ABSTRACT

Described as the holy grail of social responsibility (Jorgensen and Knudsen, 2005) the relationship between social performance and financial performance represents one of the most questioned areas of sustainable business practices (Angelidis et al., 2008, Schrettle et al., 2014). The proposed research uses a yet uncovered sample of Fortune 500 exemplary firms recognized as participants in the Environmental Protection Agency’s Green Power Partnership; Newsweek Green rankings; The Corporate Knights Global 100; and the 100 Best Corporate Citizens list and upon analysis, we found that the social sustainability performance neither significantly affects reputation nor firm financial performance, and questions whether financial performance is too myopic of a construct for firm performance for future research involving social sustainability practices.

KEYWORDS: Social Sustainability Performance, Sustainability Reputation, Firm Financial Performance, Sustainability Management
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 possible, a violation of the fiduciary duty of managers to shareholders (Stout, 2012). Conventional wisdom, in fact, 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. In 1991, however, Porter challenged these entrenched beliefs and sparked a debate, which not only increased theoretical and practical interest in the possibility that profitability and sustainability were not mutually exclusive goals but, ultimately, brought about a dramatic shift in manufacturers’ attitudes toward a new more sustainable management paradigm enabled by environmental management practices (Porter, 1991).

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, the social practices management engages in providing opportunities to reduce waste in the workforce while providing a culture for more engaged, productive workers that enhance the social performance, brand and reputation of the organization. With the continued questioning of the fundamental relationship between the social practices of a triple bottom line and financial performance comes a burgeoning area of research in the development of social performance measurement embedded in sustainability. Proof of international focus on defining and operationalizing social performance can be found in the International Organizations of Standards (ISO) 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 acknowledgement of the importance of social performance can be found in 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 7,000 firms using GRI and over 18,000 publicly available reports (GRI, 2015). GRI and ISO international acceptance is predicated on the promise of certain benefits. First, this relatively new series of ISO standards was argued to be the next logical step forward given the successes of the quality standard ISO 9000 and its automotive industry variant QS 9000 (Miles and Russel, 1997; Block and Marash, 1999; Caillibot, 1999; Reid, 1999; Corbett and Kirsch, 2001); and ISO 14000 environmental management standards success and relationships to firm performance (Sroufe, 2003; Curkovic and Sroufe, 2011; Darnall, 2006; Albuquerque et al., 2007; Darnall et al., 2008). Second, ISO 26000 is promoted as the standard that would complement criteria found in the Global Reporting Initiative. Third, these measurement and reporting standards focus on the processes involved in the 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. Fourth, supporters’ lauded these measurement and reporting frameworks for their focus on the crucial role played by measurement and management in overall corporate performance.
Despite these promised benefits, a large gap still remains in research that goes beyond theoretical development and testing of “environmental” performance practices. This study fills this gap in the literature by exploring and assessing the impacts of sustainability management, social sustainability performance, and sustainability reputation on firm financial performance. Opportunities for research are now apparent through addressing the following question: has social performance lived up to the promises made on its behalf? To date, little systematic research has been devoted to finding the answers to this question. Contemporary research questions still involve the extent to which environmental practices internally and across supply chains contribute to performance. There is now a critical need to understand the role and impacts of social practices, and this study addresses three basic questions while exploring internal sustainability practices of large multinational firms:

1. What activities and variables represent
   a. sustainability management,
   b. social sustainability performance, and a
   c. sustainability reputation?

2. How does the presence of these constructs affect firm financial performance?

3. Does a firm derive tangible benefits from having these activities?

These questions will be examined using secondary data sources. Structural equation modeling of a purposefully selected sample of firms sheds light on social performance activities while simultaneously examining several posited relationships between these activities and financial performance variables. The remainder of this paper is organized as follows. We start with review relevant literature showing the importance of socially sustainable practices in organizations followed by its relationship to financial performance. We then apply theory and results from extant literature to present the structural model with hypothesis to test proposed relationships in the model. We then describe the research methodology and analysis followed by discussion of the results. We conclude with implications for managers and opportunities for future research.

