). The constructivist approach enables the researcher to study the meanings and perspectives of participants in depth, and some of the participants' own wording can be used to convey their meanings directly

to the reader. When the constructivist approach is being employed, the research participants' "ways of thinking about issues, which may not have occurred to the researchers, are often revealed. Thus, the complexities of the real world have some chance of emerging" (Williamson, 2006, p. 98).

3.3 Methodological Approach

Although the positivistic and interpretivist paradigms are usually seen as incompatible with regard to philosophical and methodological orientations, a considerable number of researchers have attempted to mix positivism and interpretivism by triangulating these two paradigms as well as research methods, broadly quantitative and qualitative approaches (Collis & Hussey, 2009). The mixture of paradigms, otherwise known as pragmatism, was introduced as a solution to the paradigm debate and has grown to become increasingly common and unexceptional among researchers in recent years. (Bryman, 2006, 2012).

This study adopts the triangulation approach. The researcher uses the qualitative research paradigm to assess CER by publicly listed companies in Kenya, and the quantitative research paradigm to evaluate the financial performance of each of these firms. A quantitative approach is commonly applied in research when working with statistical figures (Bryman & Bell, 2011). A deductive approach is used as the research is based on existing theory and the results of previous research. The empirical result is tested and compared to previous research (Saunders et al., 2009).

A longitudinal survey over the fiscal year 2011 - 2014 was conducted. The choice of four year study period starting from 2011 to 2014 is justified by the use of the Global Reporting Initiative (GRI) G4 Content Index Tool to measure CER. The Global Reporting Initiative introduced the G4 Content Index Tool to replace the GRI G3 from 2011 onwards. The year 2015 is not included in the study period because a number of publicly listed companies had not declared their full year financial results and published their annual report by February, 2016. Wang'ombe et al., (2013) have called for the use of longitudinal studies in the study of CER due to the evolving nature of environmental reporting frameworks as well as the number of reporting items. A focus on time series rather than a cross section helps examine whether CER

has improved over time and whether the increased awareness of the value of CER has led to improved financial performance.

3.4 Research Design

This study utilizes correlational research design. Since the aim of this study focuses on examining the relationship between CER and CFP it was considered to be the most suitable research design. According to Kumar (2005), the aim of a correlational research design is to establish or explore a relationship, association or interdependence between at least two facets of a situation or a phenomenon.

3.5 Target Population

This study's target population is publicly listed companies in Kenya. 64 companies listed on the Nairobi Securities Exchange (NSE) main and alternative segments as of February, 2016 were invited to participate in this study and questionnaires sent out to them. The choice of companies listed on the NSE was arrived at because they are required by Kenyan law to produce public annual reports and are believed to make improved disclosures because of their investor orientation, the reports are availed to the public, and these companies are expected to make non-financial disclosures because of the stakeholders' expectations.

3.6 Data Collection

Primary data on the media used by companies to publish their CERs, management perception of CER, and critical barriers to the adoption of CER was collected through questionnaires. Questionnaires were sent out to each of the 64 publicly listed companies targeting both mid-level as well as top corporate managers as they mostly have the discretion on what environmental information to report and what media to use since CER is largely voluntary in Kenya.

3.7 Sample

42 filled questionnaires were obtained from the respondents, out of the 64 administered to the target population. The sample of the study thus comprised 42 publicly listed companies at the NSE. Secondary data on CER was obtained from the annual reports, sustainability reports and

stand-alone environmental reports of the 42 companies for the four years, 2011 to 2014. Secondary data on the CFP; total assets and net profit, was obtained from annual reports of the 42 companies for the four years, 2011 to 2014.

3.8 Data Analysis

The researcher employed both quantitative and qualitative data analysis techniques to assess environmental disclosure by the sample companies and their financial performance. A time series analysis was used to show the trend of CER among the companies and the different industry sectors for the four years, 2011 to 2014. Regression analysis was then used to test the relationship between CER and CFP.

3.8.1 Establishing Management Perception of CER

To establish the perception of management on the value of CER and the motivating factors as well as critical barriers to adoption of CER, questionnaires were administered targeting both middle-level and top management. Management views on the value of CER in Kenya and its future prospects were also sought. The research questionnaire is attached as Appendix II in this study. Other questions included in the questionnaire were: the name and location of the company's headquarters, the Industry, if the company had adopted CER and the media used to publish its CERs.

3.8.2 Measuring CER

To measure CER by the different companies, content analysis was used to extract the amount of environmental information disclosed in each of the reporting media used by the respondents: annual reports, sustainability reports and stand-alone environmental reports. The researcher adopted the Global Reporting Initiative's GRI G4 Content Index Tool developed by the GRI, provided in Appendix III, as a measure of CER. The choice of the GRI G4 Content Index Tool over the much more widely used Wiseman (1982) environmental reporting index is because it is the most relevant and updated scoring framework as it is based on GRI (2011) which is identified as the superior reporting framework (Guenther, Hoppe, & Poser, 2010; GRI, 2016).

Forty six environmental disclosure indicators relating to environmental information with business implications were identified from the (GRI) grouped under three categories; Part A captures the General Standard Disclosures, Part B captures the Specific Standard Disclosures on Environmental aspect, and Part C the Qualitative Characteristics. The Specific Standard Disclosures on both the Social and Economic aspects are excluded from the total score. Under the General Standard Disclosures a score of 5 is awarded for each core disclosure while a score of 3 is awarded for each comprehensive disclosure, and 0 for otherwise. The maximum total score under part A is 507. Part B awards a score of 5 for each specific standard disclosure on the management approach, and 0 for otherwise. Under the specific aspect, a score of 5 is awarded for each environmental disclosure identified, and 0 for otherwise. The total maximum score for Part B is 180. Part C captures the qualitative characteristics and the amount of disclosure was determined by counting the number of sentences as it is the most widely recognized measure of social and environmental disclosures (Staden and Hooks, 2007). A score of 4 is awarded if an item is excellently disclosed, 3 for good disclosure, 2 for fair disclosure, 1 if poorly disclosed, and 0 if not disclosed. The maximum score for this section is 192. The total maximum overall environmental reporting score is 879.

3.8.3 Measuring CFP

The rate of Return on Assets (ROA) is the most commonly used measure of long-term profitability of a firm and is used in this research to examine the financial performance of the sample companies. ROA was used to measure financial performance because it facilitates evaluation of whether environmental disclosure issues would have an impact on firm earnings (Cochran and Wood, 1984, Herremans et al., 1993). Freedman and Bikki (1992) argue that the financial performance of a firm is ultimately reflected in corporate profits. ROA measures the efficiency of assets in producing income. The higher the ROA, the better the firm is (Ong, Teh, & Ang, 2014). McGuire, Sundgreen, and Schneeweis (1988) argued that financial performance measures are better predictors for corporate social responsibility, which include environmental disclosures. One advantage of using financial ratios as compared to Net Profit is that Net profit measures profitability in absolute terms and neglects the firm size.

$$ROA = \text{Net Profit} / \text{Total Assets}$$

3.8.4 Control Variables

Firm size, measured by number of employees, and industry of the companies as listed in the NSE are used in this study as control variables. The choice of these variables is guided by prior literature which finds that larger companies tend to disclose more environmental information than smaller firms do (Patten, 2002) and can have a positive effect on firm performance. Additionally, firms from high environmentally sensitive industries are usually subject to greater public attention and usually disclose higher levels of environmental information than companies in less environmentally sensitive industries (Belhaj and Ayadi, 2011).

To analyze the moderating effect of these control variables on the model, multiple regression analysis was used. The analysis was conducted using backward elimination method. Variables that were found to be insignificant were eliminated before performing the next analysis, until the significant variables were left in the model. The analysis was tested by introducing each control variable at different stages and examining the moderating effect it has on the model. The three regression models used in this study were;

When both Firm size and Industry were present we used;

$$CFP = \alpha_0 + \alpha_1 (CER) + \alpha_2 (Industry) + \alpha_3 (Firm\ size) + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots 1^{st}\ model$$

When Firm size was dropped we used;

$$CFP = \alpha_0 + \alpha_1 (CER) + \alpha_2 (Industry) + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 2^{nd}\ model$$

When both Industry and Firm size were dropped, we used;

$$CFP = \alpha_0 + \alpha_1 (CER) + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3^{rd}\ model$$

3.9 Presentation and Interpretation of Data

The average reporting score as a percentage of the total maximum possible score is evaluated to indicate the amount of information disclosed in the CERs by each of the publicly listed companies in the sample. A time series analysis of CER over the four years of study is presented. The Statistical Package for Social Sciences (SPSS) data analysis tool is used to analyze the data collected. Pearson correlation coefficient is computed to examine the

relationship between CER and CFP. The CER score is the independent variable while CFP is the dependent variable. Control variables considered in the model are: Firm size (Number of employees) and the Industry (NSE Listing). To analyze the moderating effect of these control variables on the model, multiple regression analysis was used.

3.10 Research Quality

3.10.1 Reliability

According to Bryman and Bell (2011), reliability in research is related to whether the results of the study would be consistent if the study would be repeated with the same data and method. Reliability is of certain interest in quantitative researches as it is more noticeable if the measurements are stable or not. In this particular research, CER and CFP scores are derived from companies' published annual reports, stand-alone environmental reports and sustainability reports which adds reliability, as secondary data of this sort is often very reliable (Saunders et al., 2009). Bryman and Bell (2011) states three key terms of what reliability in research consists of: stability, internal reliability and inter-observer consistency. Stability concerns how stable the measurement is over time. Internal reliability describes whether or not the indicators of the index are consistent. Inter-observer consistency relates to if observations of the data are affected by any subjective input.

