



Management, Social Sustainability, Reputation, and Financial Performance Relationships: An Empirical Examination of U.S. Firms

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Abstract

With growing evidence of positive relationships between social sustainability and financial performance, there is a critical need for understanding how innovative organizations integrate sustainability and tie theory to practice. The research in this study uses a sample of *Fortune* 500 firms simultaneously listed in the Newsweek Green rankings, The Corporate Knights Global 100, and the 100 Best Corporate Citizens lists. The analysis from this purposeful sample of leading firms reveals positive relationships between the management of sustainability practices leading to improved social sustainability performance and firm financial performance constructs. The results of this study advance construct and item development involving sustainability management and social sustainability practices while testing relationships to measures of financial performance. Further advances in the field and opportunities for future research involve testing larger cross-sector samples, the development and measurement of social sustainability practices from secondary sources, longitudinal studies, and the evolving nature of organizational performance measurement.

Keywords

social sustainability performance, sustainability management, sustainability reputation, firm financial performance

Introduction

Not too long ago, there was virtually no debate in scholarly or management circles over the relationship between environmental practices and firm performance. It was simply taken as a fact that pursuing sustainability goals was antithetical to sound business strategy and, quite possibly, a violation of the fiduciary duty of managers to shareholders (Bower & Paine, 2017; Friedman, 1970; Stout, 2012). Ironically, this same kind of debate is now taking place with the benefits of social sustainability practices. For the purposes of this study,

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social sustainability involves undertaking social analysis and assessment, enabling the identification of social opportunities, as well as the mitigation of social impacts and risks (Social Development, 2013).

Prior conventional wisdom held that any investment in improved environmental performance would contribute to penalties such as increased lead times, reduced quality, or increased costs—all of which reduced profits and decreased returns to stockholders (Walley & Whitehead, 1994). However, Michael Porter at Harvard challenged these entrenched beliefs and sparked a debate with a focus on “America’s Greening Strategy.” This debate increased theoretical and practical interest in the possibility that profitability and sustainability were not mutually exclusive goals. Ultimately, this brought about a dramatic shift in manufacturers’ attitudes toward a new management paradigm enabling environmental management practices (Porter, 1991). This debate has now extended beyond environmental practices into emerging social sustainability practices.

According to Porter, pollution was simply waste and organizations investing in environmental practices to reduce waste will have better performance. As a result, radical change has come about in management’s views on waste, the need for pollution reduction, and better environmental management. Engaging this same logic, social management practices provide new opportunities to reduce waste in the workforce. These social practices in governance and disclosure provide a new opportunity for research. The research presented in this study is one attempt to understand the evolving sustainability paradigm. In doing so, we are trying to understand organizational culture and opportunities for engaging workers to enhance the social performance and the reputation of the organization. The key to understanding these relationships can be elusive given the difficulties in measuring social practices.

With the continued questioning of the relationships between social practices and financial performance comes a burgeoning area of research in the development of social sustainability performance measurement. Proof of international focus on defining and operationalizing social performance can be found in the International Organizations of Standards (ISO) working report on social responsibility (ISO, 2004), and 2010 release of the 26000 certification standard series for social responsibility. ISO 26000 provides guidance on how businesses and organizations can operate in a socially responsible way. This means acting in an ethical and transparent way that contributes to the health and welfare of society. Other acknowledgements of the importance of social performance are within the growing acceptance and recognition of the Global Reporting Initiative (GRI) as the de facto standard for measuring and reporting social practices involved in sustainability reports from corporations with over 10,000 firms using GRI and over 27,000 publicly available reports (GRI, 2017). Predicated on the promise of certain benefits, GRI and ISO have longstanding international acceptance. First, this series of ISO standards was argued to be the next logical step forward given the relationship of quality improvements and firm performance (Adam et al., 1997), and successes of the quality standard ISO 9000 and its automotive industry variant QS 9000 (Caillibot, 1999; Corbett & Kirsch, 2001; Miles & Russell, 1997; Reid, 1999). This was supported by ISO 14000 environmental management standards success and relationships to firm performance (Anwar, 2000; Sroufe, 2003; Albuquerque, Bronnenberg, & Corbett, 2007; Curkovic & Sroufe, 2011; Darnall, Jolley, & Handfield, 2008). Second, ISO 26000 complements criteria found in the GRI. Third, these measurement and reporting standards focus on the processes involved in creating and managing new types of internal practices. Basically, ISO and GRI were set forth as effective tools to guide managers in their efforts to capitalize on the creation of shared value from internal practices. Finally, supporters lauded these measurements and reporting frameworks for their focus on the crucial role played by measurement and management in overall corporate performance.

Continued development of social sustainability is in the evolution of the Natural Step’s Framework for Strategic Sustainability, which now includes eight sustainability principles with

five of these focused on social sustainability (Broman & Robèrt, 2017). While these standards and frameworks have helped to guide practices and strategic alignment, there remains considerable difficulty for researchers in measuring these practices when not involved in primary data collection and field studies.

The management of sustainability practices is a topic of prevailing interest to researchers, practitioners, and the public. Brundtland (1987) advocated that social sustainability could not be separate from environmental sustainability (DesJardins, 2016). Against the backdrop of debate over the expanding meaning of social sustainability, recent research has sought to illuminate nuanced relationships between social performance and financial performance. Such studies have established positive relationship between corporate social responsibility (CSR) practices and financial performance (Flammer, 2015; Saeidi, Sofian, Saeidi, Saeidi, & Saeidi, 2015; Yilmaz, 2016) yet they have overlooked new social sustainability measurement opportunities and the role of reputation when testing relationships. Others have looked at how stocks perform with respect to social performance (Borgers, Derwall, Koedijk, & Ter Horst, 2015; Luo, Wang, Raithel, & Zheng, 2015). Zhao and Murrell (2016) revisited the relationship between social performance and financial performance by conducting a replication of the study by Waddock and Graves (1997) and found the results are inconclusive to support the argument “doing good leads to doing well.” These same authors call for revisiting the relationship with different samples. In taking the evaluation of these relationships further, Hasan, Kobeissi, Liu, and Wang (2016) looked at the mediating influence of productivity in the relationship between social performance and financial performance.

Research in the sustainability domain is not limited to management scholars. Studies in the financial field have also looked at the relationships between social performance and firm performance with respect to stock performance. Most do not look at the role of sustainability management and reputation constructs. Dorfleitner, Utz, and Wimmer (2013) looked at the long-term performance of stocks with respect to social performance measured by environmental, social, and governance (ESG) scores depicting ESG dimensions. They found that there is significant variation in the relationship between social and financial performance with respect to different stock portfolios. European and North American stock portfolios with high ESG scores tend to outperform in the long run with the exception of governance dimensions and European stock portfolios. In the Asia Pacific region, they observed a positive long run return with regard to social scores. While looking at environmental and governance scores, the difference in performance is significantly less.

Other work in finance has looked at green scores, CSR, and eco-efficiency. Work by Prober, Meric, and Meric (2015) look at the influence of Newsweek Green scores and stock price. To their surprise, they found a company’s green score is not determined by the market and no link between variation in stock returns and green scores. Deng, Kang, and Low (2013) found that with respect to low CSR acquirers, high CSR acquirers receive higher merger announcement returns, and larger increases in post-merger long-term operating performance. Additionally, Guenster, Bauer, Derwall, and Koedijk in their 2011 study connecting eco-efficiency scores and financial performance in the end of the 1990s and early 2000s, found a positive relationship of eco-efficiency scores to operating performance and market value.

This brief review of work in the financial domain highlights an important aspect of conducting this type of research, namely the importance of drawing from multiple data sources when trying to understand this evolving phenomenon and its links to performance. Jick (1979) noted that the accuracy of judgements surrounding a phenomenon improves when researchers make inferences based on findings from different sources of data. In this study, we try to both extend prior work and differentiate our approach to testing multiple research questions with a purposeful sample of firms and assessment of emerging performance relationships. The uniqueness our study and opportunities for contributions to this field of research address general questions regarding how

can we operationalize multiple dimensions of sustainability and has social performance lived up to the promises made on its behalf?

Contemporary research questions continue to involve the extent to which internal sustainability practices and external practices across supply chains contribute to firm performance. There is now a critical need to understand the role and impacts of social practices. For this reason, our study addresses three specific questions while exploring internal sustainability practices of large multinational firms recognized for their leadership positions in sustainability practices:

1. What practices and variables represent constructs for Sustainability Management, Social Sustainability Performance, and Sustainability Reputation?
2. How does the presence of these constructs affect firm Financial Performance?
3. What can we learn from firms with these practices and complex relationships?

We examine these questions while simultaneously examining several posited relationships between these practices and financial performance variables. Organization of the remainder of this article is as follows. We start with a review of relevant literature showing the importance of socially sustainable practices in organizations followed by its relationship to financial performance. We then apply theory and observations from extant literature to present the structural model with hypotheses to test proposed relationships in the model. Next, we describe the research methodology and analysis followed by a discussion of the results. The article concludes with implications for managers and opportunities for future research.

