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Sustainability Methodologies and Sustainability-linked Senior Management Compensation Policies: An Analysis of Relationships for Global Companies in the Healthcare and Educational Services Sectors

Dr. Robert H. Sarikas

Associate Professor of Practice in the Virginia Tech Center for Leadership in Global Sustainability, USA

E-mail: zeke21@vt.edu

Dr. Elizabeth Tipton

Professor Emeritu

E-mail: etipton@ewu.edu

Dr. Andy Fodor

Professor, Ohio University, USA

E-mail: fodora@ohio.edu

Dr. Arsen M. Djatej, Retired (Corresponding author)

E-mail: arsen.m.djatej@gmail.com

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Abstract

The primary objective of this research is to examine the relationship between different forms of compensation for the board of directors/senior management and key sustainability indicators for publicly traded companies in the healthcare educational services economic sectors across the globe. This study also investigates the existence of measurable links

between sustainability policies and extra-financial performance-oriented compensation for CEO, executive directors, and non-board management individuals based on ESG (environmental, social, and governance) or sustainability factors. The findings reveal a rather moderate, but important relationship between the independent and the dependent variable.

Keywords: ESG, CSR, Agency theory, Stewardship theory, Corporate governance, Executive management compensation, Healthcare, Academic and educational services

1. Introduction

The corporate world is facing a new and important imperative: senior management must make fundamental decisions impacting their fiduciary and operations responsibilities (O'Connor et al., 2021). Society demands companies and management address these multidimensional challenges and is held "accountable to a wide constituency" (O'Connor et al., 2021). Paul et al. alleged that under the pressure from different agencies and stakeholders, companies began implementing measures related to "measures" in addressing "climate change" and sustainability (Paul et al., 2017) (as cited in Winschel, 2021).

The healthcare industry is trying to address rapidly evolving sustainability issues. The current business environment necessitates stakeholders to focus on sustainability performance" (Rezaee, 2015 as quoted in Rezaee, 2017). The materials production business sector has been leading ESG reporting with the energy and utility sectors following behind (Tonello & Singer, 2015). They pointed out that energy, and utility business sectors dominate others in addressing sustainability concerns: in the past, they introduced the so-called "safety metrics" in management performance evaluations (Tonello & Singer, 2015). "Safety metrics" traditionally integrated non-financial indicators such as workplace safety, diversity, inclusion, customer satisfaction, etc. (Tonello & Singer, 2015, 12). These "safety metrics", incorporated some sustainability matters too. However, according to Sherman et al., the healthcare sector is also one of the main "environmental pollutants" (Sherman et al., 2020) but the healthcare industry's pace of recognizing and addressing sustainability issues can be viewed as sluggish. Furthermore, "recognition of the duty" to focus on sustainability issues are at the embryonic stage in the healthcare industry (Sherman et al., 2020). Unlike the economic sectors mentioned above, healthcare lacks operational drivers for implementation.

One of the feasible drivers that might accelerate addressing sustainability issues is the idea of connecting "executive compensation policies". Those drivers can incorporate "long-term incentives for environmental, social, and governance (ESG) performance" which applies to the healthcare sector. (Tonello & Singer, 2015). Currently, companies concerned about sustainability attempt to link executive compensation to ESG issues in recognition of the view that management needs to be compensated for the increased risks (Frye et al., 2006; Berrone and Gomez-Mejia, 2009b; Eccles et al., 2014, as cited in Al-Shaer & Zaman, 2017). However, nearly all the research related to the relationships between compensation systems for senior management/BOD membership and sustainability aspects focused on specific industries. In 2015, at the Deloitte conference, the narrative focused on the experiences of organizations that made "a connection between ESG performance and compensation has been emphasized (Tonello & Singer, 2015). Those companies included business entities from the

healthcare economic sector. Sherman et al. alleged low awareness of environmental issues in the healthcare sector and understanding of their negative impact on climate were inadequate (Sherman et al., 2020). The sustainability field of study pertinent to the healthcare economic sector reviews and analyzes aspects “of resource consumption and environmental emissions” (Sherman et al., 2020). However, sustainability objectives, until recently, have not thoroughly addressed the compensation system for executives, for the most part (Tonello & Singer, 2015, 12). Therefore, a growing trend of “incentivizing” and compensating “management for the achievement of social goals gained momentum around the globe (Frye et al., 2006; Berrone and Gomez-Mejia 2009b; Eccles et al., 2014, as cited in Al-Shaer & Zaman, 2017, p.233). This research focuses only on the global healthcare and educational services economic sectors and strives to understand whether the meaningful relationships mentioned above actually occur and to what extent. Furthermore, this study examines whether publicly traded companies in the healthcare industry and the educational services sectors convert their evolving sustainability strategies into tangible objectives linked to senior management’s long-term goals and different forms of compensation. Finally, this academic investigation intends to provide government agencies, regulators, academics et al., with the current picture of executive sustainability practices in the healthcare and the educational services industry given the currently developing business conduct.

2. Terms and Concepts

Board Member Compensation (USD) - Total compensation of the board members in US dollars.

BOD - Board of Directors

CEO Compensation Link to TSR - Is the CEO's compensation linked to total shareholder return (TSR)?

Company Name - the name by which a corporation is identified.

Compensation Board Committee - Does the firm have a compensation board committee?

Compensation Committee Independence - Percentage of independent board members on the compensation committee as stipulated by the company.

Country of Headquarters - known as Country of Domicile.

Country of Incorporation - Country or Territory in which the incorporated company is registered as a company under the Corporations Law.

CSR - Corporate Social Responsibility (a company should self-regulate its actions and be socially accountable to its customers, stakeholders, and the world at large).

ESG Score - Refinitiv ESG Score is an overall company score based on self-reported information in the environmental, social, and corporate governance pillars.

Executive Compensation LT Objectives - Is the management and board members’ remuneration partly linked to objectives or targets which are more than two years

forward-looking?

Executive Compensation Policy- Does the firm have an Executive Compensation Policy?

Executive Individual Compensation- Does the company provide information about the total individual compensation of all executives and board members?

***Identifier (RIC)*-**Refinitiv Identification Code consolidated with RIC Code.

***LCA*-Life** - cycle assessments of the product's entire life cycle in terms of sustainability.

LTIP- long-term incentive plan

The MSCI KLD 400 Social Index - is a market capitalization-weighted stock index focusing on companies that maintain high environmental, social, and governance (ESG) standards. Founded in 1990; previously known as the Domini 400 Social Index.

Policy Water Efficiency - Policy Water Efficiency, if the company has the policy to improve water efficiency.

The Policy Energy Efficiency - is used in all industry calculations except uranium

Policy Executive Compensation ESG Performance - Does the company have an extra-financial performance-oriented compensation policy? - the compensation policy includes remuneration for the CEO, executive directors, non-board executives, and other management bodies based on ESG or sustainability factors.

Stock-Based Compensation, Supplemental (USD) - Represents expense related to the adoption of FAS 123(R), "Share-Based Payment".

Sustainability Compensation Incentives - Is the senior executive's compensation linked to CSR/H&S/Sustainability targets?

Total Senior Executives Compensation (USD) - The total compensation paid to all senior executives as reported by the company.

TRBC Economic Sector Name - Thomson Reuters Business Classification System (TRBC). Economic Sector based upon Thomson Reuters Business Classification System (TRBC). There are 10 top-level Economic Sectors including Financials, Basic Materials, Energy, Consumer Defensive, Consumer Cyclical, Telecoms, Utilities, Healthcare, Industrials, and Technology. [1]

3. Literature Review

Corporate social responsibility (CSR), and environmental, social, and governance (ESG) evolved from maintaining and advancing "sustainability initiatives" that bolster the

[1] Thomson Reuters captures and calculates over 400 company-level ESG measures, of which a subset of 178 most relevant data points have been selected to power the overall company assessment and scoring process. The underlying measures are based on considerations around materiality, data availability, and industry relevance. They are grouped into 10 categories. A combination of the 10 categories formulates the final ESG score, which is a quantitative reflection of the company's ESG performance based on publicly reported information. ESG Score is developed in further detail later.