3.10.2 Validity

The validity of a research is focused on the included measurements and that the research instrument actually measure what it is supposed to measure (Saunders et al., 2009). According to Houston (2004), the use of reliable secondary data within the field of economics and finance is commonly preferred to the use of self-generated data.

3.10.3 Face validity

Face validity is a form approval from a person with experience within the field, which the person inputs with his or her expertise to the study's measures (Bryman & Bell, 2011). Even though this research utilizes previously established measurement models and not presenting

any new form of measurement, the regression models used were tested using statistical package SPSS.

3.10.4 Internal validity

Internal validity is also related to the trustworthiness of the study but differs in that it is more focused on the researcher's observation and if the dependent variables vary because of the independent variable and not because of some other variable (Gay, 1992). The measures also need to be consistent in order to create a valid result throughout the research (Saunders et al., 2009). In this research, the dependent variable CFP, measured by ROA, was calculated and controlled before being entered into a data spread sheet.

3.10.5 External validity

External validity refers to the possibility of drawing generalizable conclusions of results and it reflects how well the study's results are applicable to other organizations or companies (Saunders et al., 2009). Researchers often strive to reach a result that can be considered to represent a larger sample than what has been investigated. Therefore, the concern within quantitative studies is especially focused on selecting as a representative sample as possible to be able to apply the result on even larger scales (Bryman & Bell, 2011). The 42 respondents in this study are a significant representation (65.6%) of the target population of 64 companies.

3.11 Ethical Considerations in Research

The ethical aspect of data collection is often an important consideration for researchers in describing how and why data is collected. The most common considerations researchers need to contemplate during data collection is if there is any potential harm of participants, a risk of privacy invasion or any form of deception or lack of informed consent (Bryman & Bell, 2011). The researcher ensures that respondents are sufficiently informed of their rights and privacy in this study's research questionnaire and their identities are in no way disclosed in the discussion of the research results. A potential ethical issue that can occur through the use of secondary data is that it could end up being used in a way which it was not initially meant to or raise questions regarding the legal rights of utilizing the data

(Bryman & Bell, 2011). The ethical issues connected to the use of secondary data in this research is considered to be minimal seeing as the annual reports of publicly listed companies at the NSE are publicly published through the websites of the respective companies and the NSE website for public consumption as is required by the law. Similarly, the stand-alone environmental reports, sustainability reports and environmental information posted on the companies' websites are all publicly available.

Chapter 4

Data Analysis and Discussion

4.1 Introduction

This chapter presents the analysis and discussion of the research data. Findings on management perception of the value of CER, motivation and critical barriers to adoption of CER obtained from the research questionnaires' respondents are presented. The data from the sample is presented in descriptive terms before being tested for statistical significance on the relationship between CER and CFP. Further, results of the effect of the two control variables: firm size and industry on the relationship between CER and CFP are presented. An attempt has been made to explain the findings with the use of visual aids: tables, graphs and charts.

4.2 Response Rate

Questionnaires were distributed to the target population; 64 publicly listed companies at the NSE as of February, 2016. A total of 42 questionnaires were filled and returned by the respondents, representing 65.6% of the entire population. Baruch (1999) posits that an average response rate of 55.6% is sufficient for academic research targeted at organizational representatives.

4.3 Summary of Findings Obtained from Questionnaires

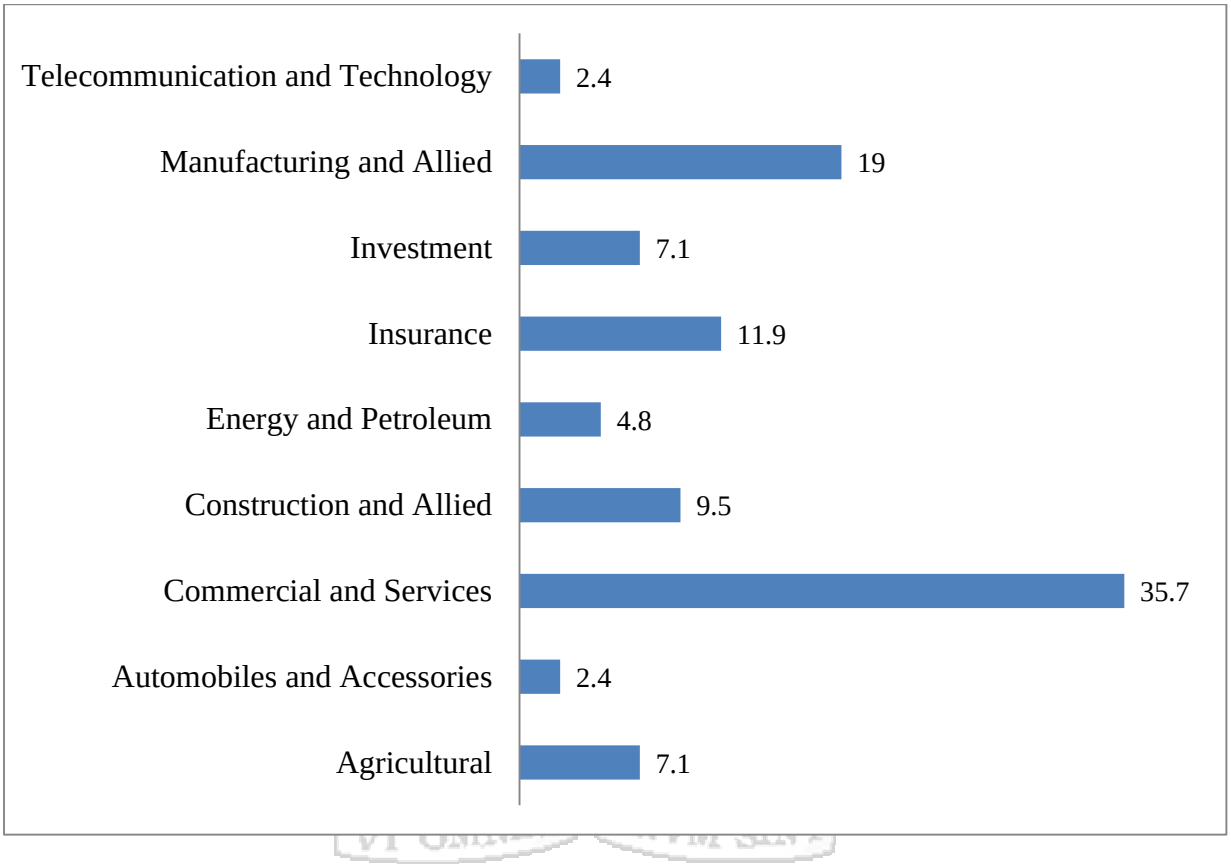
Findings from the research questionnaires returned by the respondents are used in this study to supplement findings from secondary data. The respondents provide necessary insights into their different industries, the media used by companies to publish their CERs, management perception of CER, and critical barriers to the adoption of CER as presented below. .

4.3.1 The Industry of the Participant Companies

Most of the respondent companies were those in the commercial and services industry (35.7%), followed by those in the manufacturing and allied industry (19%). This result is consistent with Alrazi, Sulaiman, & Nik Ahmad, (2009) who also found that companies in the trading and services industry have higher levels of disclosure on environmental information among other sectors of industry. The Insurance industry (11.9%) came third, followed by the Construction

and allied (9.5%), the Agricultural and Investment industries tied at 7.1%. The Automobiles & accessories, and Telecommunications & Technology industry sectors recorded the lowest response rates at 2.4% as shown in Figure 4.1.

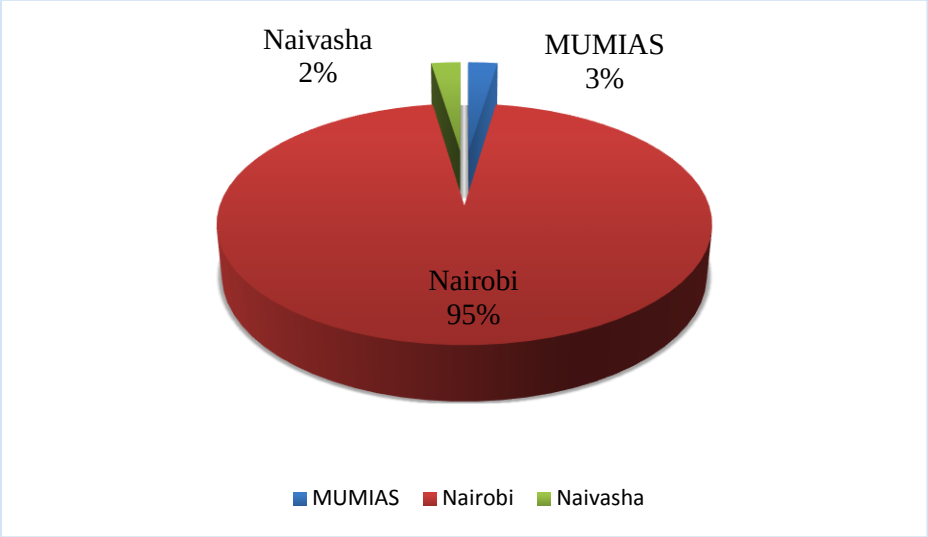
Figure 4.1 Industry Sector



4.3.2 The Headquarters of Participant Companies

Figure 4.2 shows a vast majority of the companies (95%) had their headquarters in Nairobi, the capital city of Kenya. John Friedman (1986) while writing on the world city hypothesis notes that companies place major importance to corporate headquarters. Most companies are headquartered in the capital cities of the countries in which they operate in as this is where government services are concentrated (Cohen 1981; United Nations 1982). Other company headquarter locations cited were Mumias and Naivasha towns in Kenya.