Literature Review

Social sustainability involves undertaking social analysis and assessment, enabling the identification of social opportunities, as well as the mitigation of social impacts and risks (Social Development, 2013). For the purpose of this study, we build on this definition with insight from McKenzie (2004), to define social sustainability performance as the social impacts of the organization's social sustainable practices and policies, and the measure of growth and development enhancing conditions existing within organizations to achieve various social goals for the organization. It is considered a response to growing expectations from organizations on various dimensions of social performance apart from ensuring profitability (Matten & Moon, 2008; Sharma & Henriques, 2005).

Described as the holy grail of social responsibility (Jorgensen & Knudsen, 2006), the relationship between social sustainability performance and financial performance represents one of the most questioned areas of sustainability business practices (Angelidis, Massetti, & Magee-Egan, 2008; Schrette, Hinz, Scherrer-Rathje, & Friedli, 2014). Though early researches suggest a positive relationship between social and financial performance (R. A. Johnson & Greening, 1999; Kouikoglou & Phillis, 2011; Orlitzky, Schmidt, & Rynes, 2003), the social sustainability and financial performance connection has not been fully developed (Mackey, Mackey, & Barney, 2007; Neville, Bell, & Mengüç, 2005; Park & Lee, 2009; Prado-Lorenzo, Gallego-Álvarez, García-Sánchez, & Rodríguez-Domínguez, 2008). Many factors like market short-termism and internal organizational environments subjugated by a lack of moral engagement and disempowerment can impede sustainability investments (Juravle & Lewis, 2009). The mechanisms through which firm performance (return on assets [ROA], return on investment [ROI], and net profit margin [NPM]) is affected by social sustainability initiatives, that is, social sustainability practices and policies, is not well understood (Doh, Howton, Howton, & Siegel, 2010).

Sustainability initiatives and subsequent discussions of "win-win" situations often ignore social benefits and focus on ecological and economic benefits (Littig & Griessler, 2005; Simola, 2012). Sustainability initiatives in a firm are supposed to improve economic prosperity, environmental

responsibility, and social justice. This is commonly referred to as a “Triple Bottom Line” (Elkington, 1997). Applying the same logic, an organization can be more sustainable only if it takes steps to secure or improve its competitiveness if its efforts include social aspects of sustainability. Earlier researchers have rarely looked into social sustainability (Hutchins & Sutherland, 2008; Simola, 2012) and its influence on firm performance. This prior oversight of social sustainability practices is changing as management programs and standards provide a foundation for measurement along with the recognition of practices by international awards, indices, and rankings.

Social Sustainability Linkages Within the Firm

Social sustainability has been part of management for some time now. In order to improve financial performance, organizations have included social sustainability measurements in their quality management programs. It has been noted that Deming’s 14-point program focused on quality improvement through social sustainability practices (Wicks, 2001). If you look at all the measures to improve quality and financial performance suggested by “The Baldrige National Quality Program” (2009), 15% are social sustainability measures (Pullman, Maloni, & Carter, 2009).

Previous social sustainability studies have used social goals, that is, how companies perform with respect to their citizenship, philanthropy, legislative issues, employment compensation, human health, and safety issues (Carroll 1994, 1998, 1999; Kleindorfer, Singhal, & Wassenhove, 2005; Rajak & Vinodh, 2015; Seuring, 2004) to measure social sustainability performance. The United Nations Environmental Program has partnered with Society of Environmental Toxicology and Chemistry to develop and disseminate tools that can help in achieving sustainable development. The tools developed by this collaboration helps to evaluate opportunities, risks, and tradeoffs linked to products and services over their entire life cycle (United Nations Life Cycle Initiative, 2001). This collaboration has indicated that further consideration should focus on social and ethical dimensions of sustainability.

Willard (2005) argued that pressure for social responsibility from green consumers, governmental, and nongovernmental organizations has increased the focus of researchers on the social sustainability performance of companies, both in developing and developed countries. With the recent introduction of the Blueprint for Corporate Sustainability Leadership, the UN Global Compact is investing their fair share of resources for encouraging corporate social sustainability performance (Kell, 2013) and this evident in the recent UN Sustainable Development goals. Even with a global movement toward considering social practices when performing sustainability analysis, the business community has not given social dimensions of sustainability equal importance as that of economic benefits. This may be due to the social and ethical benefits being less tangible (Remmen, Jensen, & Frydendal, 2007). Other researchers have called for integrating human resource considerations into existing life cycle analysis. The linkage here is to improve internal social performance by including social and political factors (O’Brien, Doig, & Clift, 1996), promotion of human health, along with human dignity and basic needs fulfillment (Dreyer, Hauschild, & Schierbeck, 2006).

Social sustainability can be linked to recognizing, valuing, and promoting the capability of employees with appropriate policies and practices within organizations (Daily & Huang, 2001; Wilkinson, Hill, & Gollan, 2001). Social sustainability practices not only focus on internal communications but also on external and internal communities. Practices include providing equal opportunities, ensuring quality of life, encouraging diversity, providing demographic process, and accountable governance structures (Elkington, 1994; Pullman et al., 2009). Richardson & Welker (2001) found that social disclosure positively influences the cost of equity capital. They measured social performance in terms of social disclosure and argued that social disclosure as a measure of social sustainability performance works in the same way as “financial disclosure.” Epstein (2004) also used social disclosure as a social performance measure.

Social Sustainability Performance

In 2009, Bloomberg added ESG data to its information offerings that cover thousands of public companies (Eccles & Saltzman, 2011). For the purposes of this study, we used the early years of Bloomberg's social disclosure score and governance disclosure score as proxies of social sustainability performance. The start of integrated reporting, later followed by ISO standards for social sustainability, and Bloomberg providing information on nonfinancial and financial information in one place (Eccles, & Saltzman, 2011) were catalysts for several elements of this study. Cochran and Wood (1984) also used social disclosure measures and found positive correlation between social disclosure and two of three economic performance measures. The "social disclosure score" from *Bloomberg* specifically assesses performance with regard to social sustainability policies and practices (a KPI comprised of diversity, gender, minorities, incident rates, accidents, safety, and extensions of social practices to supply chains) within the organization (The Adventure Capitalists, 2014). We propose this as a parsimonious measure for use in this study. Another important attribute to assess the extent of social sustainability practices and policies is governance as a measure of social sustainability.

There is a growing consensus among large corporations that governance and resulting social sustainability performance are not only expected, but are of value to the business (Klettner, Clarke, & Boersma, 2014). The use of a governance disclosure score, as a measure of social sustainability performance, stems from the idea that governance helps in transforming a company into a socially sustainable enterprise (Szekely & Knirsch, 2005). The authors also observed that governance plays an important role in improving social sustainability in organizations by growing intangible assets such as management skills, reputation, human/intellectual capital, and ability to work in partnership with stakeholders. Khan, Muttakin, and Siddiqui (2013) found that corporate governance attributes play a vital role in ensuring organizational legitimacy and social performance while examining relationships between governance and the extent of disclosure in the annual report of Bangladeshi companies. Furthermore, Belal and Roberts (2010) observed that companies committed to social sustainability performance encourage more governance disclosure than those who are less committed to the social sustainability performance. This improved performance can be attributed to ethical management promoting corporate governance mechanisms such as greater board independence and audit committee and CSR initiatives for higher social performance coupled with higher disclosure (Khan et al., 2013). A governance score as a measure of social sustainability performance can be attributed to the logic that better governance results in better social partnerships, multistakeholder engagement processes, and impact assessment (Muthuri, Moon, & Idemudia, 2012). In order to capture resulting social sustainability performance from measures existing within the organization, we used Bloomberg's ESG governance disclosure score (a KPI comprising measures of board structure, diversity, gender, independence, CEO gender, executive diversity, committee composition, and shareholder rights) collected from Bloomberg. Thus, the social sustainability performance construct is reflected on two "Bloomberg" provided measures: governance disclosure score and social disclosure score. We posit that governance and social disclosure scores help to create a new social sustainability construct for organizations in accordance to the proposal by United Nations Life Cycle Initiative (2001) by focusing on the social and ethical dimensions of sustainability to measure social sustainability performance.

Sustainability Management

Our planet and society is witnessing organization-induced changes negatively affecting a sustainable future. Shrivastava (1995) found the problems associated with organizational practices have increased significantly and argued for increased management of sustainability practices within

organizations to attain sustainable development. To this end, Sroufe (2017) has called for the integration of sustainability management into decision making and value creation with customized approaches to sustainability, goals, and integrated bottom line (IBL) measurement. These in turn enable change management and improved performance.

To try to capture sustainability management, we first looked for social sustainability management KPIs from Bloomberg and other sources. We did not find available constructs. This led us to the development of sustainability management measures for use in this study. We used two measures of sustainability management from Newsweek Green Rankings “environmental management” and “green policy” scores as proxies to measure the management of sustainability practices. The environmental management score is an assessment of how a company manages its practices through, programs, targets, certifications, and the like. To account for a company’s overall environmental footprint, Sustainalytics (who partnered with Newsweek to do the rankings) focuses on distinct spheres of influence: company operations, contractors, and suppliers, along with products and services. An analysis of positive performance-related criteria is counterbalanced by their including a detailed assessment of controversies and incidents, which often indicate the extent to which management systems are effectively implemented.