company's financial performance (International Federation of Accountants, 2015 as quoted in Rezaee, 2017). The global debate on sustainability issues recently has shifted from promoting and maintaining the "awareness" of "climate change" to raising questions on the "role of companies" in the transition to "a low-carbon society" (Winschel, 2021). However, sustainability objectives, until recently, have been missing from the compensation system for executives, for the most part (Tonello & Singer, 2015). In prior research, (CSR & ESG) both terms have been used synonymously (Rezaee, 2017). However, "Rezaee (2015) and Brockett and Rezaee (2012)" identified "sustainability as the process" that complements a company's "financial and economic sustainability performance (ESP) in creating shareholder value" (Rezaee, 2017). At the same time company must recognize "the interests of other stakeholders" by paying close attention to performance-related ESG matters (Rezaee, 2017). Fama & Jensen favor CSR disclosure since it might improve a firm's performance, "higher competitive advantage, or greater reputation" (Fama & Jensen, 1983 as cited in Pucheta-Martínez & Gallego-Álvarez, 202). Nidumolu et al. (2015) go even further by arguing that sustainability protects & strengthens "long-term success" and maximizes business opportunities by minimizing "social and environmental harm" (as quoted in Rezaee, 2017). Tonello and Singer define ESG fairly like Nidumolu (Tonello and Singer, 2015). Nevertheless, linking executive compensation with ESG should move forward in different economic sectors and individual companies O'Connor et al., 2021). They should implement this strategy in near future (O'Connor et al., 2021). Fama & Jensen favor CSR disclosure since it might improve a firm's performance, "higher competitive advantage, or greater reputation" (Fama & Jensen, 1983 as cited in Pucheta-Martínez & Gallego-Álvarez, 2021). However, some experts rightfully indicated that this move must proceed cautiously and thoughtfully since the margin for error is high (O'Connor et al., 2021). In 2015, at the conference organized by Deloitte was affirmed that sustainability performance "continues to be absent from the executive compensation philosophy of most companies regardless of geographic location" (Tonello & Singer, 2015). The idea of connecting "executive compensation policies" includes "long-term incentives for environmental, social, and governance (ESG) performance" (Tonello & Singer, 2015). The results of the investigation showed that only 3% "of the largest companies in the world included in the S&P Global 1200 index" at that time linked "executive compensation to ESG performance" (Tonello & Singer, 2015). However, there is low progress on this crucial issue, according to O'Connor et. al., after analyzing 100 companies listed in FTSE 100, "55% of ESG measures related to pay were tied to bonuses and 50% were linked to LTIP" (O'Connor et al., 2021). At the Deloitte conference, a certain sustainability approach has also been emphasized. This approach favored learning the experiences of organizations that made "a connection between ESG performance and compensation (Tonello & Singer, 2015). In addition, "the rate of adoption of some form of pay-for-ESG performance link", remained "marginal in all geographic" areas "of the world", thus: by 2015, in Europe 6% of companies implemented "this practice", 3% in North America, and only 1% in Asia-Pacific (Tonello & Singer, 2015). As recent as 2001, only 20% of Royal Dutch Shell's long-term incentive plan (LTIP) spans over three years and focuses on ESG issues including reduction of carbon emissions, increased usage of biofuels, and "carbon-capture" technologies (O'Connor et al., 2021). Therefore, a growing trend of

"incentivizing" and compensating "management for the achievement of social goals gained momentum around the globe (Frye et al. 2006; Berrone and Gomez-Mejia 2009b; Eccles et al. 2014, as cited in Al-Shaer & Zaman, 2017). O'Connor et al. recommend internally introducing measurable objectives for diversity or investments in ESG-related activities (O'Connor et al., 2021). The review of prior and current research also "describes the scope of healthcare sustainability research, identifies knowledge gaps, introduces a framework for applications of existing research methods and tools to the healthcare context, and establishes research priorities to improve the environmental performance of healthcare services" (Sherman et al., 2020). Currently, companies concerned about sustainability are likely to link executive compensation to sustainability in recognition of the view that management needs to be compensated for the increased risks associated with long-term social strategies (Frye et al. 2006; Berrone and Gomez-Mejia 2009b; Eccles et al. 2014, as cited in Al-Shaer & Zaman, 2017). Al-Shaer & Zaman cited several prior academic investigations where authors found a negative relationship between social performance and executive compensation (Al-Shaer & Zaman, 2017). Thus, "Stanwick and Stanwick (1998, 2001) find a negative relationship between CSR performance and compensation" by analyzing "annual salaries and bonuses" (as cited in Al-Shaer & Zaman, 2017). However, it is important to maintain a reasonable balance to prioritize important ESG issues to avoid policy implementation overload (O'Connor et al., 2021). In addition, external objectives should focus on the targets impacting society as a whole such as total emissions produced by the company (O'Connor et al., 2021). Sherman proposed LCA ("Life cycle assessments of product's entire life cycle in terms of sustainability") and other industrial ecology methods and tools, such as circular economy[2]" "to further assess healthcare services at multiple levels" (Sherman, 2020). Figure 1 in detail illustrates all the levels.

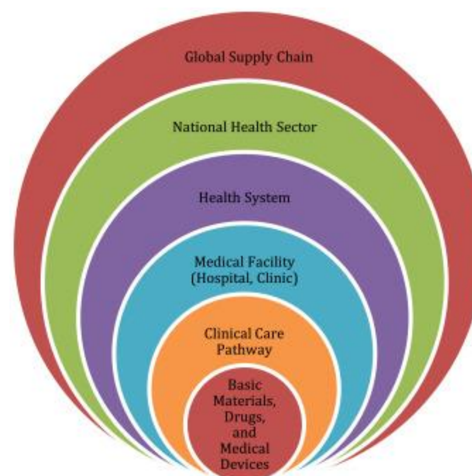


Figure 1

[2] "A circular economy, as defined in the Save Our Seas 2.0 Act, refers to an economy that uses a systems-focused approach and involves industrial processes and economic activities that are restorative or regenerative by design, enables resources used in such processes and activities to maintain their highest value for as long as possible, and aim for the elimination of waste through the superior design of materials, products, and systems (including business models). It is a change to the model in which resources are mined, made into products, and then become waste. A circular economy reduces material use, redesigns materials to be less resource intensive, and recaptures "waste" as a resource to manufacture new materials and products".

Al-Shaer & Zaman alluded to Cai et al. (2011) who also investigated "the impact of corporate social performance on executive compensation" (as cited in Al-Shaer & Zaman, 2017). Cai et al. used a sample of large US firms covering the period from 1996 to 2010 and found that "CSR adversely affects both total compensation and cash compensation" (as cited in Al-Shaer & Zaman, 2017). Furthermore, "Collett Miles and Miles (2013) and Frye et al. (2006)" compared "CEO compensation" between firms defined as "socially responsible and non-socially responsible" and discovered a "weak" relationship among them (as cited in Al-Shaer & Zaman, 2017). McGuire et al. (2003) also found no relationship "between incentives" vs. the social performance of the firm (as cited in Al-Shaer & Zaman, 2017). However, Cordeiro and Sarkis (2008) in their research suggested the likelihood of a linkage "between top executive compensation and environmental performance as a management communication strategy to maintain their standing with stakeholders" (as cited in Al-Shaer & Zaman, 2017). In accurately tracking and measuring progress toward ESG objectives, applicable KPIs play a crucial role especially if it contains multiple ESG targets (O'Connor et al., 2021). However, according to Al-Shaer & Zaman, prior research primarily utilized "measure CSR using an index measure for corporate social performance such as KLD scores"[3] or those papers incorporated “only a measure of the environmental dimension of CSR” (as cited in Al-Shaer & Zaman, 2017). The materials production business sector has been leading ESG reporting with the energy and utility sectors following behind (Tonello & Singer, 2015). Alcoa was one of the first large companies to connect ESG reporting and compensation. Thus, “20% of the annual cash flow incentive plan for 2013” “was based on non-financial metrics” (5% of this number was related to safety metrics) (as cited in Tonello & Singer, 2015). In 2013, Newmont Mining introduced the “corporate performance bonus” which incorporated 10% of these bonuses identified as compensation with “safety metrics” “(2/6 objectives for these bonuses committed to the CEO of Newmont Mining were directly connected to sustainability performance” (Tonello & Singer, 2015). Unilever over a decade has weighted 25% of its LTIP for sustainable priorities. (O’Connor et al., 2021). As companies started seriously looking at sustainability issues, ESG reporting started building a broader acceptance and implementation, in turn, investors started recognizing the value proposition of businesses’ ESG performance (Tonello & Singer, 2015). Sherman et al. also asserted “the urgent need for research that informs policy and practice to address the public health crisis arising from healthcare pollution. (Sherman et al., 2020). Cadez and Czerny (2016) advocate all involved parties including government agencies and various stakeholders need more and more “urge” businesses to take necessary actions in their “carbon reduction efforts”, actively “measure and manage carbon emissions” and provide relative reports on their “outcomes” (as cited in Winschel, 2021). One example would be health and safety measurable indicators in industries like mining and healthcare otherwise failure to accomplish established indicators may result in bonus reductions (O’Connor et al., 2021). Examples of those industries can serve as a starting precedent for the carbon reduction pathways (O’Connor et al., 2021). Low awareness of environmental issues in the healthcare sector and understanding of their negative impact on climate are inadequate (Sherman et al.,

[3] Market capitalization-weighted stock index focusing on companies that maintain high environmental, social, and governance (ESG) standards.

2020). Sherman et al. stated that “recognition of the duty to address” at the inception point. (Sherman et al., 2020). The sustainability discipline in this economic sector analyzes aspects “of resource consumption and environmental emissions associated with healthcare activities” (Sherman et al., 2020, 2). The development of this discipline “produces tools and metrics to quantify the unintended consequences of healthcare delivery and evaluate effective approaches that improve patient safety while protecting public health” (Sherman et al., 2020). Berrone and Gomez-Mejia (2009) recommend taking into consideration non-financial (Berrone and Gomez-Mejia 2009). The definition and continued implementation of well-established ESG objectives “drives value and is often simply the right thing to do” (O’Connor et al., 2021). Bridging those objectives with executive compensation is the next direction for the business environment to move to (O’Connor et al., 2021). However, economic sectors and individual companies must move with caution as the implementation of those objectives might be difficult to accomplish properly (O’Connor et al., 2021). Healthcare experts and the “Working Group for Environmental Sustainability in Clinical Care” together conducted a review of the current state of healthcare sustainability (Sherman et al., 2020). As a result, a sustainability framework was developed (Sherman et al., 2020). Key recommendations of this framework in healthcare include “development of standards for sustainability metrics from the bottom to the top; better control for “single-use disposable devices”; “increased federal research funding; and formation of a Global Commission on the Advancement of Environmental Sustainability in Healthcare” (Sherman et al., 2020). Sherman et al. appealed for a necessity of “transformational vision” to align research priorities to achieve a sustainable healthcare system that advances quality, safety, and value. In addition to the healthcare area, this study also examines whether there is a relationship between different forms of compensation for the board of directors/senior management and sustainability indicators for publicly traded academic and educational services economic sectors across the globe. Overall, the education sector was among the first to address climate change and adopt energy-efficient and low-carbon emission facilities. Postsecondary education including the academic and educational services sector also has been adopting environmentally-friendly policies. In the business sector, post-secondary education provides training for individuals seeking careers in demand. Those careers include diesel and automotive mechanics, professionals in collision repairs, welders, etc. These education companies can also offer undergraduate degrees, diplomas, and different certificates. In strong cooperation with different companies, they also offer manufacturer and industry-specialized training. Postsecondary and, especially, higher education, lead activities related to environmental sustainability and lower their environmental impacts. Academic institutions have also made attempts “implement sustainable development in their operations” (Leal Filho et al., 2019). Consequently, a sustainability framework was developed which defined key areas for education and research to address sustainability: behavioral science, corporate governance and responsibility, organizational change management, socio-ecological systems, and sustainability” (Baker-Shelley et al., 2017). A similar network for sustainable development in the German education system also focuses on critical issues such as sustainable construction and energy management. ((as cited in Leal Filho et al., 2019). Lastly, curricula in postsecondary institutions should integrate sustainability into science and