Figure 4.2 Company headquarters



4.3.3 Adoption of CER and Media Used to Publish CERs

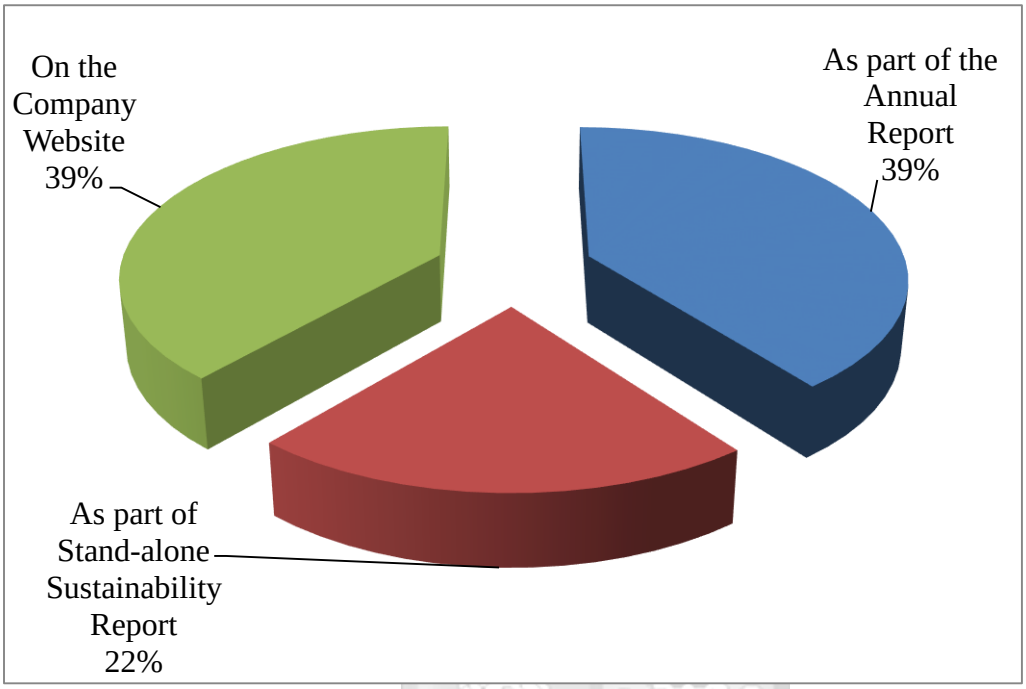
All 42 respondent companies indicated that they had incorporated CER into their company accounting systems and they made their environmental disclosure public as shown in Table 4.1.

Table 4.1 Adoption of CER and publication of CERs

	n	%
Incorporation of CER into company's accounting system	42	100
Preparation and publication of CERs	42	100
Total	84	

Figure 4.3 shows that 39% of the companies made environmental disclosure in their annual reports. 39% companies did publish their environmental reports on the company website, while only 22% prepared and published a stand-alone sustainability report.

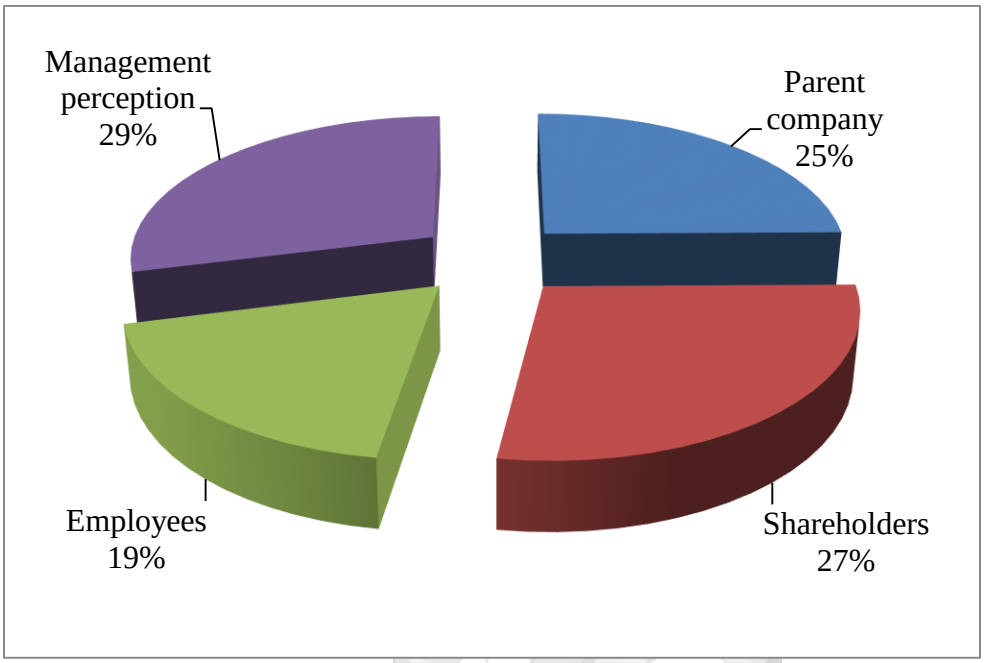
Figure 4.3 Media used to publish CERs



4.3.4 Motivation to Adopt CER

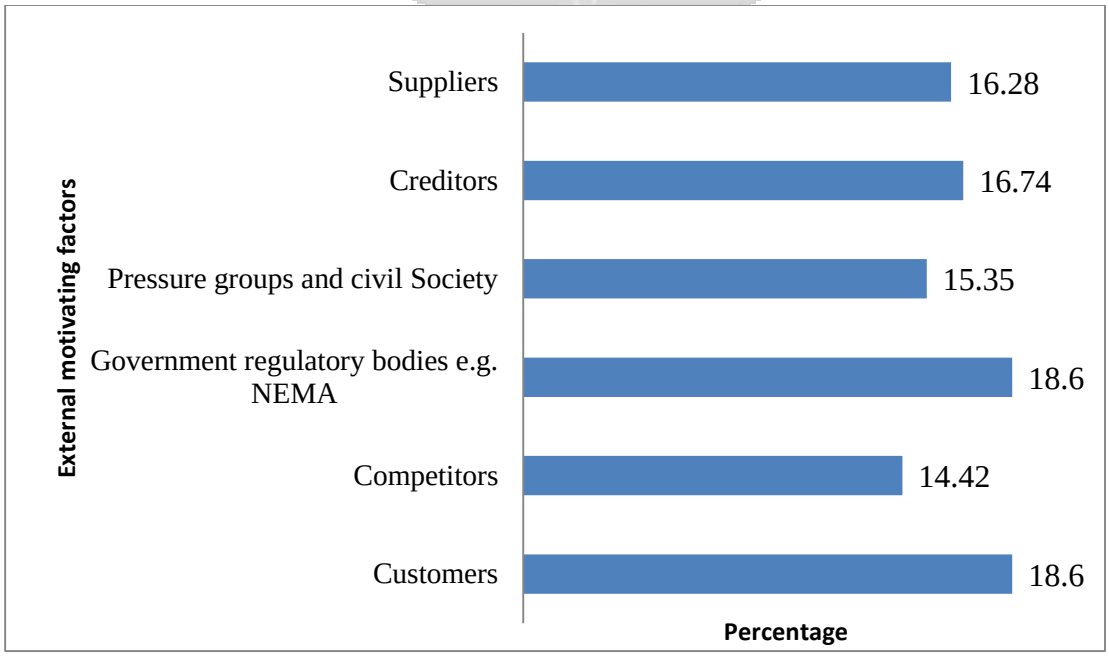
The companies experienced motivation to adopt CER and publish their CERs from both internal and external stakeholders. Internally, Management perception (28.96%) accounted for the biggest motivation to disclose environmental performance. This was followed closely by the shareholders (27.59%) and the Parent company (24.83%), while employee motivation accounted for only 18.62% as shown in Figure 4.4.

Figure 4.4 Internal motivating factors to adoption of CER



Customers and government regulatory bodies accounted for the greatest external pressure for companies to adopt CER at 18.6% each. Creditors (16.74%) and suppliers (16.28%).