Holistic planning for sustainability management requires the existence of green policies in organizations. These policies and the ability to avoid fines with green policies are indicators of commitment to sustainability and continued profitability (R. A. Johnson & Greening, 1999). To this end, we used a “green policies score” from Newsweek Green Rankings as the second reflective measure of sustainability management. The calculation of a green policies score is based on sustainability measures developed by the social investment firm KLD Research and Analytics (Lyon & Shimshack, 2012). The KLD index is one of the most widely used resource to assess the relationship between social performance and financial performance (Jayachandran, Kalaignanam, & Eilert, 2013; Montiel & Delgado-Ceballos, 2014). The green policy score captures sustainability management measures such as proactive sustainability management, climate change policies and performance, pollution policies and performance, and products impacts relative to others within the same industry (Lyon & Shimshack, 2012). Again, taking a parsimonious approach to construct development, sustainability management is reflected on two measures: environmental management score and green policies score.

Firm Sustainability Reputation

Wiley and Zald (1968) argued that reputation creates a desirable image for organizations, and helps to garner resources, and helps in their survival. Rao (1994) observed that reputation is an outcome of the process of legitimation. According to a resource-based view, intangible resources such as reputation significantly contribute to firm performance because they are rare, inimitable, nonsubstitutable, and valuable (Amit & Schoemaker, 1993; Barney, 1991). The endorsement by external organizations embeds an organization in a status hierarchy. This difference in status leads to different levels of reputation for an organization (Scott, 1994). Third parties such as professional societies, auditors, rating agencies, and government regulators may endorse an organization. In this study, we used “Newsweek Green Rankings measures’ ‘reputation’ and ‘green score’ as indicators of firm level sustainability reputation. Reputation score is “calculated from CorporateRegister.com surveys of CSR professionals, academics, environmental experts, and industry executives” (Lyon & Shimshack, 2012, p. 3) and was used as an indicator of sustainability reputation. Reputation scores reflect various perceptions about a firm such as whether the firm is a leader or laggard within its sector on sustainability performance, commitment, and communications relative to others within the same industry (Lyon & Shimshack, 2012). Calculation of the green score is from three component scores: An Environmental Impact Score, an Environmental Management Score, and an Environmental Disclosure Score, weighted at 45%,

45%, and 10%, respectively (Lyon & Shimshack, 2012). This sustainability construct is an indication of how external organizations perceive social and environmental reputation relative to other firms.

Firm Financial Performance

McGuire, Sundgren, and Schneeweis (1988) used ROA, total assets, sales growth, asset growth, and operating income growth to compare the social performance to the financial performance. Preston and O'Bannon (1997) also used the traditional financial indicators ROA, ROI, and return on equity to compare corporate social indicators and financial performance and found a strong positive correlation in contemporaneous and lead lag formulations. We have used traditional financial indicators ROI, ROA, and NPM to capture the financial performance relationship (Gallego-Álvarez, Segura, & Martínez-Ferrero, 2014; McGuire et al., 1988; Preston & O'Bannon, 1997; Vickery, Jayaram, Droge, & Calantone, 2003). We take this traditional approach as a proxy for firm performance, yet also caveat this with a call for more holistic measurement necessary in the future to capture nonfinancial indicators of performance. Measures can include a firm's extent of GRI reporting, rankings, and scoring within industry indices, along with environmental value and social value created by organizations, which goes well beyond traditional financial data.

Hypotheses

Stakeholders are continuously asking companies to provide more information on how they identify and manage sustainability issues. It is not a one-time management decision and it requires continuous assessment and management of sustainability practices (Szekely & Knirsch, 2005). Epstein and Roy (2001) argued that by "identifying and articulating the drivers of social performance and measuring and managing the broad effects of both good and bad performance on the corporation's various stakeholders, managers can make a significant contribution both to their company and to society" (p. 585). They suggested a framework with detailed systems, structures, and measures for sustainability management are necessary to change organizational culture and processes which can positively influence social sustainability and financial performance.

Social sustainability frameworks and metrics are helpful to measure sustainability, manage for success, and improve performance. Many organizations now have dedicated sustainability managers who are required to have the knowledge and tools to help create a strategic social management system. These tools aim to help them effectively measure and report the value created through more effective stakeholder management and improvement of social sustainability performance (Epstein & Buhovac, 2014). Both the Baldrige National Quality program (2009) and Deming's (1986) program contains sustainability management measures that focuses on improving social sustainability performance of companies implementing those programs (Pullman et al., 2009; Swiss, 1992). The management of sustainability practices should improve social sustainability performance in companies. Hence, we hypothesize,

Hypothesis 1a: Sustainability management has a positive direct relationship with social sustainability performance.

Schaltegger and Synnestvedt (2002) proposed that not only the level of sustainability performance, but also the kind of sustainability management, influences the financial outcome of the organizations. Figge, Hahn, Schaltegger, and Wagner (2002) suggested that sustainability management with a balanced scorecard may help in integrating the three pillars of sustainability into a single and overarching strategic management tool that significantly affects the economic suc-

improving social aspects like worker satisfaction, recruitment, and retention, can lead to reduced intra-firm conflicts between functions or goals of different departments, internal stakeholders, shareholders, and managers. It can also lead to better financial performance (Wagner, 2007). This improved financial performance from sustainability management can be attributed to better product image, sales, and new market opportunities. Hence, we hypothesize,

Hypothesis 1b: Sustainability management has a positive direct relationship with firm financial performance.

Organizations undertake sustainability management to address the demands and expectations of the society (Szekely & Knirsch, 2005). Reputation can be viewed as an intangible resource or the outcome of a shared socially constructed impressions of a firm (Fombrun & Van Riel, 1997; Scott & Walsham, 2005). The practitioners of reputation management and its manifestations such as sustainability reputation were always trying to capitalize on reputation around which to build new services and products for the market (Bennett & Kottasz, 2000). For the same reason, sustainability management and its relation to reputation deserves our attention in research and practice. Bebbington, Larrinaga, and Moneva (2008) argued that

good quality management would entail an ability to identify current and future challenges to the successful operation of the entity (including employee, community and environmental challenges) and to ensure that the organization is well placed to deal with these challenges. (p. 349)

Reputation “is a fragile resource; it takes time to create, it cannot be bought, and it can be damaged easily” (Hall, 1993, p. 616). The reputational “capital” of an organization is at risk from everyday interactions between organizations and their stakeholders with risks from many sources, for example, strategic, operational, compliance, and financial (Fombrun, Gardberg, & Barnett, 2000). Hence, managing the sustainability initiatives in organizations becomes extremely important. Previous research on management and reputation suggests a positive relationship between the two (Bebbington et al., 2008). The Elkington and Kuszewski (2002) Survey of Corporate Sustainability Reporting mentioned the management of sustainability practices has a major role in achieving the alignment of brand, reputation, and reporting (Elkington & Kuszewski, 2002). Additionally, the GRI guidelines also highlight the role of managing sustainability practices in building reputation for organizations (GRI, 2002). Hence, we hypothesize,

Hypothesis 1c: Sustainability management has a positive direct relationship with sustainability reputation.

The GRI is an accepted framework available for reporting social sustainability performance (H. S. Brown, De Jong, & Levy, 2009). Proponents of sustainability performance reporting claim the enhancement of the disclosing firm’s reputation as a major benefit to issuing the report (D. L. Brown, Guidry, & Patten, 2010). Simnett, Vanstraelen, and Chua (2009) suggested that companies can enhance the credibility of their sustainability reports and may build their reputation by assuring their sustainability reports from independent assurers. Research by Kolk (2005a, 2005b) and Palenberg, Reinicke, and Witte (2006), suggested that reporting sustainability performance positively influences brand recognition. A study by Michelon (2011) found that companies use disclosure to communicate “legitimacy to operate” to stakeholders. Therefore, companies disclosing their social sustainability performance and showing their commitment to stakeholders have better chance to improve reputation from media exposure. Hence, we hypothesize,

Hypothesis 2a: Social sustainability performance is positively associated with sustainability

Richardson and Welker (2001) pointed out that social disclosure “could influence the cost of equity capital directly through investor preference effects if investors are willing to accept a lower expected return on investments that also fulfills social objectives” (p. 598). Early research concluded that social sustainability practices like employee knowledge enhancement, employee involvement programs, improving employee attitudes and satisfaction have improved quality performance. This in turn leads to financial performance in organizations and sustainable advantage (Flynn, Schroeder, & Sakakibara, 1995).