engineering (Vaughter et al., 2013). The growing implementation of sustainability reporting prompted companies to gradually begin linking compensation for senior executives' long/short compensation to "sustainability-oriented aspects of corporate performance" including "environmental targets among a variety of non-financial targets in the performance evaluations" (Winschel, 2021). The current research stream on linking executive compensation to sustainability reporting and implementation gains more stream. "Effectiveness" and tangible results (Flammer et al., 2019) become the primary focus of this narrative (as cited in Winschel, 2021). Setting aggressive, "well-calibrated" short-term objectives is more advantageous than "long-term goals" (O'Connor et al., 2021). The essential issue of "traditional management control" and "control instruments" at hand was primarily designed to accomplish monetary objectives (Ditillo and Lisi, 2014) (as cited in Winschel, 2021, 159). Details were crucial when designing detailed goals to be approved by stakeholders (O'Connor et al., 2021). A newly developed "management control" system would strongly integrate both financial and non-financial objectives into the senior management compensation portfolio (Epstein and Wisner, 2005; Ghosh et al., 2019; Riccaboni and Leone, 2010) (Maas, 2018) (as cited in Winschel, 2021, 159). O'Connor et al. proposed several ESG-related measures as a part of executive compensation including "internal and external targets, KPIs and scorecards, LTIP and annual bonus Underpins and scale targets" (O'Connor et al., 2021).

Multiple prior research argued that the Board of Directors (BOD) also has a crucial role to play by evaluating senior management's "performance, compensation, and the role of management in sustainability-related achievements" (Frye et al., 2006; Berrone and Gomez-Mejia 2009b; Eccles et al., 2014, as cited in Al-Shaer & Zaman, 2017). Thus, management compensation and monitoring capacity of BOD both can complement "the quantity and quality of CSR information reported by firms" (Fama & Jensen, 1983 as cited in Pucheta-Martínez & Gallego-Álvarez, 2021). The Board of Directors can evaluate the performance of senior management by consulting the sustainability committee since the board has the capabilities to assess management performance, compensation, and the role of management in sustainability-related achievements (as cited in Al-Shaer & Zaman,). BOD can also mitigate assurances about "inherent risks" linking CEO compensation to ESG (O'Connor et al., 2021). First, boards and relevant committees have to understand how executive pay is aligned with the company's stated purpose, which stakeholders will benefit" (O'Connor et al., 2021). Then, BOD and upper management need to justify their reasoning by linking the "CEO's compensation to ESG targets, including the benefits of achieving certain ESG goals and the ineffectiveness of existing or alternative incentives (O'Connor et al., 2021).

Overall, sustainability compensation "can play an essential role" in a company's "strategy implementation" long/term goals and fundamental objectives (Gond et al., 2012; Guenther et al., 2016) (as cited in Winschel, 2021).

4. Theoretical Perspective on Sustainability

Many philosophical and religious traditions emphasize the importance of human duty to both

the environment and the community (Cossin et al., 2015). However, the academic literature, mainly, focuses on how agents/stewards may help a firm's owners achieve their goals (Blumentritt et al., 2007). Agency and stewardship theories focus on the actions of agents or stewards, while tacitly presuming that principals have established an adequate governance system (Blumentritt et al., 2007). Even though both theories concentrate on the principal-agent relationship, their conceptual foundations are based on different assumptions and narratives (Puyvelde et al., 2012). Currently, CSR disclosure issues are gradually gaining momentum and drawing in much-needed attention from the academic community due to growing "shareholder activism, legal requirements, and awareness amongst the general public" (Klein, 2002; Davidson et al., 2005 as cited in Cherian et al., 2020).

In this research, we employ Puyvelde et al. approach to explain the assumptions and application of both theories and propose that using them in tandem can help researchers better understand principal-agent relationships in healthcare. (Van Puyvelde et al., 2012).

4.1 Agency Theory

Agency theory has its foundations in economic science, while stewardship theory has a strong social sciences background (Al Mamun, 2013, 42). Agency theory emphasizes controlling decision-makers by monitoring different types of incentives aligned with organizational goals while stewardship theory argues that decision-makers will act in the organization's best interest even in the absence of controls (Tosi et al., 2003). The agency theory assumes that managers will behave in their own best interests at the expense of the interests of their shareholders. (Jensen & Meckling, 1976) (as cited in Cossin et al., 2015). Managers are also assumed to be rational and have defined priorities under agency theory and they are only motivated by self-interest including an increase in compensation "and/or a reduction in efforts" (Kluvers & Tippett, 2011).

Kunz and Pfaff (2002) claim that a risk-neutral principal hires a risk-averse and work-averse agent (as quoted in Kluvers & Tippett, 2011). Agents identify themselves with the business and are motivated to maximize organizational performance. As such, their behaviors are aligned and directed by what is the most beneficial outcome personally for them (Cossin et al., 2015). Borlea et al. also support the narrative of management higher compensation as an effective corporate governance mechanism in mitigating conflicts between shareholders and managers" (Borlea et al., 2017 as cited in Pucheta-Mart ńez & Gallego-Álvarez, 2021).

The fundamentals of agency theory maintain a "clear separation" of personal objectives with the interests of owners and shareholders (Jensen and Meckling 1976 as quoted in Davis et al., 1997). Therefore, agency theory might deal with difficulty verifying an agent's inappropriate behavior by the principal and when the principal and agent disagree on "risk preferences". (Eisenhardt, 1989). Thus, Brown, Evans, and Moser (2009) argue that agency theory is "accepted as an explanation of human behavior" (as quoted in Kluvers & Tippett, 2011). According to agency theory, the principals (shareholders) must put incentives and control systems in place to reduce the losses that occur from managers acting in self-interest; however, stewards don't only look after their self-interest only (Cossin et al., 2015). The principals' responsibilities are to provide the appropriate structures and incentives for agents,

as well as cultural and emotional connections for stewards (Blumentritt et al., 2007).

According to agency theory, the management vs. shareholders disagreement is possible based on an attempt by management to maximize their monetary compensation without proper supervision (Chau & Gray, 2010 as cited in Pucheta-Martínez & Gallego-Álvarez, 2021). The solution to the management/shareholders problem lies in the agency theory that can advocate providing higher incentives for the CEO to align management and shareholders' objectives (Miller, 1995 as cited in Pucheta-Martínez & Gallego-Álvarez, 2021). Borlea et al. also support the narrative of management higher compensation as an effective corporate governance mechanism in mitigating conflicts between shareholders and managers" (Borlea et al., 2017 as cited in Pucheta-Martínez & Gallego-Álvarez, 2021). Even though the agent's and principal's interests are not aligned, the agent can gain a higher utility level by working in the principal's best interests because doing so may lead to possibilities for desirable personal outcomes including achievement and self-actualization. (Davis et al., 1997; Tosi et al., 2003).

4.2 Stewardship Theory

Contemporary literature appears to be based on agency theory, yet scholars have indicated that agency theory has theoretical limitations and recommended stewardship as an alternative management theory (Davis et al., 1997). Stewardship theory originated "in organizational psychology and organizational sociology" (Donaldson & Davis, 1991). Both theories are identified with the concept of "models of man" (see Table 1) However, unlike traditional agency theory, stewardship theory challenges the principal's conflicts with agents (Caers et al., 2006). Stewardship theory favors individuals and companies with intrinsic rather than extrinsic motivation, high organizational identification, and a management philosophy of involvement rather than control (Davis et al., 1997). Otherwise, principals entrust "managers and executives with the information and the equipment and the power" accepting the notion that "they will make decisions in the best interest of the organization and for the principals" (Al Mamun, 2013). In addition, stewardship is based on the concepts of accountability, long-term planning, and responsibility for asset protection over time (Cossin et al., 2015).