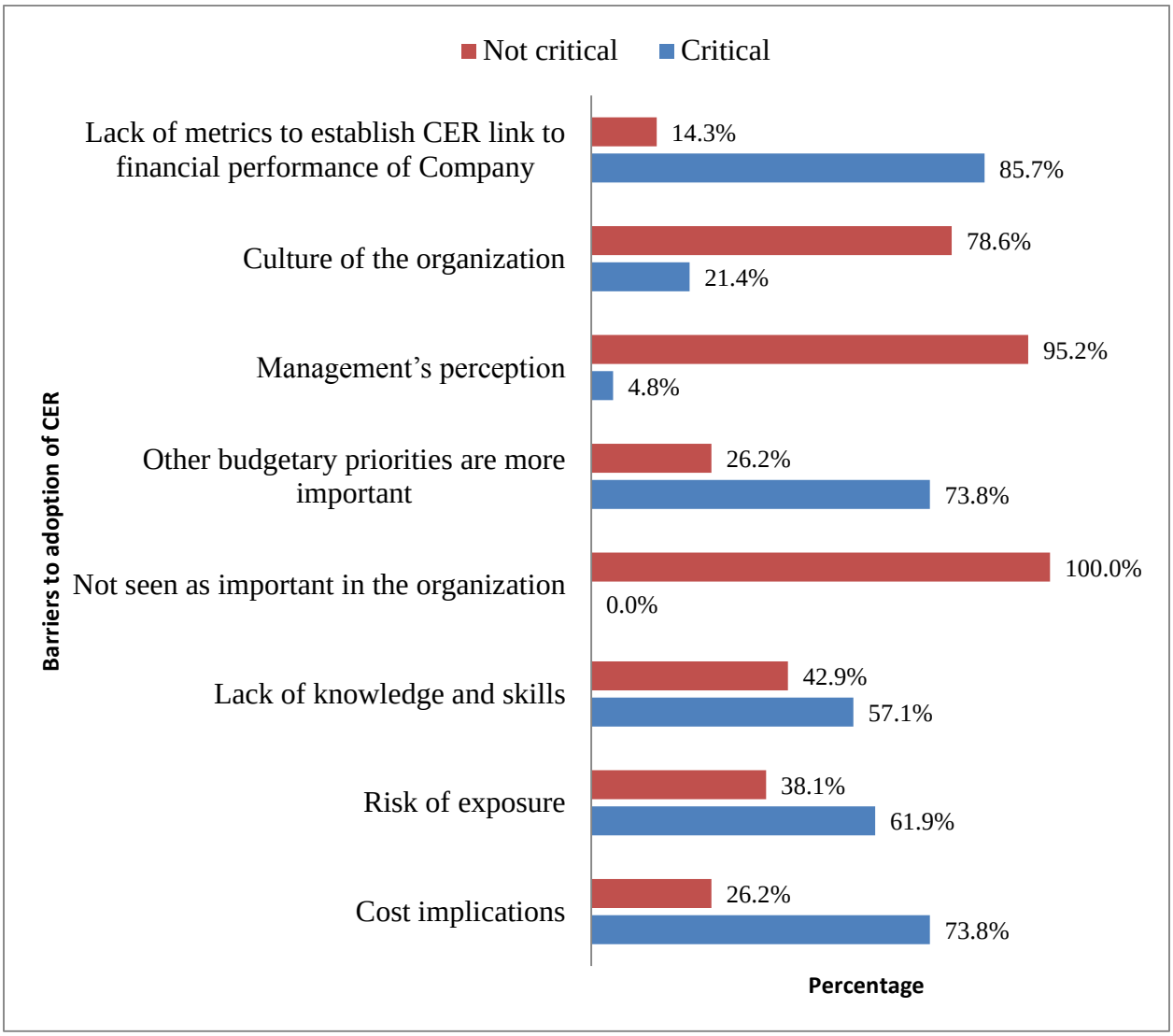
Figure 4.5 External motivating factors to adoption of CER



4.3.5 Critical barriers to the adoption of CER

Different companies cited a number of the barriers they found critical to their adoption of CER as shown in Figure 4.6 below. Of great importance to this study is the finding that a majority of the companies (85.71%) perceive the lack of metrics to determine the link between CER and CFP as a critical barrier to the adoption of CER with only 14.29% of the companies finding this to be a non-critical barrier to their adoption of CER. The majority of the companies rated Cost implications (73.81%), other more important budgetary priorities (73.81%), risk of exposure (61.90%), and lack of knowledge and skills (57.14%) as critical barriers to the adoption of CER. No single company found CER as being of no importance to the organization, while Management's perception of CER was found to be a non-critical barrier to the adoption of CER by 95.24% of the companies. The other non-critical barrier to the adoption of CER cited by a majority of the companies was the culture of the organization at 78.57%.

Figure 4.6 Critical barriers to adoption of CER



4.3.6 Management's Perception of CER

A vast majority of the companies' management (85.7%) were of the view that the future prospects for CER, in the next five years, were much more important to the business. Only one company manager (2.4%) could not determine the prospects for environmental disclosure by companies into the future as shown in Table 4.2.

Table 4.2 Management's perception of CER

		n	%
Future of CER	Marginally more important to the business	1	2.4
	More important to the business	4	9.5
	Much more important to the business	36	85.7
	Unable to determine	1	2.4
	Total	42	100.0

4.4 CER by Publicly Listed Companies in Kenya for the Years 2011 to 2014

To accomplish the second study objective: Assessing CER by publicly listed companies at Kenya's Nairobi Securities Exchange (NSE) for the years 2011 to 2014, the researcher used content analysis to extract the amount of environmental information disclosed in each of the reporting media used by the 42 companies: annual reports, sustainability reports and stand-alone environmental reports. The researcher awarded marks for each disclosure made against the GRI G4 Content Index Tool checklist. Results of the content analysis for each company for the four years: 2011, 2012, 2013 and 2014 are provided in Appendix IV.

Table 4.3 below indicates the basic descriptive statistics derived from the content analysis results. The study showed an increase in the mean score of CER over the studied period, ranging from 20.3% to 29.4%. As the mean increased, the variation of CER score increased concurrently from a standard deviation of 0.091 in 2011 to 0.163 in 2014. It is also worth noting that the minimum CER score increased from 2011 (6.4%), 2012 (7.6%) to the year 2013 (9.9%) before dropping in the year 2014 (5.2%). The maximum CER score was recorded in the year 2014 (56.5%), 2013 (55.5%), 2012 (54.3%) and 2011 (44.3%).

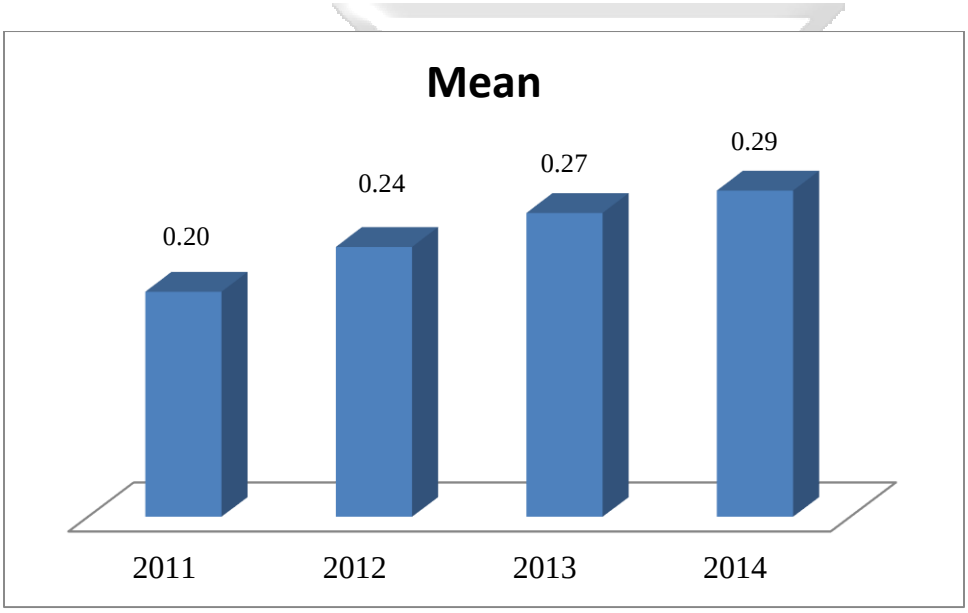
Table 4.3 Descriptive statistics - CER Score for the years 2011 to 2014

Year	2011	2012	2013	2014
Minimum	0.064	0.076	0.099	0.052
Maximum	0.443	0.543	0.555	0.565
Sum	8.540	10.231	11.510	12.355
Mean	0.203	0.244	0.274	0.294
Standard Deviation	0.091	0.129	0.151	0.163

4.4.1 Trend Analysis of CER for the Sample (2011 to 2014)

Figure 4.7 below is a graphic representation of the trend of CER in the four years of study, from 2011 to 2014, which is on a steady increase. The study showed an increase in mean score of CER. CER is lowest in year 2011 at 0.20, it rises marginally in year 2012 to 0.24, another rise is recorded in year 2013 to 0.27 and year 2014 shows a rise to 0.29. This result is consistent with a study by Alrazi et al., (2009) which found out that increased awareness on the importance of CER by Malaysian companies resulted in a steady increase in disclosure in the years 1999, 2003 and 2006.

Figure 4.7 Trend of CER for the sample over the four years of study (2011 to 2014)

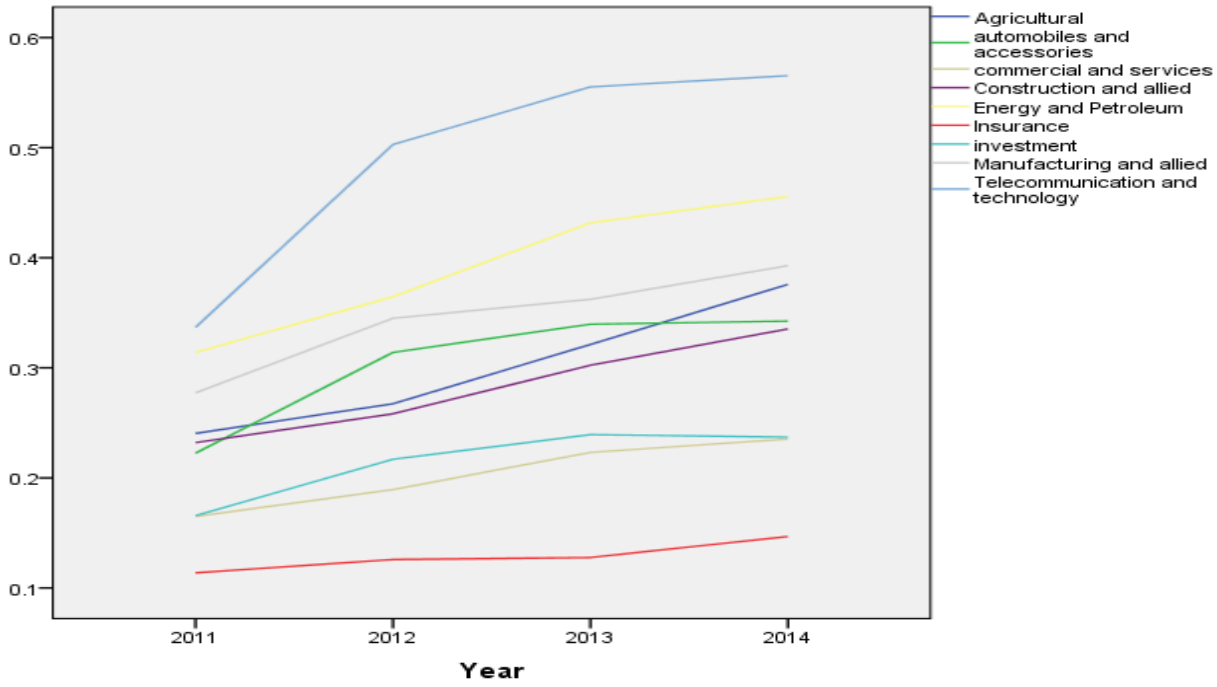


4.4.2 CER Trend Analysis per Industry of the Sample (2011 to 2014)

The researcher used time series analysis to examine CER trends for the different industries over the four years of study, 2011-2014. The trends were computed using CER average scores for each industry. The companies from the sample fall under 9 industry sectors under which the publicly listed companies at the NSE are categorized. These are: Agriculture, Automobile and accessories, Commercial and services, Construction and allied, Energy and petroleum, Insurance, Investment, Manufacturing and allied and Telecommunication and technology. The Telecommunication and technology sector recorded the highest CER, with a steep rise