Daily and Huang (2001) later found human resource and organizational behavior practices improve social sustainability performance in organizations which can result in improved financial performance. Explanations for improved performance from social sustainability include corporate stakeholder theory (Cornell & Shapiro, 1987). From this theoretical perspective, firm resources go beyond the bondholders and stockholders to include employees within the organization. Cornell and Shapiro (1987) noticed that firms with socially sustainable practices have more low-cost implicit claims, leading to higher financial performance. A lack of socially sustainable practices can also discourage investors, as they perceive higher risk in investing such firms (Alexander & Buchholz, 1978; Spicer, 1978).

McGuire et al. (1988) noted that perceptions of low social sustainability decrease a firm’s ability to obtain capital at constant rates and to have a more stable relationship with the financial community and the government. A later study by M. D. Johnson (2006) suggested that social sustainability practices like worker participation and training have a positive effect on social sustainability performance leading to financial performance. We also know social sustainability practices such as better worker safety programs and social sustainability employee programs are likely to improve firm’s financial performance by reducing the cost of production and quality management (S. P. Brown 1996; K. A. Brown, Willis, & Prussia, 2000). Hence, we hypothesize,

Hypothesis 2b: Social sustainability performance is positively associated with firm financial performance.

Hypothesis 2c: Social sustainability performance mediates the relationship between sustainability management and firm financial performance.

According to a resource-based theoretical perspective, reputation, a valuable resource leading to improved firm financial performance and creates a sustainable competitive advantage for the firm (Barney, 1991). Roberts and Dowling (2002) confirmed a positive relationship between reputation and firm financial performance. Corporate reputation is a fundamental intangible resource created by investing in social sustainability practices and disclosure (Branco & Rodrigues, 2006). Riordan, Gatewood, and Bill (1997) suggested that employees’ reactions to the firm’s actions is often based on the image of the firm. Furthermore, firms with a reputation for sustainability can attract better job applicants, increase employees’ motivation, morale, commitment, and loyalty to the firm which in turn improve financial performance (Branco & Rodrigues, 2006). Datta, Gopalakrishna-Remani, and Bozan (2015) also points out institutionalized sustainable reporting and transparency positively affect overall business performance. The *Economist* has shown that in this era of corporate image, “Consumers will increasingly make purchases based on a firm’s whole role in society: how it treats employees, shareholders, and local neighborhoods” (*Economist*, 1994, p. 71). Based on this logic, an increase in purchases from a firm’s reputation can positively influence firm financial performance. Hence, we hypothesize,

Hypothesis 3a: Sustainability reputation leads to improved firm financial performance.

Hypothesis 3b: Sustainability reputation mediates the relationship between social sustainability performance and firm financial performance.

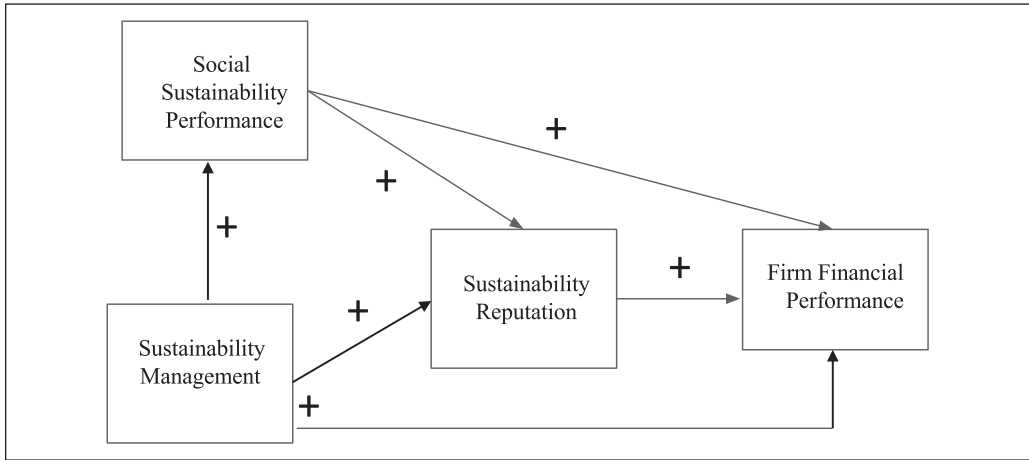


Figure 1. Posited relationships of social sustainability performance.

A conceptual model summarizing posited relationships encompasses the constructs of sustainability management, social sustainability performance, reputation, and financial performance outcomes are in Figure 1.

Method

We sought to construct as representative sample as possible of leading MNCs (multinational companies) in order to derive an accurate understanding of this population. The target population consists of the top sustainable global companies all recognized by Newsweek’s rankings of green companies, The Corporate Knight’s Global 100, inclusion on the 100 Best Corporate Citizens listing for multiple years 2009, 2010, 2011 along with all of the sample being involved in GRI reporting. We recognize global companies with a focus on sustainability have an association with environmental performance. This selection bias in environmental focus and the care these firms exhibit in reporting those measures to government agencies and stakeholders is part of the sustainability reporting landscape. Because we sought globally recognized companies, there can be a limitation in how many measures in this study apply to smaller and lower financially performing firms, which, if sampled, can help control for firm size, and provide further insight.

In an attempt to differentiate this study from prior work in the management and financial fields, we did not evaluate stock performance with respect to social performance. We instead want to build on and extend prior research by examining how management of sustainability practices affects social performance and firm reputation, measurement of these constructs, and relationships with financial performance. This study takes a unique approach to examining these relationships while using structural equation modeling (SEM). With a purposeful sample of organizations long recognized for their sustainability practices, we propose a novel approach to operationalizing sustainability and predict how other firms can successfully engage in these practices. Studies using convenience sample are common in sustainability management research (Disterheft, Caeiro, Azeiteiro, & Leal Filho, 2015; Formentini & Taticchi, 2016; Zhu, Sarkis, & Lai, 2008).

With a purposeful sample we can highlight and test relationships within large multinational firms recognized for their sustainable practices. The firms are not new to implementing these practices, as many are recognized sustainability leaders for over a decade. This purposeful sample may not be as generalizable, but instead can help explain what innovative and early adopting organizations are doing while helping to predict what it will take for other firms to cross the

sustainability chasm as early majority, late majority, and laggards adopt these practices at a later time (Sroufe, Curkovic, Montabon, & Melnyk, 2000). The sample of 82 firms are all recognized by each of the following organizations over a 3-year period 2009, 2010, and 2011 by *Newsweek's* rankings of green companies, The Corporate Knight's Global 100, inclusion on the 100 Best Corporate Citizens listing, along with all the sample being involved in GRI reporting (See Appendix A for the list of organizations). The period of time covered by this sample also coincides with the Kyoto protocol whereby industrialized nations agreed to cut emissions to 5% below 1990 levels within 2008 to 2012. The years in our sample were indeed an interesting time for firms in managing sustainability efforts during a recession. The environment is seldom a salient issue in elections (Bomberg, 2001), yet this was also a time where candidate Barack Obama tried to make the environment a more important issue during his campaign and later in his administration as he became president. While testing our assumptions on these early years of available data and changing sustainability landscape, we hope to set the stage for later research and testing of relationships over longer periods of time while including more recent data.

The Newsweek Green Rankings, first published in 2009, evaluates the firm's actual environmental footprint, how it manages that footprint, and the sustainability communications by investigating the largest 500 publicly traded companies in America (for the U.S. 500 list) and worldwide (for the Global 500 list). The ranking is a synthesis of environmental impact (with a relative weight of 45%), environmental management (45%), and disclosure (10%; Muli, 2013; *Newsweek*, 2012). The Global 100 is a list of "The Global 100 Most Sustainable Corporations in the World," developed by the Canadian magazine *Corporate Knights*, and announced annually at the World Economic Forum in Davos. The list is developed in cooperation with a leading research firm Innovest Strategic Value Advisors. This firm specializes in triple bottom line analysis and socially responsible investments (Gjølberg, 2009). For determining the 100 Best Corporate Citizens listing, Business Ethics identifies seven stakeholder groups: shareholders, community, minorities and women, employees, environment, non-U.S. stakeholders, and customers (Filbeck, Gorman, & Zhao, 2009).

The time framework starts at the launch of ESG data from Bloomberg in 2009 and follows a protocol of using 3 years of data allowing for multivariate data analysis with an adequate sample size for SEM. Taking the existing sample out more years into the future will help general validity, yet introduces tradeoffs, as using multiple top rankings results in more missing data over multiple years. A need for missing data replacement techniques can also cause researchers to question the validity of extending the dataset. The use of multiple years, multiple sources of data, and confirmation of top ranked firms by multiple organizations provides us an early and unique opportunity to have a study testing new constructs and relationships involving the management of sustainability practices and social sustainability performance.

The sample used in this study was primarily *Fortune* 500 companies and is not completely representative of industry sectors. However, the effect of firm size or industry type on sustainability management practices is not well-known. For example, it might be that larger firms or economically successful firms in sustainability intensive industries tend to manage sustainability more effectively given a greater number of people, divisions, locations, or abundance of resources for managing sustainability. Additionally, larger economically successful firms can find recording and dissemination of sustainability management practices successful and efficient due to larger resources and longer presence in the industry. Clearly, there is a need for replication of this study in different sampling contexts, for example, random, stratified, and all available *Fortune* 500 firms.