One of the proper interpretations of stewardship theory was proposed by Hernandez (as quoted in Rezaee, 2017) based on sociological and psychological groundwork. Hernandez identifies management as stewards of companies' assets "in protecting the interests of all stakeholders" (Hernandez, 2008, as quoted in Rezaee, 2017). Thus, stewards are more concerned with their ability to contribute to organizational achievement than individualistic self-enrichment (Davis et al., 1997). However, managers still have to maintain "normatively induced compliance", even when they follow personal interests, (Etzioni 1975 as quoted in Davis et al., 1997). Davis argued that both the manager (the steward) and principals create a relationship based on stewardship theory rather than agency theory (Davis et al., 1997). Donaldson and Davis bridged the stewardship theory to the business management "model where senior executives act as stewards for the organization and in the best interests of the principals" (as cited in Al Mamun, 2013, 42). The application of this theory commits managers to work as responsible stewards of the assets they manage on behalf of the owners (Davis et al., 1997) (as cited in Cossin et al., 2015)Rezaee expands stewardship theory as a

mechanism that helps to hold management accountable for creating value “for shareholders” while contributing “to the wellbeing of customers, employees, society and social benefits to collective interests” (Hernandez, 2012 as quoted in Rezaee, 2017). When employed in a corporate or business setting, stewardship has a different function where “price theory” and self-interest are promoted as primary objectives (as cited in Eisenhardt,1989). Different regions of the world apply stewardship theory as it fits cultural specifics and economic distinctions. For example, stewardship entails a focus on positive outcomes in the European style rather than a focus on transparent processes in the American way (Saltman & Ferroussier, 2000). Yet, even though both theories focus on how managers are motivated to make the best contributions to their companies, stewardship theory emphasizes trust, culture, and personal connections between managers and their companies, whereas agency theory relies on contracts, monitoring, and extrinsic incentives. (Blumentritt et al., 2007). Thus, under this methodology, the application of stewardship theory weakens the role of corporate governance mechanisms (Barney & Hansen, 1994) (as quoted in Kluvers & Tippett, 2011).

On stewardship theory (Davis, Schoorman, & Donaldson, 1997; Fox & Hamilton, 1994) asserts that management interests connect with the interest of others (as quoted in Kluvers & Tippett, 2011). Furthermore, Hernandez argues that stewardship theory advocates "the long-term best interests of a group ahead of self-interests (Hernandez, 2012 as quoted in Rezaee, 2017). Therefore, the model of stewardship has a capacity "of bringing together the efficiency of organizational operation and ethical, trust-based representation" (as cited by Saltman & Ferroussier-Davis, 2000). Armstrong argues that, unlike agency theory foundations, stewardship theory focuses more "on the personal development of the individual civil servant than on the behavior of the organization as a whole (as cited by Saltman1 & Ferroussier-Davis, 2000). As it was mentioned above, stewardship has its roots in different schools of thinking (Cossin et al., 2015). One school of thought is based on the idea that humans have a duty and obligation to the world and humans (Cossin et al., 2015). Armstrong also noted that stewardship capacity facilitates to completion of "market-oriented reforms into an ethically driven policy-making framework” (as cited by Saltman & Ferroussier-Davis, 2000). Since stewardship theory has social sciences roots, Hirsch et al. (1987) argued economics and sociology are interrelated (as cited in Eisenhardt, 1989). For example, stewardship suggests that a more activist state creates the terms of competition in a socially accountable manner (Enthoven & Kronick,1989), rather than the minimalist notion of commercially motivated sponsors (as quoted in Saltman & Ferroussier, 2000).

Both theories are based on a narrative of the “model of man” who “is a self-interested actor rationally maximizing” his “own personal economic gain” (Donaldson & Davis, 1991). According to agency interpretation of the “model of man”, shareholders are “motivated by a need to achieve, to gain intrinsic satisfaction” to maintain responsibility and authority and achieve “recognition from peers and bosses” (McClelland 1961; Herzberg et al. 1959 as quoted in Davis et al., 1997). Berrone and Gomez-Mejia complement the agency theory that values prevention more than control since prevention strategies for environmental protection are more beneficial than post-discharge into the environment (Berrone and Gomez-Mejia 2009, 107).

The Layout below presents the essential features and characteristics of both theories (Davis, Donaldson & Schoorman, 1997).

	Agency Theory	*Stewardship Theory*
Model of man	Economic man	Self-actualizing man
Behavior	Self-serving	Collective serving
Psychological mechanisms		
Motivation	Lower order/economic needs (physiological, security, economic) Extrinsic	Higher-order needs (growth, achievement, self-actualization) Intrinsic
Social Comparison	Other managers	Principal
Identification	High value commitment	Low value commitment
Power	Institutional (legitimate, coercive, reward)	Personal (expert, referent)
Situational mechanisms		
Management philosophy	Control-oriented	Involvement-oriented
Risk orientation	Control mechanism	Trust
Time frame	Short-term	Long-term
Objective	Cost control	Performance enhancement
Cultural Differences	Individualism High power distance	Collectivism Low power distance

5. Interpretive Theoretical Framework on Sustainability in Healthcare and Educational Services

Several schools of thought on ethics emphasize that humans have a moral responsibility to care for their environment and properly use natural resources, as well as adhere to a code “that balances one's responsibilities with others' rights (Cossin et al., 2015). Agency theory allows the alignment of management and shareholders through incentives to persuade CEOs to support CSR decisions since those CSR’s related decisions might have a “positive impact” on profitability (Miller, 1995 as cited in Pucheta-Mart ńez & Gallego-Álvarez, 2021). Stewardship pays attention to social responsibilities since stewardship is an ethically based outcome-oriented policy more interventionist than some healthcare experts proposed (Cossin et al., 2015) Agency theory explains management’s impact on identifying and determining primary objectives “of a corporation such as CSR reporting” (Saidu, 2019 as cited in Pucheta-Mart ńez & Gallego-Álvarez, 2021). And companies’ upper management might be interested “in investing in CSR activities” however, the higher the influence of the management the less they are motivated to report corporate transparency including CSR disclosure. (Pucheta-Mart ńez & Gallego-Álvarez, 2021).

Environmental goals are accomplished more successfully within their long-term orientation framework, yet some ESG objectives can be accomplished in the short term including healthcare, safety gender equality related to pay (O'Connor et al., 2021). Thus, at some time, senior management considers their future compensation is strongly connected to their current employers, yet management still might think that their personal "interest is aligned with that

of the corporation and its owners, even in the absence of any shareholding by that executive (Donaldson & Davis, 1991, 51 as quoted in Davis et al., 1997, 37).

The illustration below represents the identification of important elements and corresponding characteristics of a theoretical framework for sustainability.

Sustainability Theories	*Stakeholders*	*Capitals*	*Risks*	*Performance*	*Shared Value*	*Actions*	*Sustainability Initiatives*	*Sustainability Reporting/ Assurance*
Stewardship	Management	Strategic Capital	Failure	Purpose/Mission	Strategic planning	Management performance	Long-term strategic decisions reporting	Management discussion & analysis
Agency/ Shareholder	Shareholders	Financial Capital	Financial	Economic/ financial	Create shareholder value	Improve market and accounting performance, earnings, growth, R&D investment	Management fiduciary duty is to create shareholder value.	Financial statements and audit reports

“CSR disclosure” is not comparable to other companies’ reports such as 10-Ks since these disclosures are mandatory and highly regulated while CSR is still non-mandatory (Jo & Harjoto,2011 as cited in Cherian et al., 2020).

Fama & Jensen propose a company’s BOD paying a wider role and disclosing CSR issues to coordinate ownership and management interests (Fama & Jensen, 1983 as cited in Pucheta-Martínez & Gallego-Álvarez, 2021). Armstrong noted that stewardship can "combine efficient, market-like behavior with trust-based, ethical forms of decision-making in a way that the narrower, economically based agency theory cannot achieve” (as cited by Saltman & Ferroussier-Davis, 2000). According to Berrone and Gomez-Mejia, assigning “environmental issues” to a competent board committee could “reduce” informational shortcomings in communication “between principal and agent”, which itself would allow a better evaluation “of the operator's environmental performance and a closer relationship between this performance and the total” compensation. (Berrone and Gomez-Mejia 2009, 109). Through a social contract paradigm, stewardship's ability to embrace a normative outcome-oriented focus in healthcare economic sector policies could conceivably become its biggest contribution to stewardship theory in the future (Saltman & Ferroussier, 2000).

5.1 Integrative Theoretical Approach

The strength of organizational research lies in the application of different theories combined since it provides “a more realistic view of organizations (Eisenhardt, 1989). Although past research argued to clearly distinguish stewardship theory from agency theory and to regard the two as mutually exclusive (Donaldson and Davis, 1991; Davis, Schoorman, and Donaldson, 1997; Westphal, 1999), there is a belief that stewardship theory should be viewed as an addition of the agency framework in some cases (as cited in Caers et al., 2006). The point of combining different complementary theories was supported by different notable researchers such as Singh and Harianto (1989), Kosnik (1987), Eisenhardt (1988), et al.). Their studies support agency theory hypotheses, but they also argue for additional complementary perspectives of hegemony and managerialism. (as cited in Eisenhardt,1989). The model of combining two theories (agency and stewardship) benefits “the need for efficiency and cost-effectiveness put forth by market-driven reforms and the higher-order