between the year 2011 and 2012. The energy and petroleum industry was second, recording a gradual increase in CER from the year 2011 to 2014. The Manufacturing and allied industry came third, followed by the Agricultural, Construction and allied, and Automobile and accessories industries in that order. The Investment sector came third to last, with the highest increase in CER seen between 2011 and 2012. The Commercial and services sector recorded the second lowest trend on CER over the four years, while the Insurance industry came last among the 9 industries as shown in the Figure 4.8 below.

Figure 4.8 Trend analysis of CER for the Sample per industry (2011-2014)



4.5 CFP of the Sample (2011 to 2014)

To assess the CFP of respondent companies, the researcher extracted the Net Profit and Total Assets, to compute the Return on Assets, from the respective companies' annual reports for each of the years 2011 to 2014. The results of the CFP for the 42 companies over the four years, 2011 – 2014 are provided in Appendix V. The results are summarized in Table 4.4 below, which indicates the basic descriptive statistics for CFP. The mean for the CFP was 7.2% in the year 2011, 6.9% in 2012 and 2013, and 5.4% in the year 2014.

Table 4.4 Descriptive statistics - CFP Score for the years 2011 to 2014

Year	2011	2012	2013	2014
Minimum	-0.018	-0.069	-0.191	-0.117
Maximum	0.265	0.353	0.336	0.251
Sum	3.003	2.908	2.898	2.268
Mean	0.072	0.069	0.069	0.054
Standard Deviation	0.063	0.068	0.082	0.079

4.6 The Relationship between CER and CFP of sample companies (2011-2014)

The third objective of the study sought to establish if there exists a relationship between CER and CFP of publicly listed corporate organizations in Kenya for the years 2011 to 2014. The researcher computed Pearson correlation coefficient to examine the relationship between Corporate Environmental Reporting and Corporate Financial Performance for the year 2011 to the year 2014 and tested its significance. The results of the Pearson correlation model are presented in Table 4.5 below. The significance of the relationship between CER and CFP for each of the years was tested at 0.01 level of significance. The study found a significant relationship between CER and CFP for the year 2011 (p-value of 0.002), 2012 (p-value of 0.002), and year 2013 (p-value of 0.015). However, the relationship between CER and CFP was not significant at 0.01 level of significance for the year 2014 (p-value of 0.056) which is greater than 0.01.

Table 4.5 Pearson correlation Model

Year	2011	2012	2013	2014
Pearson Correlation	0.472(**)	0.471(**)	0.373(**)	0.297(*)
Sig. (2-tailed)	0.002	0.002	0.015	0.056
N	42	42	42	42

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

The study found a statistically significant relationship between CER and CFP at α=0.05 for the study period, 2011 to 2014. The first hypothesis was thus accepted.

H_1 – There is a significant relationship between CER of listed companies at the NSE and ROA

The result is consistent with Al-Tuwaijri et al., (2004), Moneva and Cueller (2009), Haj and Aaydi (2011) and Zhongfu et al. (2011) who found out that increased environmental disclosure could encourage financial markets to react positively to such information and thus it benefits the financial performance of the firm and in turn contributes to higher firm value.

4.7 Moderating Effect of Control Variables (Firm size and Industry) on the relationship between CER and CFP (2011 to 2014)

To analyze the effects of control variables (firm size and industry) on the model, multiple regression models were computed and used. This is because a control variable is a variable that moderates the relationship between other variables. The analysis was conducted using backward elimination method. Variables that were found to be insignificant were eliminated before performing the next analysis, until the significant variables were left in the model. The analysis was tested by introducing each control variable at different stages and examining the moderating effect it has on the model as shown in Table 4.6. The three regression models used in this study were;

When both Firm size and Industry were present we used;

$$CFP = \alpha_0 + \alpha_1 (CER) + \alpha_2 (Industry) + \alpha_3 (Firm\ size) + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots 1^{st}\ model$$

When Firm size was dropped we used;

$$CFP = \alpha_0 + \alpha_1 (CER) + \alpha_2 (Industry) + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 2^{nd}\ model$$

When both Industry and Firm size were dropped, we used;

$$CFP = \alpha_0 + \alpha_1 (CER) + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3^{rd}\ model$$

Table 4.6 Multiple Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1st model	.439(a)	0.192	.129	.05935
2nd model	.438(b)	0.192	.151	.05859
3rd model	.437(c)	0.191	.171	.05791

a Predictors: (Constant), Industry, Firm size, CER
b Predictors: (Constant), Industry, CER
c Predictors: (Constant), CER
d Dependent Variable: CFP

Industry, CER and Firm size explain 19.2% of variations of outcomes in the model while Industry and CER explain 19.2% of variation in the Corporate Financial Performance of the sample companies. The study further found that 19.1% of the variation of the model was only explained by Corporate Environmental Reporting. Consequently, the study tested the significance of the model under each case. If introduction of a variable in a model decreases the significance of the model, the variable is said to have mediation effects. The study examined mediation effects of firm size and industry on the relationship between CER and CFP. The study found despite the fact that the model remained significant under each case, the significance of the model reduced with introduction of Industry and even reduced further on introduction of Firm size implying that both firm size and industry had moderating effects on the strength of CER to predict CFP.

Analysis of Variance (ANOVA) was computed to test the variance of the model upon introduction of control variables. Table 4.7 shows increasing level of model significance when firm size was dropped, from p-value (0.042) to p-value (0.016) and to p-value of 0.04 once the industry was dropped from the model, respectively, indicating that firm size and Industry had moderating effects on the relationship between CER and CFP.

Table 4.7 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1st model	Regression	.032	3	.011	3.018	.042(a)
	Residual	.134	38	.004		
	Total	.166	41			
2nd model	Regression	.032	2	.016	4.640	.016(b)
	Residual	.134	39	.003		
	Total	.166	41			
3rd model	Regression	.032	1	.032	9.428	.004(c)
	Residual	.134	40	.003		
	Total	.166	41			

a Predictors: (Constant), Industry, CER, firm size
b Predictors: (Constant), Industry, CER
c Predictors: (Constant), CER
d Dependent Variable: ROA

To examine the moderating effects of the control variables using significance of the relationship between CER and CFP, we used the SPSS output table for coefficients of the regression model as shown in Table 4.8. This is because a control variable can either lower or increase significance of predictor variables, thus determining if they have a positive moderating effect or not. In this case, CER was considered to be the only predictor variable while firm size and industry are the control variables. The study found that introduction of Industry changes significance of CER from p-value of 0.004 to p-value of 0.006 and introduction of firm size would change it further to p-value of 0.008.

Table 4.8 Coefficients of Regression Model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1st model	(Constant)	.010	.028		.340	.736
	CER	.210	.074	.433	2.823	.008
	Firm size	-6.044E-07	.000	-.015	-.097	.923
	Industry	.001	.004	.033	.206	.838
2nd model	(Constant)	.008	.025		.336	.739
	CER	.208	.071	.429	2.925	.006
	Industry	.001	.003	.039	.267	.791
3rd model	(Constant)	.012	.020		.626	.535
	CER	.211	.069	.437	3.070	.004

Referring to Table 4.8, we conclude that firm size has a positive moderating effect on the relationship between CER of listed companies at the NSE and CFP. Firm size positively affects the relationship between CER and CFP as depicted by the increase in standardized coefficients, from Beta=0.208 to Beta=0.210. Therefore, the second hypothesis was accepted.

H_2 - Firm size has a positive moderating effect on the relationship between CER of listed companies at the NSE and CFP

Industry on the other hand was found to have a negative moderating effect on the relationship between CER and CFP of a company as depicted by the decrease in standardized coefficients, from Beta=0.211 to Beta=0.208. Therefore, the third hypothesis was rejected.

H_3 – Industry has a positive moderating effect on the relationship between CER oflisted companies at the NSE and CFP

4.8 Conclusion

Findings from the research questionnaire indicate that all the sample companies have modified their accounting systems to incorporate CER, and they do prepare and publish their CERs. The most popular media for publication of CERs is the annual report and company websites, while the least popular media is stand-alone sustainability reports. Management are strongly persuaded that there still lacks clear metrics to determine the link between CER and CFP, and

that this is a critical barrier to the adoption of CER by the companies. CER is found to be on an upward trend, averaging 20.33% in 2011 to a mean of 29.15% in 2014. The study finds a significant relationship between CER and CFP for the sample companies in the years 2011, 2012 and 2013, but the relationship between CER and CFP was not significant in the year 2014. The size of a firm is found to have a positive moderating effect on the relationship between CER and CFP, while the Industry sector is found to have no positive moderating effect on the relationship between CER and CFP.