Previous studies have used convenience MNC samples to test the relationship of sustainability constructs with financial performance including environmental information and financial performance (Lyon & Shimshack, 2012). A firms' environmental and social supply chain practices with financial performance (Wang & Sarkis, 2013). While other studies used MNC convenience

sampling to study relationships between sustainability initiatives and a firm's value (Jeffers & DeGaetano, 2013; Lin, Jeffers, Romero, & DeGaetano, 2015). A convenience sample of the largest 500 U.S. firms ranked by Newsweek was also used to study investor reactions to short and longer-term corporate environmental performance (Cordeiro & Tewari, 2015).

In completing the panel data for this study, we used a *Bloomberg* terminal to collect social disclosure scores and environmental disclosure scores. For the purpose of this study, sustainability management is reflected by a green policy score and an environmental management score. Social sustainability performance is reflected by two measures: a governance disclosure score and a social disclosure score. Sustainability reputation is reflected by reputation and a green score of the company. Finally, financial data from *Bloomberg* and *Compustat* include ROA, ROI, and NPM. The constructs, indicators, and units of measurement are in Appendix B.

Data Analysis

Our empirical study combines different secondary data sources: *Newsweek* Green rankings, *Bloomberg*, and *Compustat* in order to minimize the potential threat of common method variance affecting the results of the analysis (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). These companies were part of the EPA's Green Power Partnership program seeking to demonstrate environmental leadership, external recognition, meet their own sustainability goals, while also seeking brand and product differentiation. We collected data for 104 *Fortune* 500 companies at the beginning of the analysis. The data collected from 22 companies deemed unusable for the study as we could not find data across all measures. Of the 82 companies finally considered for the study, we ran "Little's MCR test" to make sure that the few missing data points are missing at random before doing multiple imputation to replace missing values. The results of Little's MCAR test was $\chi^2 = 113.853$, $df = 106$, p value = .284, which shows the missing values can be attributed to randomness.

To handle the missing data issues, multiple imputation was used whereby observed values are used to generate a range of plausible values. Within the multiple imputation method, each missing data point is replaced by plausible value generated based on existing correlations and relationships between variables, provided certain assumptions are met (Royston, 2004; Schafer & Olsen, 1998). This was followed by a normality check and found non-normality issues (with the skewness values exceeding the range from -1 to $+1$). Issues of non-normality of the data collected were handled using logarithmic transformation that helps to restore normality in the distribution and equalize the variances simultaneously. The transformation helps to conform the data to additivity, normality assumptions, and constant variance required for further analysis (M. H. Hoyle, 1973). Lognormal distribution is defined as "the distribution of a variate whose logarithm obeys the normal law of probability" (Aitchison & Brown, 1957, p. 1). Logarithmic transformation artificially reduces the amount of variance to that of the normal distribution and the log normal distribution thus created is centered on the geometric mean. The model thus created from the data set conforms to the requirements of the normal law of error required for inferential purposes. We ran the normality test after log normal transformation, but could not improve it with the already recognized non-normality inherent to financial data after the market downturn of Fall 2008 (Esch, 2010).

Researchers have expressed concern over non-normal distributions and sometimes negative skewness of financial data (Fuertes, Miffre, & Tan, 2009; Taylor, Yadav, & Zhang, 2009). This is because many of the statistical procedures including regression, analysis of variance, t tests are based on the normality assumption (Field, 2009; Pallant, 2007) that is, the populations from which the samples are taken are normally distributed. Our financial data from 2009 to 2011, after the market downturn in the Fall of 2008, has minor issues of non-normality and a component-based SEM is preferable in this case considering the moderate sample size (Qureshi & Compeau,

Table 1. Average Variance Extracted (AVE) and Composite Reliability Measure of the Constructs.

	AVE	Composite reliability
Firm financial performance	0.844	0.942
Social sustainability performance	0.685	0.813
Sustainability management	0.646	0.777
Sustainability reputation	0.584	0.732

2009). We checked for multicollinearity issues using SPSS and found no multicollinearity issues with the exception of the financial data. The variance inflation factor (VIF) for NPM was 6.464 higher than 5 (i.e., tolerance level of less than 0.2) indicating possible multicollinearity (Hair, Ringle, & Sarstedt, 2011). The VIF for ROA was 4.454 and for ROI is 2.504 and all other variables having a VIF less than 2. Partial least square (PLS)-SEM data analysis helps to deal with multicollinearity among construct values (Tenenhaus, Vinzi, Chatelin, & Lauro, 2005). Eriksson, Hermens, Johansson, Verhaar, and Wold (1995) argued that “one way to circumvent the dilemma of multi-collinearity is to take benefit from it by employing multivariate projection methods, such as partial least squares projections to latent structures, PLS” (p. 220). Hence, we used PLS to perform the data analysis.

As social sustainability constructs are relatively new, have clearly directed correlation with financial data and skewed distribution, a PLS modeling approach has the necessary predictive accuracy for this research (Hwang, Malhotra, Kim, Tomiuk, & Hong, 2010; Sarstedt, 2008; Wong 2013). De Jong (1993) observed that PLS factors are determined to maximize a covariance criterion while obeying certain orthogonality and normalization restrictions. Prior research suggests that a sample of 100 to 200 observations is usually good for conducting path modelling (R. H. Hoyle, 1995) and our sample size (82×3 years = 246) exceeds this requirement. The sample size and the lack of normally distributed variables, for example, financial performance made PLS an applicable choice of technique for our study (Anderson & Gerbing, 1988; Cassel, Hackl, & Westlund, 2000; Chin & Gopal, 1995; Marsh, Balla, & McDonald, 1988). In addition, PLS is well-suited for novel studies. In studies where theories are yet to be clearly defined, PLS being less sensitive to miss-specification is preferred to maximum likelihood SEM (Cassel et al., 2000; Pew Tan, Plowman, & Hancock, 2007).

We subjected the data to factor analysis (specifically, principal components analysis with varimax rotation) as an initial data validity and reliability check. The cross-loadings of items were higher on the theoretically relevant variables than on the other constructs. Composite reliability was calculated to measure internal consistency reliability (Bagozzi & Yi, 1988; Hair, Sarstedt, Ringle, & Mena, 2012). Table 1 shows composite reliability value of each construct and all values are shown to be higher than 0.6 demonstrating high levels of internal consistency reliability (Bagozzi & Yi, 1988; Hair et al., 2012). Average variance extracted (AVE) was calculated to check convergent validity. As shown in Table 1, all the AVE values are greater than the acceptable threshold of 0.5, confirming convergent validity. Additionally, the square root of AVE for each latent variable is larger than the other correlation values among the latent variables, confirming discriminant validity (Fornell & Larcker, 1981). The square root of AVE for each latent variable (diagonal values) and the correlation among the latent variables are in Table 2. Our analysis confirms the constructs are relevant. The final constructs considered for the study include *Sustainability Management* reflected by two measures: green policies score and environmental management score. *Social Sustainability Performance* reflected by two measures: governance disclosure score and social disclosure score; *Sustainability Reputation* reflected by two measures: reputation score and green score; *Financial Performance* reflected by three measures: ROA, ROI, and NPM.

Table 2. Fornell-Larcker Criterion Analysis for Checking Discriminant Validity.

	Firm financial performance	Social sustainability performance	Sustainability management	Sustainability reputation
Firm financial performance	<i>0.817</i>			
Social sustainability performance	0.002	<i>0.827</i>		
Sustainability management	0.125	0.248	<i>0.804</i>	
Sustainability reputation	-0.045	0.289	0.422	<i>0.764</i>

Note. $N = 246$. The square root of AVE in italics are in the diagonal pattern in the table.

Table 3. Path Loadings and t Value Path Statistics.

Relationships	Path coefficient	t statistic	p value
Social sustainability performance \rightarrow Firm financial performance	-0.007	0.099	.921
Social sustainability performance \rightarrow Sustainability reputation	0.196	1.492	.136
Sustainability management \rightarrow Firm financial performance	0.176	2.684	.008
Sustainability management \rightarrow Social sustainability performance	0.248	4.107	.000
Sustainability management \rightarrow Sustainability reputation	0.373	3.716	.000
Sustainability reputation \rightarrow Firm financial performance	-0.117	0.811	.418

Note. The t statistics exhibit three statistically significant relationships with a value greater than 1.96.

Table 4. P Values and t Value Statistics for Outer Loadings.

Relationships	Path coefficients	t statistics	p values
Green policy score \leftarrow Sustainability management	0.617	5.768	.000
Env management \leftarrow Sustainability management	0.955	58.361	.000
Soc Dis score \leftarrow Social sustainability performance	0.793	11.689	.000
Gov Dis score \leftarrow Social sustainability performance	0.861	9.770	.000
Reputation \leftarrow Sustainability reputation	0.635	4.822	.000
Green score \leftarrow Sustainability reputation	0.874	12.891	.000
NPM \leftarrow Firm financial performance	0.968	98.357	.000
ROA \leftarrow Firm financial performance	0.916	35.501	.000
ROI \leftarrow Firm financial performance	0.870	15.793	.000

Note. Env Management = environmental management; Gov Dis Score = governance disclosure score; Soc Dis Score = social disclosure score; NPM = net profit margin; ROA = return on assets; ROI = return on investment.