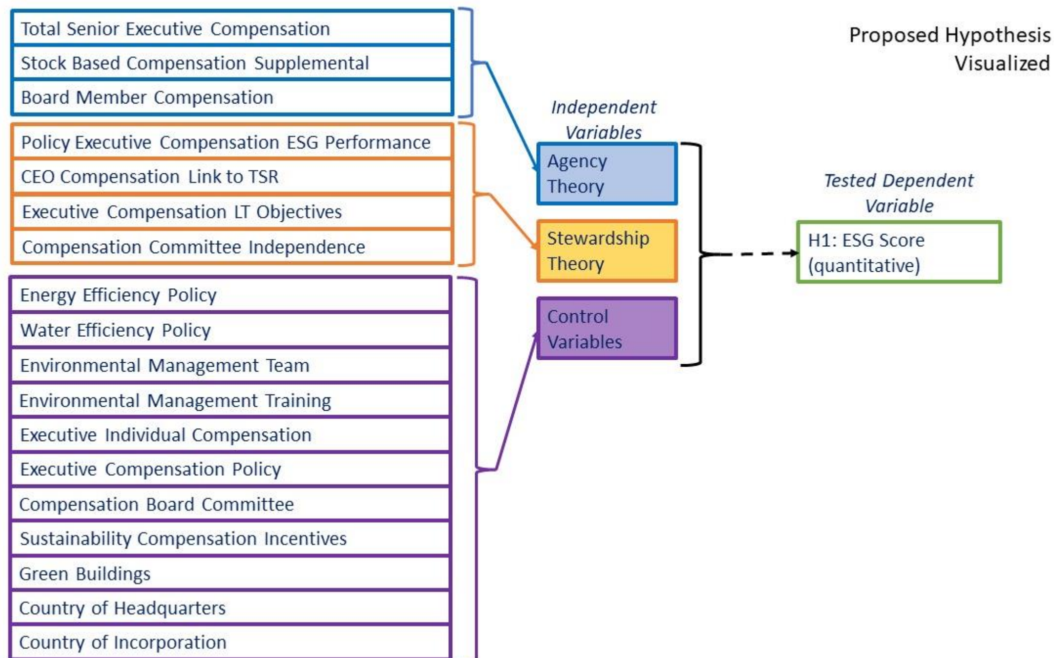
tasks and responsibilities that are the calling of public servants" (as cited by Saltman & Ferroussier-Davis, 2000). Hirsch et al. also agreed that "agency theory be combined with additional complementary theories since agency theory has a limited interpretation of "the complexity of organizations" (as cited in Eisenhardt,1989). Madison also refers to prior research and argues both agency theory and stewardship theory can be used in tandem and complementary to each other (Madison, 2014). Weick (1979) remarked that while no accurate theory exists for evolving research subjects, one suitable theory would exist for some research (as quoted in Kluvers & Tippett, 2011). It appears what Weick meant is even though one theory would be enough for some research, others might require application more than one. The key argument is the application of the agency theory supported by the stewardship theory in the context of a relationship between principal and agent; the agency and stewardship theories are likewise inextricably linked under different scenarios (Rahmawati et al., 2018) (as quoted in Kluvers & Tippett, 2011).

Agency theory and stewardship often coexist, and their proper functioning depends "on the attitude of the principal and agent, respectively" (Forsyth, 2016). Both theories focus on the principal-agent relationship, but their foundations are based on different assumptions and narratives (Puyvelde et al., 2012). Some researchers argue about the perfect alignment of agents and the principal's goals (Sundaramurthy & Lewis, 2003). Thus, managers who served the company for a long time and established its long/short-term strategies would support the integration of personal interests and the interests of the corporation (Davis et al., 1997). In this analysis, we integrate the fundamentals of stewardship and agency theories. According to Forsyth, both agency theory and stewardship theory are compatible and complementary and "applied in different circumstances" depending on the role performed by the principal and agent (Forsyth, 2016). ESG measurable objectives are factored into both British Petroleum's annual bonus and long-term incentive compensations (O'Connor et al., 2021). The incentives will be 15 percent based on safety "(which has well-established criteria) and 15 percent based" on the environmental benchmarks "tied to short-term emission reduction targets" starting in 2020 (O'Connor et al., 2021). Strategic goals now receive a 40% weighting in the LTIP, including input measures for renewables, energy transformation, and vehicle electrification (O'Connor et al., 2021).

6. Dependent Variable and Hypothesis Development

H_1. Traditional financial incentives for top administrators and the pursuit of CSR-related policies impact **ESG Score**s in the Healthcare and Educational Services Sectors.

7. Research Model



8. Research Design

As the impact of all of the independent variables was of interest in this situation, multiple linear regression was used to model Hypothesis 1. The equations and details for such are not included here for brevity as they may be found in many undergraduate statistics textbooks (Anderson, Sweeney & Williams, 2009)

9. Data, Variables & Descriptive Statistics

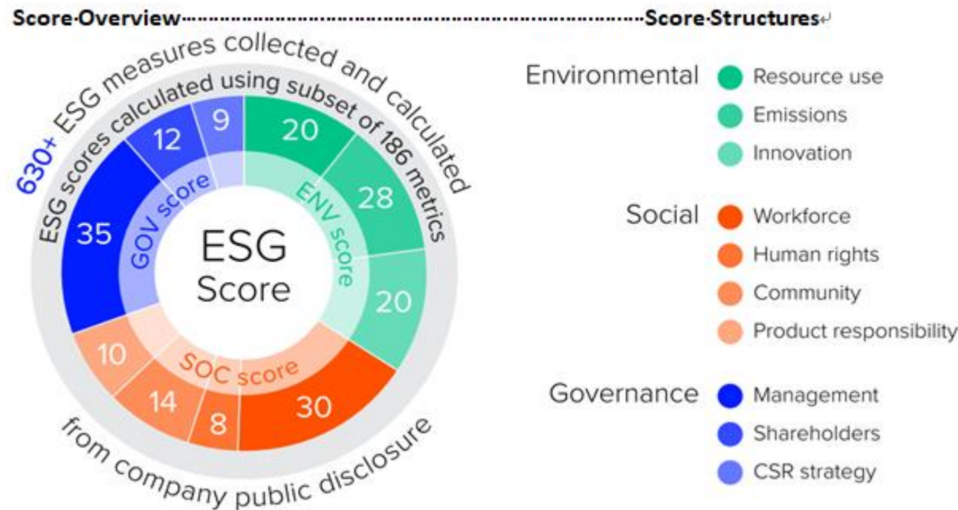
A representative sample of data from global publicly traded companies for three years (2018-2020) was collected (Thomson and Reuters). For the micro-level analysis, we have used the cross-sectional financial and non-financial indicators for these fiscal years.

9.1 Dependent Variables & Measurements

The dependent variable in this study is ESG Score (overall company score based on self-reported information in the environmental, social, and corporate governance). ESG Score is defined and visualized below.

Refinitiv captures and calculates over 630 company-level ESG measures, of which a subset of 186 (details in the ESG glossary, available on request) of the most comparable and material per industry, power the overall company assessment and scoring process. These are grouped into 10 categories that reformulate the three pillar scores and the final ESG score, which is a reflection of the company's ESG performance, commitment, and effectiveness based on publicly reported information. The category scores are rolled up into three-pillar scores –environmental, social, and corporate governance. The ESG pillar score is a relative sum of the category weights, which vary per industry for the environmental and social

categories. For governance, the weights remain the same across all industries. The pillar weights are normalized to percentages ranging between 0 and 100. Scaling of the percentages corresponds to values near zero being poor and values near one being excellent.



9.2 Independent Variables of Key Interest

The independent variables in this study represent key financial indicators of various types of compensation for members of the board and senior executives. Independent variables that should influence the ESG indicators and sustainability reporting of a firm were identified from the literature. Three nominal independent variables of special interest are Board Member Compensation (BMC), Total Senior Executives Compensation (TSEC), and Stock-Based Compensation Supplemental (SBCS) (all in $).

9.3 Control Variables, Abbreviation & Measurement

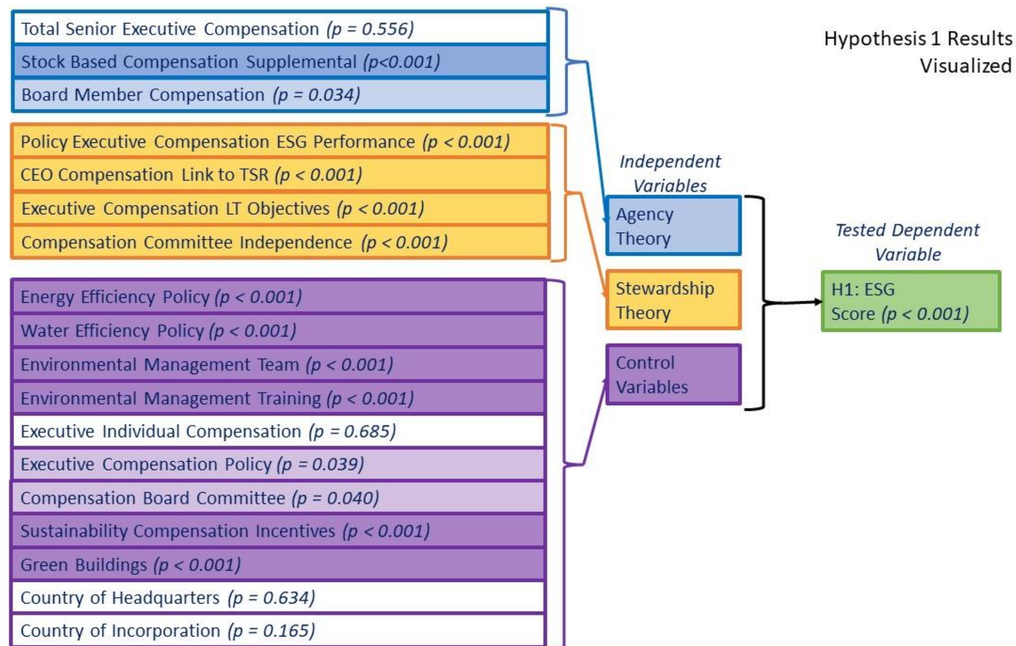
Control variables play a significant role in empirical study research. According to Nielsen & Raswant), additional essential factors that don't serve as primary independent variables "are often included (controlled for)" (Nielsen & Raswant, 2018). Thus, the most common way to control for extraneous influences is by statistical controls to identify other sources of influence including control variables identifying "these sources of influence" (Nielsen & Raswant, 2018).