Chapter 5

Summary of Findings, Conclusion and Recommendation

5.1 Introduction

This Chapter discusses the findings of the study to each of the problem stated. A summary of the conclusions derived from the analysis of the findings is provided. Section 5.2 gives a summary of the research objectives and methods used to accomplish each objective. Section 5.3 provides a summary of the findings, while Section 5.4 outlines the implications of the findings to (i) policy (ii) academics and research and (iii) corporate practice. Limitations of the study are provided as well as recommendation for areas that need further research.

5.2 Summary of Research Objectives and Conclusion.

This study sought to assess Corporate Environmental Reporting in Kenya and establish its link to Corporate Financial Performance. A summary of the results to each specific research objective is provide below.

5.2.1 CER in Kenya

The first research objective was to establish the perception of management on the value of CER and the motivating factors as well as critical barriers to adoption of CER in Kenya. Management views on the value of CER in Kenya and its future prospects were sought through questionnaires administered targeting both middle-level and top management. The research questionnaire is attached as Appendix II in this study. Other questions included in the questionnaire were: the name and location of the company's headquarters, the Industry, if the company had adopted CER and the media used to publish its CERs. The findings show that 100% of the companies that participated in the study had adopted environmental disclosure to some extent. The disclosure media used was the annual report at 39%, company websites at 39%, while only 22% prepared and published stand-alone sustainability reports.

CER by each company was established by use of content analysis to extract the amount of environmental information disclosed in each of the reporting media used by the respondents: annual reports, stand-alone environmental reports and sustainability reports. The researcher

used the Global Reporting Initiative's GRI G4 Content Index Tool to award a score to each of the environmental disclosure aspects reported by the various companies. CER was determined against a total maximum overall environmental reporting score of 879. The mean for CER by the respondent companies ranged from 20.3% in the year 2011, rose marginally to 24.4% in year 2012, 27.4% in the year 2013, and a mean of 29.4% was recorded in year 2014. The minimum score on CER was 6.4% recorded in the year 2011, while the maximum score was recorded in year 2014 at 56.5%. Despite CER being on a steady increase from an average of 20.33% in 2011 to 29.15% in 2014, CER by publicly listed companies in Kenya is still low as the mean score recorded in each year were all way below 50%. This findings are consistent with Wang'ombe, 2013a who found the quality of CER in Kenya equally being low.

It can thus be inferred that company management is aware of the increased concerns over the impact of commercial activities on the environment, and have adopted the concept of extending company reporting to include non-financial aspects (Al-Tuwaijri et al. 2004). Another possible inference from these findings could be the increased stakeholder demand for environmental information as noted by Sumiani, Haslinda, and Lehman (2007) that has seen Corporate Environmental Reporting (CER) become a crucial issue in today's corporate reporting. Company management appreciates that their ability to prosper and grow depends on the existence of a prosperous and sustainable society, and thus they have an inherent interest in investing in positive environmental performance and disclosure.

5.2.2 The Link between CER and CFP

The second research question sought to establish if CER has an impact on the financial performance of publicly listed companies at Kenya's Nairobi Securities Exchange. The researcher used the annual reports of the respondent companies for the years 2011 to 2014 to extract their Net Profit and Total Assets. Corporate Financial Performance was measured using Return on Assets (Net Profit/ Total Assets). The use of ROA was preferred because it is a measure of long-term profitability and has been used in most previous studies. ROA measures the efficiency of assets in producing income (Yoshikawa & Phan, 2003; Haj & Aaydi, 2011).

The Pearson correlation coefficient was computed to examine the relationship between CER and CFP. The researcher found a significant positive relationship between CER and CFP for

three years: 2011, 2012, and 2013, and no significant relationship between CER and CFP in the year 2014. Two control variables were considered while testing the relationship between the CER and CFP as previous literature has found them to moderate the relationship between environmental disclosure and financial performance. These are Firm size, measured by number of employees, and the industry to which firms belong. To analyze the effects of these control variables on the model, multiple regression analysis was used. While the size of a firm was found to have a positive moderating effect on the relationship between CER and CFP, Industry was found to have no positive moderating effect on the relationship between CER and CFP.

The results of this study suggest that it does, indeed, benefit a company to be green. It can thus be inferred that companies in Kenya that disclose more information in their CERs will perform better financially than those that shy away from CER. With increased CER, these firms will enjoy "green goodwill" and improved reputation (Brammer & Pavelin, 2004; Hart, 1995; Surroca et al., 2010), cost advantages due to process innovation (Sharma & Vredenburg, 1998; Surroca et al., 2010), and strengthen employee skills and involvement (Hart, 1995; Russo & Fouts, 1997; Waldman, Siegel, & Javidan, 2006; Weber, 2008), and raising rivals' costs.

5.3 Implications

5.3.1 Policy Implications

Findings of this study should guide the Kenyan government through the relevant bodies such as the National Environment Management Authority (NEMA) in the development of Environmental reporting structures and policy, and to come up with campaigns to encourage increased voluntary environmental disclosure by companies. Professional and regulatory bodies such as ICPAK and CMA need to provide guidelines that help companies to prepare and publish timely, readily accessible and reliable environmental information to satisfy the interests of stakeholders. More user-friendly policies and guidelines will give a level of prominence to environmental costs, benefits, and sustainability within financial statements and ensure that CER becomes as routine and comparable as financial reporting. This will in turn encourage Kenyan companies to help the Government of Kenya address the increasing environmental and social issues, as most of these society's needs have exceeded the capacities of governments to address them, particularly in developing countries (Jamali, 2006).

5.3.2 Academics and Research Implications

Wangombe et al., (2013) have called for studies to document CER in Kenya. Findings of this study provide a necessary foundation on which scholars can examine the implications of environmental disclosure on financial performance of a firm in developing countries. The findings from this study add to the large body of existing literature by Bowman (1978); Fry and Hock (1976); Preston (1978); Hart & Ahuja, (1996); King & Lenox, (2001); Konar & Cohen, (2001); Russo & Fouts, (1997); Grieg-Gran (2002); Wagner & Schaltegger, (2004); Al-Tuwaijri et al., (2004); P. Clarkson et al., (2011) and Roslan (2013) that has confirmed the existence of a positive relationship between CER and CFP.

5.3.3 Corporate Practice Implications

Potential investors and shareholders are increasingly putting their money in investments which seek to maximize both financial return and social good (McWilliams, 2014). Findings of this research come in handy in helping shape corporate practice by providing both shareholders and potential investors with a clear understanding of why environmentally responsible behavior is worth paying a premium for. Corporate management should come up with environmental performance and disclosure strategies that generate long-term competitive financial returns and positive societal impact (Moyeen & West, 2014). Both the management and Board of Directors of Kenyan companies should allocate sufficient financial resources to ensure their respective companies attend not only to their core business operations, but also to their environmental disclosure responsibilities to their shareholders and all stakeholders. Kenyan companies should work towards creating an environmentally sustainable and better society by playing their rightful role in full environmental disclosure of their environmental impacts and their performance in mitigating these risks.

5.4 Limitations

Although careful attention was given to the methods of data collection and analysis, there are many other factors that affect the financial performance of a firm that should also be acknowledged. In this study, the researcher has only focused on the link between corporate environmental reporting and corporate financial performance, with only firm size and industry

factored as control variables. Other macro-factors such as the economic conditions, corporate governance factors and the status of the Kenyan and the global economy are not considered during the period of the study. Therefore, interpretation of the findings of this study is subject to these caveats. The smaller population of companies in any one industry makes it impractical to rely on a single industry sample to control for industry effect. This study relies on content analysis of annual reports, stand-alone environmental reports, sustainability reports and Company websites which is the most easily accessible and cost-effective research strategy for Kenya, in the absence of any independent institutions, non-profit organizations, and government bodies dedicated to rating companies on their published CERs. Because CER in Kenya is voluntary and the amount of environmental information disclosed is discretionary, the potential bias of disclosing mainly good news should be acknowledged. Also, the list of items on environmental activities to compute the environmental disclosure index might not be exhaustive, as the GRI continues to improve on the GRI G4 Content Index tool to capture more environmental aspects. Corporate environmental reporting captured in both print and broadcast media in Kenya's media outlets is not included in this research study. And whereas Kenya, just like most developing countries, is characterized by a weak, fragile and vulnerable economy that is largely dependent on natural resources and the environment, findings of this research may not necessarily be generalizable to represent other developing countries across the African continent and in Asia-Pacific. Although the Central Bank of Kenya (CBK) and the Insurance Regulatory Authority (IRA) require banks and insurance companies respectively to publicly present their financial statements (Income Statement, Statement of Financial Position and Statement of Cash Flows), only publicly listed banks and insurance companies are factored in this research. This is because the CBK and IRA do not expressly require publication of annual reports by the banks and insurance companies.

5.5 Recommendation

With the many environmental aspects, material, energy, water, bio-diversity, affecting the total score of CER among Kenyan companies, perhaps future researchers could relate all the variables with the financial performance of a company to get more in-depth relationships between them. The researcher also recommends the use of market-based financial performance

measures such as Tobin's Q and Market Return (Combs et al., 2005). Lubatkin and Shrieves (1986) argue that, unlike accounting-based measures of financial performance, market-based measures incorporate all relevant information and are not subject to managerial manipulations and distortions due to differences in depreciation policies, inventory valuation, treatment of certain expenditure and revenue items, and consolidating accounts, as well as outright fraud. Other profitability ratios such as current ratio can be used, or a combination of both accounting-based and market-based measures of financial performance rather than the variables studied in this research. Future research in this area needs to go beyond the listed companies at the Nairobi Securities Exchange. Perhaps a more interesting scope would be to assess CER by Small and Medium Enterprises (SMEs) in Kenya. SMEs have been known to contribute greatly to the economic growth of both developed and developing countries, and their small-scale production systems have been seen to have an adverse effect on the environment. Finally, a cross-sectional analysis could also be conducted to examine the relationship between CER and CFP for different sectors of industry.