PLS-model estimation was performed using SmartPLS. It is important to note that PLS apprehends the latent variable as weighted sums of their respective indicators (Chin & Newsted, 1999). PLS predicts values for the latent variables using multiple regressions (Fornell & Bookstein, 1982; Fornell & Cha, 1994). To test the significance of path coefficients, t values were calculated using an established bootstrapping procedure (Chatelin, Vinzi, & Tenenhaus, 2002; Chin, 1998). We ran PLS with 246 samples with stable results. The final coefficients estimated by SmartPLS are shown in Tables 3 and 4, followed by the framework and detailed structural model in Figure 2.

As indicated in the introduction, the basis of the rankings for top companies are indicators of social, environmental, and governance sustainability performance. To compare the relationships between constructs on high- and low-ranked companies, we split our original sample into two subsamples (based on the median level of rankings among firms in the sample) and analyzed them independently. The outer loadings and their respective t statistics indicated that all variables used

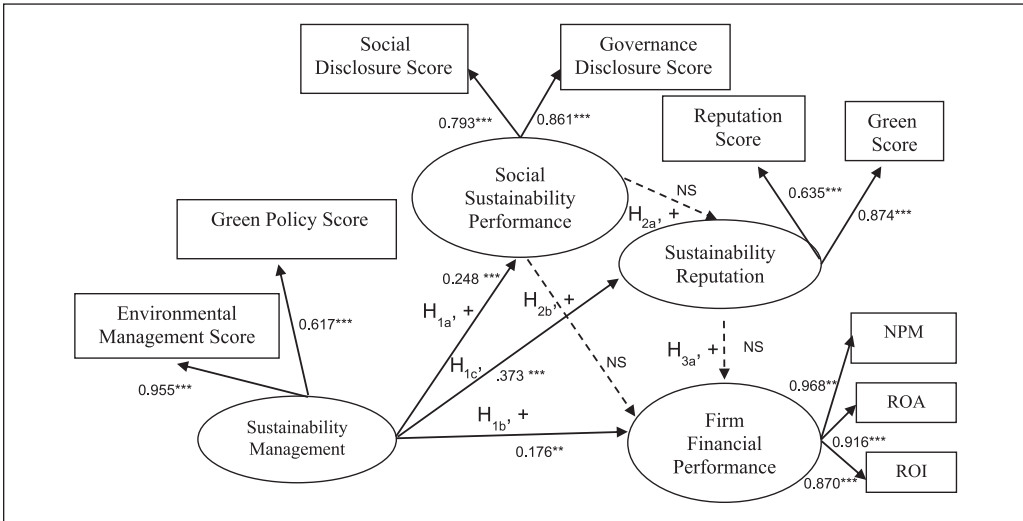


Figure 2. Framework and structural model.

Table 5. Path Loadings and t Value Path Statistics for “High” Sustainability Ranking Firms.

Relationships	Path coefficient	t statistic	p value
Sustainability management → Firm financial performance	0.165	2.037	.042
Sustainability management → Social sustainability performance	0.087	3.808	.000
Sustainability management → Sustainability reputation	0.320	2.711	.007
Social sustainability performance → Firm financial performance	0.009	0.078	.938
Social sustainability performance → Sustainability reputation	0.087	0.790	.429
Sustainability reputation → Firm financial performance	0.140	1.218	.223

Note. The t statistics exhibit three statistically significant relationships with a value greater than 1.96.

Table 6. P Values and t Value Statistics for Outer Loadings for “High” Sustainability Ranking Firms.

Relationships	Path coefficient	t statistic	p value
Green policy score ← Sustainability management	0.689	4.986	.000
Env management ← Sustainability management	0.967	41.635	.000
Gov Dis score ← Social sustainability performance	0.706	4.031	.000
Soc Dis score ← Social sustainability performance	0.871	19.151	.000
Green score ← Sustainability reputation	0.879	6.984	.000
Reputation ← Sustainability reputation	0.725	5.277	.000
NPM ← Firm financial performance	0.954	7.780	.000
ROA ← Firm financial performance	0.961	6.614	.000
ROI ← Firm financial performance	0.719	4.849	.000

Note. Env management = environmental management; Gov Dis score = governance disclosure score; Soc Dis score = social disclosure score; NPM = net profit margin; ROA = return on assets; ROI = return on investment.

in this study for measuring constructs are valid and significant (Table 4). We next conducted path analysis for both samples. The final coefficients estimated by SmartPLS are in Tables 5 to 8. As a result, of this further analysis, the paths from social sustainability performance to sustainability

Table 7. Path Loadings and *t* Value Path Statistics for “Low” Sustainability Ranking Firms.

Relationships	Path coefficient	<i>t</i> statistic	<i>p</i> value
Sustainability management → Firm financial performance	0.217	2.013	.044
Sustainability management → Social sustainability performance	0.228	2.244	.025
Sustainability management → Sustainability reputation	0.441	2.903	.004
Social sustainability performance → Firm financial performance	−0.032	0.271	.786
Social sustainability performance → Sustainability reputation	0.258	1.303	.193
Sustainability reputation → Firm financial performance	−0.253	1.102	.271

Note. The *t* statistics exhibit the same three statistically significant relationships with a value greater than 1.96.

Table 8. *P* Values and *t* Value Statistics for Outer Loadings for “Low” Sustainability Ranking Firms.

Relationships	Path coefficient	<i>t</i> statistic	<i>p</i> value
Green policy score ← Sustainability management	0.488	2.460	.014
Env management ← sustainability management	0.962	42.619	.000
Gov Dis score ← Social sustainability performance	0.937	5.215	.000
Soc Dis score ← Social sustainability performance	0.738	3.373	.001
Green score ← Sustainability reputation	0.897	9.928	.000
Reputation ← Sustainability reputation	0.539	2.600	.009
NPM ← Firm financial performance	0.978	6.747	.000
ROA ← Firm financial performance	0.936	6.345	.000
ROI ← Firm financial performance	0.906	7.290	.000

Note. Env Management = environmental management; Gov Dis Score = governance disclosure score; Soc Dis Score = social disclosure score; NPM = net profit margin; ROA = return on assets; ROI = return on investment.

reputation, social sustainability performance to firm financial performance, and sustainability reputation to firm financial performance were nonsignificant. Recommendations for further analysis of nonsignificant paths led us to complete a post hoc power analysis. The post hoc analysis provides evidence that there is enough statistical power in the sample size to support the validity of the nonsignificant finding. The analysis requires the *R*² associated with the dependent variable in conjunction with the number of predictors and the level of significance (Lowry & Gaskin, 2014). Calculations for statistical power use the *R*² value associated with sustainability reputation and firm financial performance along with specifying the level of significance at .05. The resulting calculation demonstrates a statistical power exceeding 0.9 for all nonsignificant paths. The statistical power finding exceeds the minimum value of 0.8 required to demonstrate the sample size provides the necessary statistical power (Lowry & Gaskin, 2014). Therefore, the sample size is sufficient to support the detection of significant and nonsignificant effects within the model (Lowry & Gaskin, 2014).

Examination of the individual model paths shows a significant positive relationship between Sustainability Management and Social Sustainability Performance (supporting Hypothesis 1a). The results show support for a positive significant relationship between Sustainability Management and Firm Financial Performance (supporting Hypothesis 1b). The results also support the hypothesis positing a positive relationship between Sustainability Management and Sustainability Reputation (supporting Hypothesis 1c). With no significant relationship between Social Sustainability Performance and Sustainability Reputation, we do not find support for Hypothesis 2a. Social Sustainability Performance did not have a direct and significant relationship with Firm Financial Performance, rejecting Hypothesis 2b. Similarly, the hypothesis stating a mediating role of Social Sustainability Performance in the relationship between Sustainability Management and

Firm Financial Performance does not support Hypothesis 2c. The lack of relationship between Sustainability Reputation and Firm Financial Performance, leads us to not support Hypotheses 3a and 3b in what we thought would be an important mediating role of Sustainability Reputation for the relationship between Social Sustainability Performance and Firm Financial Performance. These paradoxical findings provide opportunities for further research.