This study utilizes numerous control variables. Except for the "Independence of Compensation Committee (CCI)", which is the percentage of independent board members, all control variables are binary (1 indicating presence, 0 indicating lack).

10. Descriptive Statistics

Table 1 in the Appendix presents comprehensive descriptive statistics represented in this research.

11. Results



11.1 ESG Score

The model is significant (please see Table 2 ANOVA in the Appendix and the visualization above). The regression results in Table 2 Model Summary shows that the R^2 value is equal to 0.678 (67.8%) and the adjusted R^2 is 0.674 (67.4%) explaining the dependent variable. These results present that 67.4% of the dependent variable (“ESG Score”) can be explained by this combination of independent variables in this study. Detail about individual independent variables may be found in the visualization above and Table 2 Coefficients. While all of the Stewardship Theory variables were significant, only two of the Agency Theory variables, namely “Board Member Compensation” & “Stock-Based Compensation” were. Contrary to the Agency Theory, the third independent variable (“Total Senior Executives Compensation”) was not significant in affecting the “ESG Score” in the presence of the other variables. The results of the model also indicate that two control variables, specifically the existence of “Independent Executive Individual Compensation” & “Independent Policy Executive Compensation ESG Performance” were also not significant in affecting the variation of the dependent variable in the presence of the other independent variables.

12. Conclusion

The principal objective of this research is to analyze if there are relationships between different forms of compensation for the members of BOD/CEO and key sustainability indicators in the healthcare and academic and educational services economic sectors. This academic study integrated a variety of control variables that have a significant effect on the outcomes of this analysis. In addition, the findings reveal a somewhat robust relationship between the independent and dependent variables identified in this research.

Overall, the significance of our research is built on several noticeable results. First, the results indicate that two/three of the significant financial independence variables related to the BOD/CEO's compensation advance the improvement of key ESG factors. Second, the evidence suggests different forms of financial compensation added by other non-financial variables including the existence of different sustainability policies, committees, incentives, etc. strongly supplement the improvement of ESG variables. Third, in line with the framework of stewardship and agency theories, various forms of compensation have a significant effect on BOD's compensation in implementing the company's ESG practices. Indeed, the model confirmed this narrative. Fourth, one of the critical findings of this analysis is the strong relationships between sustainability and non-financial variables. Finally, this research gave a perspective to government agencies, regulators, academics et al., about rapidly evolving sustainability policies and sustainability-related business conduct.

13. Research Limitations

This study, as any other, contains research limitations. The first limitation is attributed to the sample size and sample representativeness. Even though our sample was relatively representative and large, still it only represented two economic sectors. A larger sample size would have allowed us to analyze ESG issues from other sectors. Also, our sample consists of primarily US-based companies, and it would be beneficial to broaden the geographical outreach of our research. Also, most of the firms in the healthcare sector are privately owned, so the sample should be extended to non-listed companies. The second limitation of this research is the period of the sample data since we only used a period of 3 years (2018 to 2020). Additional periods would have enhanced the accuracy of our analysis. The third limitation relates to the possibility of reporting bias, considering management provides the company's information that is what management is interested to deliver instead of information that is maximally objective and informative. And the final limitation pertains to our study being strictly quantitative since our analysis and results only measure statistical significance.

14. Future Research

Future research could expand independent variables related to BOD and CEO such as type, timing, and the number of shares granted to directors/CEOs. In addition, we suggest quantitative analysis could be a qualitative investigation of non-financial variables directly and indirectly related to ESG. Those variables can incorporate diversity and inclusion policies and procedures including but not limited to: the percentage of minorities/females in senior management positions and BOD's membership; business processes, vendors, customers, supply chain sustainability; academic training and professional background, training, and tenure; audit firms and audit opinions for sustainability reports.

Additional studies might be needed to analyze the relationship between environmental reporting and business communities, and local and federal laws. Finally, future research should focus on how a company's earnings management impacts ESG disclosure and corporate governance policies.

References

Al Mamun, A., Yasser, Q. R., & Rahman, M. A. (2013). A discussion of the suitability of only one vs more than one theory for depicting corporate governance. *Modern Economy, 4*(1), 37-48. https://doi.org/10.4236/me.2013.41005

Al-Shaer, H., & Zaman, M. (2017). CEO compensation and sustainability reporting assurance: Evidence from the UK. *Journal of Business Ethics, 158*(1), 233-252. https://doi.org/10.1007/s10551-017-3735-8

Anderson, E. (1985). The salesperson as outside agent of employee: A transaction cost analysis. *Marketing Science, 4*, 234-254. https://doi.org/10.1287/mksc.4.3.234

Anderson, D. R., Sweeney, D. J., & Williams, T. A. (2009). *Statistics for Business and Economics* (10th Revised Edition). pp. 624-664.

Anazonwu, H. O., Egbunike, F. C., & Gunardi, A. (2018). Corporate Board Diversity and Sustainability Reporting: A Study of Selected Listed Manufacturing Firms in Nigeria. *Indonesian Journal of Sustainability Accounting and Management, 2*(1), 65-78. https://doi.org/10.28992/ijsam.v2i1.52

Armstrong, J. (1997). *Stewardship and Public Service.* A Discussion Paper Prepared for the Public Service Commission of Canada. [Online] Available: https://www.dufferinpark.ca/research/pdf/stewardship_e.pdf

Baker-Shelley, A., van Zeijl-Rozema, A., & Martens, P. (2017). A conceptual synthesis of organisational transformation: How to diagnose, and navigate, pathways for sustainability at universities?. *Journal of Cleaner Production, 145*, 262-276. https://doi.org/10.1016/j.jclepro.2017.01.026

Baraibar-Diez, E., Odriozola, M. D., & Fernandez Sanchez, J. L. (2019). Sustainable compensation policies and its effect on environmental, social, and governance scores. *Corporate Social Responsibility and Environmental Management, 26*(6), 1457-1472. https://doi.org/10.1002/csr.1760

Barney, J. B., & Hansen, M. H. (1994). Trustworthiness as a Source of Competitive Advantage. *Strategic Management Journal, Wiley Blackwell, 15*(S1), 175-190. https://doi.org/10.1002/smj.4250150912

Berrone, P., & Gomez-Mejia, L. R. (2009). Environmental Performance and Executive Compensation: An Integrated Agency-Institutional Perspective. *Academy of Management Journal, 52*, 103-126. https://doi.org/10.5465/amj.2009.36461950

Berrone, P., & Gomez-Mejia, L. R. (2009b). The pros and cons of rewarding social responsibility at the top. *Human Resource Management, 48*(6), 959-971. https://doi.org/10.1002/hrm.20324

Blumentritt, T. P., Keyt, A. D., & Astrachan, J. H. (2007). Creating an environment for successful nonfamily CEOs: An exploratory study of good principals. *Family Business*

Review, 20(4), 321-335. https://doi.org/10.1111/j.1741-6248.2007.00102.x

Borlea, S. N., Achim, V. M., & Mare, C. (2017). Board characteristics and firm performances in emerging economies. Lessons from Romania. *Economic Research, 30*, 55-75. https://doi.org/10.1080/1331677X.2017.1291359

Brockett, A., & Rezaee, Z. (2012). *Corporate Sustainability: Integrating Performance and Reporting*. Hoboken, NJ: John Wiley and Sons. https://doi.org/10.1002/9781119202899

Brown, J., Evans III, J. H., & Moser. D. (2009). Agency theory and participative budgeting experiments. *Journal of Management Accounting Research, 21*(1), 317-345. https://doi.org/10.2308/jmar.2009.21.1.317

Cadez, S., & Czerny, A. (2016). Climate change mitigation strategies in carbon-intensive firms. *Journal of Cleaner Production, 112*, 4132-4143. https://doi.org/10.1016/j.jclepro.2015.07.099

Cai, Y., Jo, H., & Pan, C. (2011). Vice or virtue? The impact of corporate social responsibility on executive compensation. *Journal of Business Ethics, 104*(2), 159-173. https://doi.org/10.1007/s10551-011-0909-7

Caers, R., Du Bois, C., Jegers, M., De Gieter, S., Schepers, C., & Pepermans, R. (2006). Principal-Agent Relationships on the Stewardship-Agency Axis. *Nonprofit Management and Leadership, 17*, 25-47. https://doi.org/10.1002/nml.129

Chau, G., & Gray, S. J. (2010). Family ownership, board independence and voluntary disclosure: Evidence from Hong Kong. *Journal of International Accounting, Auditing and Taxation, 19*, 93-109. https://doi.org/10.1016/j.intaccaudtax.2010.07.002

Cherian, J., Safdar Sial, M., Tran, D. K., Hwang, J., Khanh, T. H. T., & Ahmed, M. (2020). The Strength of CEOs' Influence on CSR in Chinese listed Companies. New Insights from an Agency Theory Perspective. *Sustainability, 12*(6), 2190. https://doi.org/10.3390/su12062190

Collett Miles, P., & Miles, G. (2013). Corporate social responsibility and executive compensation: Exploring the link. *Social Responsibility Journal, 9*(1), 76-90. https://doi.org/10.1108/17471111311307822

Conlon, E., & Parks, J. (1988). The effects of monitoring and tradition on compensation arrangements: An experiment on principal/agent dyads. In F. Hoy (Ed.), *Best papers proceedings* (pp. 191-195). Anaheim, CA: Academy of Management. https://doi.org/10.5465/ambpp.1988.4980510