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Appendix I

Companies listed on the Nairobi Securities Exchange (NSE) main and alternative segments as of February, 2016

AGRICULTURAL
1. Eaagads Ltd
2. Kapchorua Tea Co. Ltd
3. Kakuzi
4. Limuru Tea Co. Ltd
5. Rea Vipingo Plantations Ltd
6. Sasini Ltd
7. Williamson Tea Kenya Ltd
AUTOMOBILES AND ACCESSORIES
8. Car and General (K) Ltd
9. Sameer Africa Ltd
10. Marshalls (E.A.) Ltd
COMMERCIAL AND SERVICES
11. Barclays Bank Ltd
12. CFC Stanbic Holdings Ltd
13. I&M Holdings Ltd
14. Diamond Trust Bank Kenya Ltd
15. Housing Finance Co Ltd
16. Kenya Commercial Bank Ltd
17. National Bank of Kenya Ltd
18. NIC Bank Ltd
19. Standard Chartered Bank Ltd
20. Equity Bank Ltd
21. The Co-operative Bank of Kenya Ltd
22. Express Ltd
23. Kenya Airways Ltd
24. Nation Media Group
25. Standard Group Ltd
26. TPS Eastern Africa (Serena) Ltd
27. Scangroup Ltd
28. Uchumi Supermarket Ltd
29. Hutchings Biemer Ltd
30. Longhorn Kenya Ltd
31. Atlas Development and Support Services
CONSTRUCTION AND ALLIED

32. Athi River Mining
33. Bamburi Cement Ltd
34. Crown Berger Ltd
35. E.A.Cables Ltd
36. E.A.Portland Cement Ltd
ENERGY AND PETROLEUM
37. KenolKobil Ltd
38. Total Kenya Ltd
39. KenGen Ltd
40. Kenya Power & Lighting Co Ltd
41. Umeme Ltd
INSURANCE
42. Jubilee Holdings Ltd
43. Pan Africa Insurance Holdings Ltd
44. Kenya Re-Insurance Corporation Ltd
45. Liberty Kenya Holdings Ltd
46. British-American Investments Company (Kenya) Ltd
47. CIC Insurance Group Ltd
INVESTMENT
48. Olympia Capital Holdings ltd
49. Centum Investment Co Ltd
50. Trans-Century Ltd
51. Home Afrika Ltd
52. Kurwitu Ventures
53. Nairobi Securities Exchange Ltd
MANUFACTURING AND ALLIED
54. B.O.C Kenya Ltd
55. British American Tobacco Kenya Ltd
56. Carbacid Investments Ltd
57. East African Breweries Ltd
58. Mumias Sugar Co. Ltd
59. Unga Group Ltd
60. Eveready East Africa Ltd
61. Kenya Orchards Ltd
62. A.Baumann CO Ltd
63. Flame Tree Group Holdings Ltd
TELECOMMUNICATION AND TECHNOLOGY
64. Safaricom Ltd

Retrieved from https://www.nse.co.ke/listed-companies/list.html on February 16th, 2016.

Appendix II

Research Questionnaire

Mbuthia Zacharia Kagai,
Strathmore University,
School of Management and Commerce,
Adm. 071585
0727 888 104
zackmbuthia@gmail.com

Dear Sir/Madam,

REF: Request to participate in research questionnaire on "CORPORATE ENVIRONMENTAL REPORTING (CER) IN KENYA AND ITS LINK TO CORPORATE FINANCIAL PERFORMANCE (CFP)"

The study seeks to assess Corporate Environmental Reporting (CER) by publicly listed companies at Kenya's Nairobi Securities Exchange (NSE) and its relationship with Corporate Financial Performance (CFP) over a time period of four years, 2011 to 2014. Management perception of CER is sought since CER is largely voluntary in Kenya and reporting is at the discretion of managers.

Your company has been selected for this study as it is listed on the Nairobi Securities Exchange (NSE) - Required by Kenyan law to produce public annual reports.

Please assign a member of your staff in the **middle-level or top management**, who makes decisions and is directly involved in CER in your company, to answer this questionnaire. Your participation is highly valued and will make a valuable contribution to the development of CER practice in Kenya.

Yours sincerely,
Mbuthia Zacharia.

Information sheet for questionnaire participants

1. Title of the research:

   Corporate Environmental Reporting (CER) in Kenya and Its Link to Corporate Financial Performance (CFP)

2. Researcher's name and contact information:

   Kagai Mbuthia Zacharia,
   P.O Box 74110-00200
   Nairobi, Kenya
   0727 888 104
   zackmbuthia@gmail.com

3. Supervisor's name and contact information:

   Dr. David Wang'ombe,
   Strathmore University,
   Madaraka Estate, Ole Sangale Road
   PO Box 59857- 00200
   dwangombe@strathmore.edu

4. Objective of the Research:

   The purpose of this study is to document CER by publicly listed companies in Kenya and establish if there exists a relationship between CER and CFP. This will help determine if companies that make more extensive environmental disclosure in their environmental reports record superior financial performance as compared with companies that disclose less extensive environmental information in their environmental reports.

   This research aims at helping company management, shareholders, potential investors, and stakeholders understand the association between the extents of environmental disclosure vis-à-vis the risks and rewards. Findings of this study should inform and contribute to the academic discourse on the relationship, or lack of, between CER and CFP in Kenya.

5. Purpose of the questionnaire:

   This questionnaire helps the researcher collect primary data from the respondent(s) on their perception of the value of CER in Kenya. The data thereof will supplement the available secondary data and assist the researcher in resolving the research problem.

6. Expected duration to complete the questionnaire:

   Approximately 20 minutes.

7. Confidentiality:

   Any data/information you provide will be confidential to the researcher and the research supervisors, and no identifying information will be used in any subsequent reports or publications. Real names of participants/organizations will not be used in research reports or publications.

8. Consent:

   It is considered that the completion of the survey questionnaire will provide your consent for the research.

9. Your rights to opt out question/s

   If you are not sure or/and uncomfortable with any particular question/s, please feel free to opt out of such question/s.

10. What will happen to the information collected from participants?

    All research material will be held by, and confidential to, the researcher and his supervisors. All questionnaires will be destroyed once the research is completed. You are entitled to receive a summary of findings at the end of the research. The outcome of the research may be published in academic publications.

Questionnaire

1. Company Name .....
2. Industry .....
3. Location of the organization's headquarters .....
4. Has your company's accounting system been modified to integrate Corporate Environmental Reporting?

   □ Yes □ No
5. Does your company prepare and publish its Corporate Environmental Report?

   □ Yes □ No
6. If Yes, in which reporting media is the Corporate Environmental Report published? {*Please check boxes for all that apply}*

   □ As part of the Annual Report

   □ As part of Stand-alone Sustainability Report

   □ On the Company Website
7. The organization is experiencing motivation to produce Corporate Environmental Reports from? *{Please check boxes for all that apply}*

   □ Parent company

   □ Shareholders

   □ Employees

   □ Management's perception, values, beliefs and/or commitments

   □ Other (Please specify.): .....
8. The Organization is experiencing external pressure to produce Corporate Environmental Reports from? *{Please check boxes for all that apply}*

   □ Customers

   □ Competitors

□ Government regulatory bodies e.g. NEMA

□ Pressure groups and Civil society

□ Creditors

□ Suppliers

□ Other (Please specify.): .....

9. Which of the following barriers do you find most critical to the adoption of Corporate Environmental Reporting by your business?

{Please rate all that apply in order of importance: from 1(least critical) to 5(most critical)}

	1	2	3	4	5
□ Cost implications	□	□	□	□	□
□ Risk of exposure	□	□	□	□	□
□ Lack of knowledge and skills	□	□	□	□	□
□ Not seen as important in the organization	□	□	□	□	□
□ Other budgetary priorities are more important	□	□	□	□	□
□ Management's perception	□	□	□	□	□
□ Culture of the organization	□	□	□	□	□
□ Lack of metrics to establish link to financial performance	□	□	□	□	□

10. Thinking about the future, in the next five years, what is your perception of the value of Corporate Environmental Reporting? *(Please fill-in one box)*

□ No more important to the business

□ Marginally more important to the business

□ More important to the business

□ Much more important to the business

□ Unable to determine

CONCLUSION

Although no personal names or company names are published with the results, it helps the researcher to know who in the company has filled in the questionnaire.

Please give your title below:

.....

May we contact you again for any follow-up required?

□ Yes □ No

If yes, please provide your e-mail address:

.....

Appendix III

GRI G4 Content Index Tool (GRI, 2016a)

			Document used (tick as appropriate)					
		Company Name:	Sustainability report					
		Industry:						
		Evaluators Name:						
		Date:						
	Part B	GRI (G4) SPECIFIC STANDARD DISCLOSURES						SCORE
		Evaluation (5 marks for each)						
		Disclosures on Management Approach						
		a. Report why the Aspect is material. Report the impacts that make this Aspect material.						
		b. Report how the organization manages the material Aspect or its impacts.						
		c. Report the evaluation of the management approach, including:						
		The mechanisms for evaluating the effectiveness of the						

		management approach						
		The results of the evaluation of the management approach						
	G4-DMA	Any related adjustments to the management approach						
		Total						
		INDICATORS BY ASPECTS						
		Evaluation (5 marks for each)						
			Core			Comments		
		ENVIRONMENTAL ASPECT						
		Material						
		EN1 Materials used by weight or volume.						
		EN2 Percentage of materials used that are recycled input material						
		Energy:						
		EN3 Energy consumption within the organization						
		EN4 Energy consumption outside of the organization						
		EN5 Energy intensity						
		EN6 Reduction of energy consumption.						
		EN7 Reduction in energy requirements						

		of products and services.						
		Water						
		EN8 Total water withdrawal by source.						
		EN9 Water sources significantly affected by withdrawal of water.						
		EN10 Percentage and total volume of water recycled and reused.						
		Biodiversity						
		EN11 Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.						
		EN12 Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.						
		EN13 Habitats protected or restored.						