Discussion

Our study contributes to filling gaps in research in the emerging field of social sustainability in several ways, that is, highlighting the importance of managing sustainability practices, impacts on performance, the need for further investigation of reputational relationships, and new insights as to what was happening in exemplary firms during an important period of time. Most importantly, our study reveals that the *management of sustainability practices involving green policy and environmental management does play a role in improving social sustainability* in organizations (Hypothesis 1a). This can stem from the idea that the management of these practices enhances CSR behaviors resulting in increased governance and internal social sustainability performance. Ideally, such behaviors lead to increased employee retention and productivity (Wagner, 2007). The importance of managing sustainability practices is broadly consistent with, and provides further validation of prior empirical literature (Figge et al., 2002; R. A. Johnson & Greening, 1999; Shrivastava, 1995). Our findings go on to indicate, that based on traditional financial performance measures, the exemplary companies considered in this study have cost savings from the development and management of sustainability practices resulting in improved financial performance (Hypothesis 1b). We find there is higher NPM, ROA, and ROI from operations in top ranked sustainable companies over a relatively difficult recession in the United States and other countries during the period of 2009 to 2011. Notwithstanding, our sample selection limitation, that is, large firm bias, and the period of time covered by our sample, causal evidence in this study contributes to early evidence as to the role of green policies and environmental management in firms to improve their reputation (Hypothesis 1c).

The result suggests a number of managerial implications. First, the study supports the value of efforts to manage sustainability practices to enhance firm social sustainability performance and firm financial performance. Therefore, efforts and investments in a sustainability strategy should include green policies and environmental management as an opportunity to enable social sustainability and financial performance. The results of this study indicate the importance of commitment and orientation to green policies and environmental management by top management. It will also be important to have in place reinforcement and reward systems to maintain positive behaviors from employees while adhering to a corporate sustainability strategy.

Paradoxically, *social sustainability performance as measured in this study did not have a significant influence on sustainability reputation* (Hypothesis 2a). Possible explanations include companies not explicitly leveraging social sustainability for an increase in status hierarchy as much as environmental management and green policy practices. Interestingly, our findings indicate that based on traditional financial performance measures, the companies in this study do not have significant financial performance enhancement from social sustainability practices (Hypothesis 2b). Instead, and similar to earlier studies stating the substantial role of environmental sustainability performance in improving firm financial performance (Klassen & McLaughlin, 1996; Russo & Fouts, 1997), the firms in this study benefit from sustainability management practices.

Timing of the Study

As noted in the Method section, the *timing of our study is of interest to us due to the availability of new data and changing sustainability landscape*. These interesting times set apart our sample

from later years when the United States was clawing its way out of a recession and an incumbent president extended his first term into a second in the 2012 election. With strong links to a changing economy, large firms can suffer from the effects of a recession experiencing financial pressures, declining sales revenue and profits, curtailing efforts to invest slack resources in research and development or new programs. The *Economist* (2009) noted that the recession was a test of a company's commitments to sustainability, while there were reports of cutbacks to sustainability programs by (Willman, 2008). Previous literature has recognized the role of slack resources influencing sustainability practices, (Amato & Amato, 2011; Perez-Batres, Doh, Miller, & Pisani, 2012; Ullmann, 1985; Waddock & Graves, 1997). It is for these reasons we expect there was a lack of support for some hypotheses involving firm financial performance in this study. As other researchers look at time periods after our study we would not expect to see the same paradoxical findings, but instead find significant relationships to firm financial performance.

Our approach presents no problem in studying sustainable practices and subsequent performance in these firms. We hope this study can be a foundation for research testing relationships within longitudinal studies. Yet we know our sample does not capture the behavior of firms with little or no focus on managing sustainability practices and social sustainability performance. Despite these shortcomings, our findings are similar to a Pullman et al. (2009) study that did not find substantial effect of social sustainability performance on financial performance and lends support to the argument made by Labuschagne, Brent, and Van Erck (2005) that it is difficult, if not impossible, to place an economic value on all social sustainability impacts.

Thus, *social sustainability, as measured in this study does not have significant effect on reputation, nor an indirect effect in improving financial performance* (Hypothesis 2c). The results warrant further investigation as to "why" and "how" organizations engaging in social sustainability practices and the identification of key performance metrics. A possible explanation for the lack of significant relationship for high sustainability performers could be the time horizon used in this study. We can speculate a longer time horizon would have yielded similar results as is supported by Brammer and Millington (2008) where poor social sustainability performers achieved better financial results by investing on corporate social sustainability measures in the short term while high social performers attained better financial results in the long term.

Regarding a lack of significant relationships between sustainability reputation and impacts on firm financial performance (Hypothesis 3a), our findings lead us to believe the recession could affect this hypothesized relationship. Adding to the complexity of this relationship, stakeholder awareness of indices and rankings are often removed from the actual internal practices and external ranking organizations. This makes it more difficult for stakeholders and even firms to recognize direct financial benefit from emerging social sustainability practices or lagged increases in firm reputation (Hypothesis 3b) and these relationships also warrant further investigation. Continued research should look at the measurement; construct development, and relationships between social sustainability and reputation. According to Coldwell et al. (2008), high sustainability reputation can lead to superior employee acquisition because of attraction by candidates to specific organizations having higher levels of corporate social performance matching their ethical expectations. They also found that better sustainability performance may increase retention by virtue of better personal ethical fits of employees with extant organizational ethical values. In 2003, Montgomery and Ramus conducted a study on 279 MBAs from two European and three North American business schools. They found that sustainability reputation-related attributes are important in job choice decisions and 90% of the subjects "were willing to forgo financial benefits in order to work for an organization with a better reputation for corporate social responsibility and ethics" (p. 3). Franceschini (2015) finds similar results. Here, we would suggest companies that have a relatively high level of attrition rates should engage in and emphasize sustainability management and measure social sustainability outcomes. This can result in a higher reputation for sustainability that will attract and retain better employees.

Where to Focus

Companies *focusing myopically on financial measures like NPM, ROA, and ROI may not recognize a more dynamic return on investment in social sustainability practices*. These traditional financial measures may even deter the expansion of social sustainability practices if accounting for environmental and social performance is not included. Results of our analysis show a positive relationship between sustainability management and social sustainability outcomes. To this end, it is better to take a holistic systems approach to recognize and measure performance benefits from managing sustainability practices as it is often difficult to detect and causally ambiguous to explain the relationship between intangible resources like social sustainability, reputation, and performance outcome as suggested by Russo and Fouts (1997).

An interesting, yet contradicting, part of the study is the lack of significant mediating relationships between social sustainability and financial performance, along with reputation and financial performance. Lopatta, Buchholz, and Kaspereit (2016) found that firms with a high score on social performance measures are associated with lower abnormal returns. One common conclusion with this study is that, at the very least, there is no clear indication of a positive relationship between social performance and corporate financial performance using traditional financial performance indicators. This may be due to the normative (rather than instrumental) nature of social sustainability and timing of a recession. The firms we considered for this study may have achieved superior financial returns through other approaches (e.g., innovation, cost cutting, quality, and so forth) rather than through only investing resources in social sustainability or reputation.

This study does provide empirical validation of the role of managing sustainability practices in improving social sustainability performance. Some say this can happen through managing content and process of strategic decisions on growth, adapting governance mechanisms, and by considering social impact parameters along with economic profitability (Zollo, Cennamo, & Neumann, 2013). We suggest there is an opportunity for firms to further enable their reporting and marketing of social sustainability practices to stakeholders. This in turn can help capitalize on these burgeoning performance measures and a firm's sustainability reputation.

Overall, our *findings suggest the measurement of a new sustainability management construct as per the methods in this study, and that this construct has positive direct impacts on social sustainability, reputation, and financial performance*. The results help justify the need for sustainability professionals and management professionals from traditional disciplines to invest in sustainability practices. Still, the impacts of social sustainability performance and reputation on organizational change, and a more dynamic integrated bottom line (Sroufe, 2017), is not yet clear.

Limitations and Future Research

Limitations of this study include large firm bias, measures of financial performance, and parsimonious construct development. There is bias in the generalizability of this study toward large global organizations. Our analysis focuses on *Fortune 500* companies from developed economies. It will be equally important to conduct studies among small and medium organizations and compare the practices and outcomes to their larger counterparts. We propose future research should develop multiple industry and firm size perspectives to evaluate the impact of sustainable practices within for-profit organizations and emerging hybrid B Corps. We encourage future research to ascertain the influence of sustainability management on a companies' progress toward social sustainability and reputation in developing economies. Similarly, future research should investigate how small and medium enterprises, along with not-for-profit organizations perceive sustainable development, what methods are suitable to investigate the management of sustainability practices of organizations. Of critical importance will be to investigate how to evaluate these organizations since their social sustainability performance indicators can differ from those used in the large multinational for profit organizations in this study.

While we measured one side of the financial performance picture (traditional accounting measures), the model does not address the potential improvement in market value from social sustainability performance. This potential limitation of the dependent variable must be taken into account in further research. Looking at values like market value assessment which focuses on the financial market's perception of the firm can help in assessing the influence of social sustainability performance and reputation on how financial markets value such efforts. The use of market value assessment as a dependent variable may provide insight as to how social sustainability and reputation influence the perceptions of investors in financial markets.

A focus of this study was to operationalize social sustainability performance measures of exemplary firms, and we strongly believe that governance and social disclosure measures are valid proxies to measure social sustainability performance of organizations. However, we recognize the need for, and suggest research in this area should examine other variables as a proxy for social sustainability performance and the continued development of this construct.