Cordeiro, J. J., & Sarkis, J. (2008). Does explicit contracting effectively link CEO compensation to environmental performance? *Business Strategy and the Environment, 17*(5), 304-317. https://doi.org/10.1002/bse.621

Cossin, D., Hwee, O., & Coughlan, S. (2015). *Stewardship: Fostering Responsible Long-Term Wealth Creation, Stewardship Asia Centre Pte Ltd*. https://doi.org/10.1002/9781119292913

Davidson, R., Goodwin-Stewart, J., & Kent, P. (2005). Internal governance structures and earnings management. *Accounting & Finance, 45*, 241-267. https://doi.org/10.1111/j.1467-629x.2004.00132.x

Davis, J., Donaldson, L., & Schoorman, D. (1997). Towards a stewardship theory of management. *Academy of Management Review, 22*(1), 20-47. https://doi.org/10.2307/259223

Davis, J. H., Schoorman, D. L., & Donaldson, L. (1997). The Distinctiveness of Agency Theory and Stewardship Theory. *Academy of Management Review, 22*, 611-613. https://doi.org/10.2307/259223

Ditillo, A., & Lisi, I. E. (2014). *Towards a more comprehensive framework for sustainability control systems research.* Accounting for the Environment: More Talk and Little Progress, Emerald Group Publishing Limited. pp. 23-47. https://doi.org/10.1108/S1479-359820140000005010

Donaldson, L., & Davis, J. H. (1989). *CEO Governance and Shareholder Returns: Agency Theory or Stewardship Theory.* Annual Meeting of the Academy of Management, Washington. pp. 49-63.

Donaldson, L., & Davis, J. H. (1991). Stewardship Theory or Agency Theory: CEO Governance and Shareholder Returns. *Australian Journal of Management, 16*(1), 49-65. https://doi.org/10.1177/031289629101600103

Eccles, R. (1985). Transfer pricing as a problem of agency. In J. Pratt & R. Zeckhauser (Eds.), *Principals and agents: The structure of business* (pp. 151-186). Boston: Harvard Business School Press.

Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management Science, 60*(11), 2835-2857. https://doi.org/10.1287/mnsc.2014.1984

Eckelman, M. J., & Sherman, J. D. (2016). Environmental impacts of the US Health Care System and effects on public health. *PloS ONE, 11*(6). https://doi.org/10.1371/journal.pone.0157014

Eckelman, M. J. & Sherman, J. D. (2018). Estimated global disease burden from US Health Care sector greenhouse gas emissions. *American Journal, Public Health, 108*(2), 120-122. https://doi.org/10.2105/AJPH.2017.303846

Eckelman, M. J., MacNeill, A., & Sherman, J. D. (2018). *Life cycle environmental emissions and health damages from the Canadian health care system.* PLOS Med. https://doi.org/10.1371/journal.pmed.1002623

Enthoven, A., & Kronick, R. (1989). A consumer-choice health plan for the 1990s. *New England Journal of Medicine, 320*(1), 29-37. https://doi.org/10.1056/NEJM198901053200106

Eisenhardt, K. (1988). Agency and institutional explanations of compensation in retail sales.

Academy of Management Journal, 31, 488-511. https://doi.org/10.2307/256457

Eisenhardt, K. M. (1989). Agency Theory: An Assessment and Review. *The Academy of Management Review, 14*(1), 57-74. https://doi.org/10.2307/258191

Environmental, Social, and Governance Scores from Refinitiv. (2022). [Online] Available: https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/refinitiv-esg-scores-methodology.pdf

Epstein, M. J., & Wisner, P. S. (2005). Managing and controlling environmental performance: evidence from Mexico. In M. J. Epstein & J. Y. Lee (Eds), *Advances in Management Accounting* (pp. 115-137). Vol. 14, Emerald Group Publishing Limited. https://doi.org/10.1016/S1474-7871(05)14005-2

Etzioni, A. (1975). *A Comparative Analysis of Complex Organizations* (New York: The Free Press) Revised and Enlarged Edition.

Fama, E., & Jensen, M. (1983). Separation of ownership and control. *The Journal of Law and Economics, 26*, 301-325. https://doi.org/10.1086/467037

Forsyth, J. A. (2016). *Is agency theory incompatible with stewardship theory?* [Online] Available: https://www.researchgate.net/profile/JuanForsyth/publication/305044654_Is_Agency_Theory_compatible_with_Stewardship_Theory/links/5cd7827c92851c4eab971338/Is-Agency-Theory-compatible-with-StewardshipTheory

Fox, M., & Hamilton, R. (1994). Ownership and Diversification: Agency Theory or Stewardship Theory. *Journal of Management Studies, 31*, 69-81. https://doi.org/10.1111/j.1467-6486.1994.tb00333.x

Francoeur, C., Melis, A., Gaia, S., & Aresu, S. (2017). Green or greed? An alternative look at CEO compensation and corporate environmental commitment. *Journal of Business Ethics, 140*(3), 439-453. https://doi.org/10.1007/s10551-015-2674-5

Frye, M. B., Nelling, E., & Webb, E. (2006). Executive compensation in socially responsible firms. *Corporate Governance: An International Review, 14*(5), 446-455. https://doi.org/10.1111/j.1467-8683.2006.00517.x

Ghosh, B., Herzig, C., & Mangena, M. (2019). Controlling for sustainability strategies: findings from research and directions for the future. *Journal of Management Control, 30*(1), 5-24. https://doi.org/10.1007/s00187-019-00279-8

Gond, J. P., Grubnic, S., Herzig, C., & Moon, J. (2012). Configuring management control systems: theorizing the integration of strategy and sustainability. *Management Accounting Research, 23*(3), 205-223. https://doi.org/10.1016/j.mar.2012.06.003

Grace-Martin, K. (n.d) (2022). *3 Situations when it makes sense to Categorize a Continuous Predictor in a Regression Model*. [Online] Available: https://www.theanalysisfactor.com/3-situations-when-it-makes-sense-to-categorize-a-continu

ous-predictor-in-a-regression-model/

Grace-Martin, K. (2022). *Five Ways to Analyze Ordinal Variables (Some Better than Others).* [Online] Available: https://www.theanalysisfactor.com/ways-analyze-ordinal-variables/

Guenther, E., Endrikat, J., & Guenther, T. W. (2016). Environmental management control systems: a conceptualization and a review of the empirical evidence. *Journal of Cleaner Production, 136*, 147-171. https://doi.org/10.1016/j.jclepro.2016.02.043

Haniffa, R. M., & Cooke, T. E. (2005). The impact of culture and governance on corporate social reporting. *Journal of Accounting and Public Policy, 24*, 391-430. https://doi.org/10.1016/j.jaccpubpol.2005.06.001

Haque, F. (2017). The effects of board characteristics and sustainable compensation policy on carbon performance of UK firms. *The British Accounting Review, 49*(3), 347-364. https://doi.org/10.1016/j.bar.2017.01.001

Haque, F., & Ntim, C. G. (2020).Executive compensation, sustainable compensation policy, carbon performance and market value. *British Journal of Management, 31*(3), 525-546. https://doi.org/10.1111/1467-8551.12395

Hernandez, M. (2008). Promoting Stewardship Behavior in Organizations: A Leadership Model. *Journal of Business Ethics, 80*(1), 121-28. https://doi.org/10.1007/s10551-007-9440-2

Herzberg, F., Mausner, B., & Snyderman, B. (1959). *The Motivation to Work*. New York, John Wiley.

Hirsch, P., Michaels, S., & Friedman, R. (1987). "Dirty hands" versus "clean models": Is sociology in danger of being seduced by economics? *Theory and Society*, 317-336. https://doi.org/10.1007/BF00139485

International Federation of Accountants. (2015). *Accounting for Sustainability: From Sustainability to Business Resilience.*

Jensen, M. (1983). Organization theory and methodology. *Accounting Review, 56*, 319-338.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics, 3*(4), 305-360. https://doi.org/10.1016/0304-405X(76)90026-X

Jo, H., & Harjoto, M. A. (2011). Corporate governance and firm value: The impact of corporate social responsibility. *Journal of Business Ethics, 103*, 351-383. https://doi.org/10.1007/s10551-011-0869-y

Johnson, D. R., & Creech, J. C. (1983). Ordinal measures in multiple indicator models: A simulation study of categorization error. *American Sociological Review, 48*, 398-407. https://doi.org/10.2307/2095231

Klein, A. (2002). Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics, 33*, 375-400.

https://doi.org/10.1016/S0165-4101(02)00059-9

Kluvers, R., & Tippett, J. (2011). An exploration of stewardship theory in a Not-for-Profit organization. *Accounting forum, 35*(4), 275-284. https://doi.org/10.1016/j.accfor.2011.04.002

Konadu, R., Ahinful, G. S., & Owusu-Agyei, S. (2021). Corporate governance pillars and business sustainability: does stakeholder engagement matter?. *International Journal of Disclosure and Governance, 18*(3), 269-289. https://doi.org/10.1057/s41310-021-00115-3

Kosnik, R. (1987). Greenmail: A study in board performance in corporate governance. *Administrative Science Quarterly, 32*, 163-185. https://doi.org/10.2307/2393124

Kunz, A. H., & Pfaff, D. (2002). Agency theory, performance evaluation, and the the hypothetical construct of intrinsic motivation. *Accounting, Organizations and Society, 27*(3), 275-295. https://doi.org/10.1016/S0361-3682(01)00031-9

Leal Filho, W., Will, M., Salvia, A. L., Adomssent, M., Grahl, A., & Spira, F. (2019). The role of green and Sustainability Offices in fostering sustainability efforts at higher education institutions. *Journal of Cleaner Production, 232*, 1394-1401. https://doi.org/10.1016/j.jclepro.2019.05.273

Maas, K. (2018). Do corporate social performance targets in executive compensation contribute to corporate social performance?. *Journal of Business Ethics, 148*(3), 573-585. https://doi.org/10.1007/s10551-015-2975-8

Madison, K. J. (2014). *Agency Theory and Stewardship Theory Integrated, Expanded, and Bounded by Context: An Empirical Investigation of Structure, Behavior, and Performance within Family Firms*. Ph.D. diss., University of Tennessee. [Online] Available: https://trace.tennessee.edu/utk_graddiss/2711

Malik, A., Lenzen, M., McAlister, S., & McGain, F. (2018). The carbon footprint of Australian health care. *Lancet Planetary Health, 2*(1), 27-35. https://doi.org/10.1016/S2542-5196(17)30180-8

Mallin, C. (2004). *Corporate Governance*. Oxford: Oxford University Press.