		EN14 Total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk						
		Emissions, Effluents, and Waste						
		EN15 Total direct greenhouse emission by weight.						
		EN16 Total indirect greenhouse gas emissions by weight.						
		EN17 Other relevant indirect greenhouse gas emissions by weight.						
		EN18 Greenhouse gas emission intensity						
		EN19 Reduction of greenhouse gas emission						
		EN20 Emissions of ozone-depleting substances by weight.						
		EN21 NO, SO, and other significant air emissions by type and weight.						
		EN22 Total water discharge by quality and destination.						

		EN23 Total weight of waste by type and disposal Method						
		EN24 Total number and volume of significant spills.						
		EN25 Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the basel convention annex I,II,III and VIII, and percentage of transported waste shipped internationally.						
		EN26 Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff.						
		Products and Services						
		EN27 Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation						

		EN28 Percentage of products sold and their packaging materials that are reclaimed by category.						
		Compliance						
		EN29 Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations.						
		Transport						
		EN30 Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce						
		Overall						
		EN31 Total environmental protection expenditures and investments by type.						
		Supplier Environmental Assessment						

		EN32Percentage of new suppliers that were screened using environmental criteria						
		EN33 Significant actual and negative environmental impacts in the supply chain and action taken.						
		Environmental Grievance Mechanism						
		EN34 Number of grievances about environmental impacts filed, addressed and resolved through formal grievance mechanisms						
		Sub-Total						
		Max Score						170
	Part B	Total						0
		Max Score- Part B						170

(The index presented here is only one of the 3 parts that makes up the GRI G4 Content Index Tool.)

Appendix IV

Results from Content Analysis of CER score for the sample in each of the four years of study, 2011 to 2014.

	CER SCORE PER YEAR			
Company	**2011**	**2012**	**2013**	**2014**
AGRICULTURAL				
Company 1	26.62%	30.26%	38.91%	45.62%
Company 2	22.41%	25.37%	29.12%	32.88%
Company 3	23.09%	24.57%	28.33%	34.24%
AUTOMOBILES AND ACCESSORIES				
Company 4	16.38%	16.38%	16.84%	17.18%
Company 5	28.10%	46.42%	51.08%	51.31%
COMMERCIAL AND SERVICES				
Company 6	11.49%	13.88%	14.56%	14.45%
Company 7	11.15%	12.74%	12.86%	11.15%
Company 8	15.02%	17.86%	18.54%	22.41%
Company 9	14.22%	15.70%	20.02%	24.23%
Company 10	18.54%	21.84%	22.87%	24.23%
Company 11	26.96%	34.81%	36.63%	44.48%
Company 12	12.86%	11.83%	13.77%	11.15%
Company 13	8.87%	7.62%	11.83%	12.86%
Company 14	20.02%	20.82%	21.62%	22.41%
Company 15	25.03%	29.47%	45.28%	45.73%
Company 16	24.46%	31.29%	44.82%	45.51%
Company 17	6.37%	7.62%	10.13%	9.10%
Company 18	16.95%	19.57%	20.25%	22.18%
Company 19	11.49%	12.86%	11.60%	10.13%
Company 20	24.00%	26.17%	29.92%	32.99%
CONSTRUCTION AND ALLIED				
Company 21	20.02%	22.64%	24.23%	27.76%
Company 22	14.45%	14.79%	16.04%	18.09%
Company 23	31.85%	33.67%	44.14%	45.62%
Company 24	26.51%	32.20%	36.52%	42.66%
ENERGY AND PETROLEUM				
Company 25	24.69%	30.15%	40.50%	39.14%
Company 26	38.11%	42.78%	45.85%	51.99%
INSURANCE				
Company 27	8.87%	9.90%	11.26%	11.49%
Company 28	11.49%	15.02%	14.56%	15.93%

Company 29	13.77%	14.68%	15.59%	16.04%
Company 30	11.04%	12.17%	12.51%	15.02%
Company 31	11.72%	11.15%	9.90%	14.90%
INVESTMENT				
Company 32	9.10%	8.87%	10.24%	5.23%
Company 33	30.49%	44.25%	49.83%	53.36%
Company 34	10.13%	11.95%	11.72%	12.51%
MANUFACTURING AND ALLIED				
Company 35	16.61%	21.27%	22.87%	24.23%
Company 36	33.67%	47.10%	49.15%	54.15%
Company 37	44.25%	54.27%	54.72%	56.31%
Company 38	25.94%	27.65%	30.49%	36.52%
Company 39	26.28%	28.90%	31.17%	39.36%
Company 40	31.29%	45.62%	54.15%	54.61%
Company 41	16.04%	16.72%	11.04%	9.78%
TELECOMMUNICATION AND TECHNOLOGY				
Company 42	33.67%	50.28%	55.52%	56.54%

Appendix V

CFP (Measured by ROA) score for the sample in each of the four years of study, 2011 to 2014.

	CFP SCORE PER YEAR			
Company	**2011**	**2012**	**2013**	**2014**
AGRICULTURAL				
Company 1	14.66%	11.80%	10.66%	8.66%
Company 2	18.71%	11.83%	4.62%	4.35%
Company 3	20.41%	16.01%	33.63%	25.14%
AUTOMOBILES AND ACCESSORIES				
Company 4	6.14%	5.19%	4.67%	4.58%
Company 5	5.80%	11.33%	10.94%	-1.74%
COMMERCIAL AND SERVICES				
Company 6	4.86%	4.73%	3.69%	3.71%
Company 7	1.14%	2.28%	2.83%	3.14%
Company 8	2.24%	3.00%	3.14%	2.70%
Company 9	5.26%	4.97%	4.78%	4.98%
Company 10	1.95%	1.81%	6.63%	0.47%
Company 11	3.32%	3.32%	3.67%	3.44%
Company 12	2.25%	1.09%	1.20%	0.71%
Company 13	3.43%	2.80%	2.67%	2.82%
Company 14	3.56%	4.13%	4.20%	4.69%
Company 15	3.09%	3.67%	3.94%	2.81%
Company 16	4.20%	5.24%	4.55%	5.38%
Company 17	5.93%	2.86%	3.34%	2.08%
Company 18	10.73%	8.99%	6.52%	4.71%
Company 19	9.75%	5.54%	6.41%	5.27%
Company 20	-1.78%	13.71%	12.70%	10.41%
CONSTRUCTION AND ALLIED				
Company 21	5.60%	4.62%	4.54%	4.05%
Company 22	5.82%	5.91%	7.26%	0.51%
Company 23	17.49%	11.34%	8.54%	9.52%
Company 24	0.01%	-6.94%	15.43%	-2.45%
ENERGY AND PETROLEUM				
Company 25	-0.20%	-0.61%	3.28%	4.38%
Company 26	1.73%	2.94%	2.77%	1.13%
INSURANCE				
Company 27	10.03%	11.78%	16.43%	22.46%

Company 28	3.98%	3.13%	3.52%	3.46%
Company 29	0.87%	0.86%	0.48%	0.14%
Company 30	2.48%	3.64%	5.92%	3.54%
Company 31	5.26%	7.87%	6.98%	5.69%
INVESTMENT				
Company 32	2.75%	3.39%	2.63%	-11.70%
Company 33	10.06%	3.86%	13.23%	10.32%
Company 34	3.27%	2.64%	0.42%	2.93%
MANUFACTURING AND ALLIED				
Company 35	7.73%	5.44%	4.17%	5.91%
Company 36	8.34%	7.35%	-6.09%	-11.49%
Company 37	26.53%	35.30%	20.96%	19.37%
Company 38	17.37%	19.34%	21.57%	19.37%
Company 39	10.66%	9.89%	7.70%	9.98%
Company 40	12.45%	15.08%	15.62%	12.97%
Company 41	6.12%	4.83%	-19.09%	-5.14%
TELECOMMUNICATION AND TECHNOLOGY				
Company 42	16.35%	14.81%	18.72%	23.58%

Appendix VI

Data on Control Variables (Firm size and Industry) for the sample

INDUSTRY (As per listing at the NSE)	Firm Size (Measured by Number of Employees)
AGRICULTURAL	
Company 1	2,546
Company 2	1,300
Company 3	3,652
AUTOMOBILES AND ACCESSORIES	
Company 4	258
Company 5	626
COMMERCIAL AND SERVICES	
Company 6	2,800
Company 7	1,416
Company 8	1,890
Company 9	6,243
Company 10	1833
Company 11	7,500
Company 12	1,079
Company 13	909
Company 14	1,850
Company 15	3,925
Company 16	554
Company 17	2,251
Company 18	1,000
Company 19	1,749
Company 20	236
CONSTRUCTION AND ALLIED	
Company 21	700
Company 22	457
Company 23	965
Company 24	634
ENERGY AND PETROLEUM	
Company 25	400
Company 26	2,209
INSURANCE	
Company 27	115
Company 28	366
Company 29	825

Company 30	120
Company 31	130
INVESTMENT	
Company 32	2,000
Company 33	90
Company 34	117
MANUFACTURING AND ALLIED	
Company 35	397
Company 36	1,690
Company 37	1,190
Company 38	69
Company 39	500
Company 40	491
Company 41	250
TELECOMMUNICATION AND TECHNOLOGY	
Company 42	4,251