Our study aggregated sustainability management practices and subsequent social sustainability elements taking a parsimonious approach to the measurement of constructs and model development. Future work is required in this area analyzing a more expansive list of social sustainability elements with larger samples, including examination of multiple years after a recession. It will be very important to examine the valuation of a broad array of practices with larger samples, their costs, and the resulting financial, environmental, and social performance gains as there are already over a hundred ESG measures within the GRI reporting guidelines. This will enable dynamic measurement and modeling in the future.

We want to encourage future research and investigation into social sustainability practices of exemplary firms. Future researchers attempting to identify predictors of a firm's propensity for social performance should start with the fundamental building blocks identified in this study. Continued research should look for the presence of mediating relationships within industry sectors, or within multimethod studies involving secondary and primary data including field-based research. We need more research to understand indirect impacts from social sustainability and reputation as we work toward understanding the shared value (Porter & Kramer, 2011) proposition of social sustainability practices. By investigating dimensions of social sustainability of firms and their relationships to overall performance, we will be able to advance knowledge and understanding of social sustainability practices while integrating this learning (Ellinger, Ellinger, Yang, & Howton, 2002) into management practices and pedagogy. Future research should take the integration of the social/financial performance relationship further by investigating the valuation of social benefits to further test direction and strength of these relationships to other meaningful management performance variables and constructs.

Conclusions

There have been a small but growing number of studies on sustainability considering social sustainability performance. We wanted to explore two general questions of how can we operationalize multiple dimensions of sustainability, and has social performance lived up to the promises made on its behalf? In answering these questions, a contribution of this study includes operationalizing and empirical validation of hard to measure sustainability management, social sustainability performance, and sustainability reputation constructs. We chose *Fortune* 500 companies in this study for their broad set of sustainability initiatives involving environmental and social practices. One of the strengths of our study is the use of multiple sources and years of data for our analysis.

The outcomes of this study highlight the importance of managing sustainability practices and associated social sustainability performance. We find significant direct relationships between new constructs involving sustainability management, social sustainability, and sus-

social sustainability living up to all the promises made on its behalf. We did not find significant relationships between social sustainability and reputation, along with social sustainability and financial performance.

Other insights include decision makers and other stakeholders need to see the value in improving organizational performance through the management of sustainability practices and social sustainability performance. Without understanding these practices, they will not have confidence in investing in social sustainability. We suggest financial performance should not be the only factor considered when evaluating organizational performance in relation to social sustainability practices. As more social and governance performance metrics become available for publicly traded firms and hybrid organizations such as B Corps, there will be continued opportunities for further research and construct development involving social sustainability, reputation, and performance.

We predict that current accounting and financial measures may not be accurate performance indicators for social sustainability practices in the future. Consequently, we call for a more inclusive valuation of ESG outcomes within integrated reporting. Managers can look into alternatives to traditional financial measurement to capture firm performance. Alternatives are within guidelines for materiality such as the GRI and Sustainability Accounting Standards Board. Managers can also start with quality and environmental performance gains to derive cost impacts from sustainability programs in order to have better ROI from newer social sustainability initiatives.

Theoretical Contributions

Despite recent developments in social sustainability literature, the effects of sustainability management and sustainability reputation on social sustainability performance remain controversial and rare (Boutillier, 2017; Fung, Graham, & Weil, 2007; McKenzie, 2004; Tietenberg, 1998). A question invariably recurs in discussions about sustainability reputation: does sustainability reputation have a causal effect on firm financial performance? (McMillan & Joshi, 1997). To try and help answer this question, we use multiple data sources to look at impacts of sustainability management on sustainability reputation, social sustainability performance, and financial performance. Unlike studies evaluating single item measures and information releases, the approach taken in this study allows investigation into social sustainability relationships using multiple measures. The results provide a dynamic insight and contribution to corporate stakeholder theory development in the evolving field of sustainability and management (Cornell & Shapiro, 1987). We explore the possible relationships linking corporate-level sustainability management to financial outcomes. These underlying mechanisms are very poorly understood in the existing literature, and we know of no other empirical studies systematically considering the effects on sustainability management through social sustainability performance and sustainability reputation on firm financial performance.

Managerial Implications

It is important to acknowledge the development of constructs and findings within this study as the management of sustainability practices positively affecting social sustainability performance. Yet a lack of social sustainability affecting firm financial performance and reputation implies the need for increased communication and understanding of material social sustainability practices. Communication should include internal and external stakeholders, value chains, and end customers. Results of this study should encourage managers to include social performance metrics and available standards within management systems including planning, governance policies, decision making, implementation, and communication, so that they can improve and integrate social sustainability performance.

Appendix A

List of Organizations in This Study.

Intel Corporation	ConAgra Foods Lamb Weston, Inc./Alexia Foods, Inc.
Kohl's Department Stores	DaVita Inc./Central Business Offices
DuPont Company	The Dow Chemical Company/Corporate Headquarters
Whole Foods Market	IBM Corporation/Austin, TX, Facilities
Johnson & Johnson	Sanofi-Aventis/Genzyme Corporation
Starbucks	Hartford Financial Services Group
Staples	Amerigroup Corporation/Virginia Beach National Support Ctr.
Lockheed Martin Corporation	Altria/Center for Research & Technology Facility
Cisco Systems, Inc.	State Farm/Austin Operations Center
BNY Mellon	AT&T Services, Inc./Austin, TX, Facilities
BD (Becton Dickinson)	Monsanto/Agracetus Campus
Kimberly-Clark Corporation	Oracle Corporation/Austin Facility
Sprint	Macy's, Inc./26 California and Hawaii Stores
State Street Corporation	Wells Fargo/Duke Energy Center
Lowe's	General Dynamics Land Systems/Central Office
Boeing/South Carolina	Time Warner Cable—Central Texas
NYSE Euronext	Biogen Idec/Weston Campus
Best Buy	Ingram Micro, Inc./Headquarters, Santa Ana, CA
Safeway Inc.	Yahoo! Inc./Santa Clara Campus
Dell Inc.	Agilent Technologies/Santa Clara Operations
Google Inc.	Goodrich Corporation/Landing Gear Division, Tullahoma, TN
Citi	John Deere Co./Dallas, TX, Parts Depot
Motorola Mobility, Inc.	3M/Austin, TX Facilities
Rockwell Collins, Inc.	Medtronic/Spinal and Biologics
The Coca-Cola Company	Live Nation/San Francisco
Whirlpool	United Parcel Service (UPS)/4 CA Facilities
Fifth Third Bank	American Express/South Florida Facilities
Baxter International Inc.	ARAMARK Parks & Destinations
Office Depot	Autoliv/Ogden Facility
PepsiAmericas, Inc.	CH2M Hill/Pacific NW Region
Raytheon Company	Ford Motor Co./US Manufacturing Facilities
FedEx Office	General Motors/Customer Care Aftersales
Nike, Inc.	JPMorgan Chase & Co.
Applied Materials, Inc.	Wal-Mart Stores, Inc./California and Texas Facilities
BMO Harris Bank	Advanced Micro Devices/Austin, TX, Facilities
GE Healthcare/Headquarters	Apollo Group, Inc./University of Phoenix
Hewlett-Packard	MetLife/Owner Occupied Facilities
Capital One	Johnson Controls, Inc./Building Efficiency
Pitney Bowes	The Estée Lauder Companies Inc./Operations
AECOM/Environment Division	Southwest Airlines Co./Dallas & Houston Operations
Apple Computers/Austin, TX	United Services Automobile Association (USAA)

Appendix B

Operationalization of Constructs.

Constructs	Indicators	Unit of measurement
Sustainability Management	<i>Environmental management score</i> (Newsweek ecological footprint, programs, targets, certifications)	Rating system with “100” being the maximum score and “0” being minimum score
	<i>Green policy score</i> (Newsweek proactive sustainability management, climate change, pollution and performance)	Rating system with “100” being the maximum score and “0” being minimum score
Social Sustainability Performance	<i>Governance disclosure score</i> (Bloomberg board structure, diversity, gender, independence, CEO gender, executive diversity, committee composition, shareholder rights)	Rating system with “100” being full disclosure and “0” being no disclosure
	<i>Social disclosure score</i> (Bloomberg workforce diversity, gender, minorities, incident rates, safety, extensions to supply chains)	Rating system with “100” being full disclosure and “0” being no disclosure
Firm Sustainability Reputation	<i>Green score</i> (Newsweek: composite environmental impact, management, and disclosure scores)	Rating system with “100” being the maximum score and “0” being minimum score
	<i>Reputation score</i> (Newsweek survey of professionals, academics, experts assessment of leading or lagging firms)	Rating system with “100” being the maximum score and “0” being minimum score
Firm Financial Performance	<i>Net profit margin</i> (NPM)	% net income to sales revenue
	<i>Return on assets</i> (ROA)	% of net income to total assets
	<i>Return on investment</i> (ROI)	% return on investment

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