McGuire, J., Dow, S., & Argheyd, K. (2003). CEO incentives and corporate social performance. *Journal of Business Ethics, 45*(4), 341-359. https://doi.org/10.1023/A:1024119604363

McClelland, D. C. (1961). *The Achieving Society*. Princeton, N.J., Van Nostrand. https://doi.org/10.1037/14359-000

Miller, D. (1995). CEO salary increases may be rational after all: Referents and contracts in CEO pay. *Academy of Management Journal, 38*, 1361. https://doi.org/10.2307/256861

National Health Service Sustainable Development Unit. (2012). *Greenhouse gas accounting sector guidance for pharmaceutical products and medical devices.* [Online] Available: http://www.sduhealth.org.uk/areas-of-focus/carbon-hotspots/pharmaceuticals.aspx

Nielsen, B. B., & Raswant, A. (2018). The selection, use, and reporting of control variables in international business research: A review and recommendations. *Journal of World Business, 53*(6), 958-968. https://doi.org/10.1016/j.jwb.2018.05.003

Nidumolu, R. P., Simmons, J., & Yosie, T. F. (2015). *Sustainability and the CFO Challenges, Opportunities and Next Practices.* Corporate EcoForum and World Environment Center, April.

Noja, G. G., Cristea, M., Jurcut, C. N., Buglea, A., & Lala Popa, I. (2020). Management financial incentives and firm performance in a sustainable development framework: Empirical evidence from European companies. *Sustainability, 12*(18), 7247. https://doi.org/10.3390/su12187247

O'Connor, P., Harris, L., & Gosling, T. (2021). *Linking executive pay to ESG goals.* Public pressure and changing norms are paving the way for business leaders to be paid based on a new set of criteria. [Online] Available: https://www.pwc.com/gx/en/issues/esg/exec-pay-and-esg.html

Paul, A., Lang, J. W. B., & Baumgartner, R. J. (2017). A multilevel approach for assessing business strategies on climate change. *Journal of Cleaner Production, 160*, 50-70. https://doi.org/10.1016/j.jclepro.2017.04.030

Perrow, C. (1986). *Complex organizations.* New York: Random House.

Pucheta-Martínez, M. C., & Gallego-Álvarez, I. (2021). The Role of CEO Power on CSR Reporting: The Moderating Effect of Linking CEO Compensation to Shareholder Return. *Sustainability, 13*, 3197. https://doi.org/10.3390/su13063197

Rahmawati, A., Moeljadi, M., Djumahir, D., & Sumiati, S. (2018). How Do Agency Theory, Stewardship Theory and Intellectual Capital as a Solution for Agency Conflict? *Journal of Management Research, 10*(2), 94-111. https://doi.org/10.5296/jmr.v10i2.12843

Rezaee, Z. (2015). *Business Sustainability: Performance, Compliance, Accountability and Integrated Reporting.Sheffield.* UK: Greenleaf Publishing Limited.

Rezaee, Z. (2017). Corporate sustainability: Theoretical and integrated strategic imperative and pragmatic approach. *Journal of Business Inquiry, 16*, 60-87.

Riccaboni, A., & Leone, E. L. (2010). Implementing strategies through management control systems: the case of sustainability. *International Journal of Productivity and Performance Management, 59*(2), 130-144. https://doi.org/10.1108/17410401011014221

Rupley, K. H., Brown, D., & Marshall, R. S. (2012). Governance, Media and the Quality of Environmental Disclosure. *Journal of Accounting and Public Policy, 31*(6), 610-640. http://doi.org/10.1016/j.jaccpubpol.2012.09.002

Saidu, S. (2019). Theoretical and conceptual review of CEO power. *International Journal of Academy Management Science Research, 3*, 1-18.

Saltman, R. B., & Ferroussier-Davis, O. (2000). The concept of stewardship in health policy.

Bulletin of the World Health Organization, 78(6), 732-739. [Online] Available: https://www.researchgate.net/publication/12402825_The_Concept_of_Stewardship_in_Health_Policy

Sherman, J. D., Thiel, C., MacNeill, A., Eckelman, M. J., Dubrow, R., … Hopf, H. (2020). The Green Print: Advancement of Environmental Sustainability in Healthcare. *Resources Conservation and Recycling, 161,* 104882. http://doi.org/10.1016/j.resconrec.2020.104882

Singh, H., & Harianto, F. (1989a). Management-board relationships, takeover risk, and the adoption of golden parachutes. *Academy of Management Journal, 32*, 7-24. https://doi.org/10.5465/256417

Stanwick, P. A., & Stanwick, S. D. (1998). The determinants of corporate social performance: An empirical examination. *American Business Review, 16*(1), 86-93.

Stanwick, P. A., & Stanwick, S. D. (2001). CEO compensation: Does it pay to be green? *Business Strategy and the Environment, 10*(1), 176-182. https://doi.org/10.1002/bse.284

Su, W., & Sauerwald, S. (2018). Does corporate philanthropy increase firm value? The moderating role of corporate governance. *Business and Society, 57*(4), 599-635. https://doi.org/10.1177/0007650315613961

Thomson Reuters ESG Scores. (2017). *Thomson Reuters Refinitiv.* [Online] Available: https://www.esade.edu/itemsweb/biblioteca/bbdd/inbbdd/archivos/Thomson_Reuters_ESG_Scores.pdf

Tonello, M., & Singer, T. (2015). *Sustainability Practices.* Key Findings, The Global Awakening Companies Respond to Climate, Corruption, and Other Risks. The Conference Board, INC. [Online] Available: https://www2.deloitte.com/content/dam/Deloitte/us/Documents/center-for-corporate-governance/us-aers-ccg-sustainability-practices-report-the-conference-board-050815.pdf

Tosi, H. L., Brownlee, A. L., Silva, P., & Katz, J. P. (2003). An empirical exploration of decision-making under agency controls and stewardship structure. *Journal of Management Studies, 40*, 2053-2071. https://doi.org/10.1046/j.1467-6486.2003.00411.x

Van Puyvelde, S., Caers, R., Du Bois, C., & Jegers, M. (2012). The Governance of Nonprofit Organizations Integrating Agency Theory With Stakeholder and Stewardship Theories. *Nonprofit and voluntary sector quarterly, 41*(3), 431-451. https://doi.org/10.1177/0899764011409757

Vaughter, P., Wright, T., McKenzie, M., & Lidstone, L. (2013). Greening the ivory tower: A review of educational research on sustainability in post-secondary education. *Sustainability, 5*(5), 2252-2271. https://doi.org/10.3390/su5052252

Weick, K. E. (1979). *The Social Psychology of Organizing* (2nd ed.). McGraw-Hill, Inc., New York.

Westphal, J. D., & Zajac, E. J. (1995). Who Shall Govern? CEO/Board Power, Demographic

Similarity, and New Director Selection. *Administrative Science Quarterly, 40*(1), 60-83. https://doi.org/10.2307/2393700

Environmental Protection Agency. (2022). *What is a Circular Economy?*. [Online] Available: https://www.epa.gov/recyclingstrategy/what-circular-economy

Winschel, J. (2021). Climate change policies and carbon-related CEO compensation systems: an exploratory study of European companies. *Journal of Global Responsibility, 12*(2), 158-188. https://doi.org/10.1108/JGR-06-2020-0065

Appendix

Table 1. Descriptive Statistics

		Year	Policy Water Efficiency	Policy Energy Efficiency	Environment Management Training	Green Buildings	Environment Management Team	Compensation Board Committee	Compensation Committee Independence	Executive Compensation Policy
N	Valid	1767	1767	1767	1767	1767	1767	1767	1704	1767
	Missing	0	0	0	0	0	0	0	63	0
Mean		2019.05	.15	.21	.18	.12	.14	.96	94.2719	.99
Median		2019.00	.00	.00	.00	.00	.00	1.00	100.0000	1.00
Mode		2020	0	0	0	0	0	1	100.00	1

Table 2. ESG Score regressed on various independent variables

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.823[a]	.678	.674	9.18078

a. Predictors: (Constant), Stock-Based Compensation, Supplemental
(USD)
, Compensation Board Committee
, Executive Compensation Policy
, Country of Incorporation, Executive Individual Compensation
, Executive Compensation LT Objectives
, Compensation Committee Independence
, CEO Compensation Link to TSR
, Sustainability Compensation Incentives
, Board Member Compensation
(USD)
, Policy Executive Compensation ESG Performance
, Environment Management Training
, Policy Energy Efficiency
, Total Senior Executives Compensation
(USD)
, Green Buildings
, Environment Management Team
, Country of Headquarters, Policy Water Efficiency

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