LITERATURE REVIEW

Sustainability initiatives and subsequent discussion on ‘win-win’ situations often ignored the social benefits and are often focused on the ecological and economic benefits (Littig and Griessler, 2005; Simola, 2012) when sustainability initiatives in a firm are supposed to improve economic prosperity, environmental responsibility, and social justice commonly referred to as “Triple Bottom Line” (Elkington, 1997). Since sustainability initiatives are about long-term foresight, an organization can be considered sustainable only if it takes steps to secure or improve its competitiveness in social, environmental and ecological aspects of sustainability. Earlier researchers have rarely looked upon the social sustainability (Hutchins and Sutherland, 2008; Simola, 2012) and its influence on the firm performance. This prior trend in overlooking the elements of social sustainability is now changing as programmatic approaches and standards provide a foundation to international
awards, indices, and rankings.

In order to improve financial performance through quality improvement, organizations include sustainability measurements in their quality management programs. The Baldrige National Quality program (2009) has 15 percent social sustainability measures that improves quality and hence result in financial performance (Pullman et al., 2009). Deming’s 14 point program also focuses on quality improvement through social sustainability practices (Wicks, 2001). Countries around the world recognize the organizations with high social sustainability performance. The decision criteria to evaluate social sustainability performance may vary between countries. For e.g. in Canada the top 100 socially sustainable businesses are recognized by a competition evaluated by a distinguished academic advisory board, drawn from universities across Canada. Each panel member has either edited or written a major human resources textbook in Canada (Jermyn, 2014). The businesses are evaluated for their social sustainability performance based on eight key areas: 1) physical workplace; 2) vacation and time off; 3) employee communications focused on how employers capture employee feedback; 4) work and social atmosphere; 5) health, financial, and family benefits; 6) performance management; 7) training and skills development; and 8) community involvement (Jermyn, 2014).

Willard (2005) argued that pressure for social responsibility from green consumers, governmental and non-governmental organizations has increased the focus of researchers on the social sustainability performance of companies, both in developing and developed countries. Social sustainability means “undertaking adequate social analysis and assessment, which in turn allows for adequate identification of social opportunities, as well as adequate mitigation of social impacts and risks” (“Social Development”, 2013). Building on the definition by McKenzie (2004), we define social sustainability performance as social impacts of the organizational routines and processes, and the measure of growth and development enhancing condition existing within organizations to achieve various social goals for the organization. It is the main response to growing expectations from organizations on various social goals apart from ensuring profitability (Matten and Moon, 2008; Sharma and Henriques, 2005).

Previous studies have looked upon social sustainability issues like how companies perform with respect to their citizenship/ philanthropy, legislative issues, human health and safety issues (Caroll 1994, 1998, 1999; Seuring, 2004; Kleindorfer, Singhal, and Wassenhove, 2005) to measure social sustainability performance. The United Nations Environmental Program (UNEP) has partnered with Society of Environmental Toxicology and Chemistry (SETAC) 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 (UNEP, 2001). This collaboration has indicated that further consideration need to be given to social and ethical dimensions of sustainability. Even though there has been a global movement towards considering social aspects along with environmental aspects while performing sustainability analysis, business community has not given the social and ethical dimensions of sustainability equal importance as that of economic benefits since the social and ethical benefits are less tangible (Remmen et al., 2007). Several researchers tried to integrate human resource considerations to existing life cycle analysis by including social and political factors (O’Brien et al., 1996), promotion of human health, human dignity and basic needs fulfillment (Dreyer et al., 2006).

The concept of corporate social responsibility acknowledges the relevance of social
sustainability and it mainly focuses on the ethical behavior related to environment, economy and society (ISO 2004). Researchers were successful in pointing out that social and ethical practices in organizations can in fact make those businesses profitable (London et al., 2010; Prahlad, 2004; Prahlad and Hammond, 2002). Businesses can improve social sustainability performance through building social capital internally. “The term social capital captures the idea that social bonds and norms are critical for sustainability” (Pretty, 2003, p. 1912). “As social capital lowers the transaction costs of working together, it facilitates cooperation” (Pretty, 2003, p. 1913).

Internal social sustainability performance stems from recognizing, valuing and promoting the capability of employees with appropriate policies and practices within organization (Daily and Huang 2001; Wilkinson et. al., 2001). Social sustainability practices not only focus on internal communications but also on both external and internal communities and includes providing equal opportunities, ensuring quality of life, encouraging diversity, and providing demographic process and accountable governance structures (Pulliman et al., 2009; Elkington, 1994). Richardson et al. 2001 found that social disclosure can positively influence 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 social performance measure. In this study we used Bloomberg provided social disclosure measure as one of the social sustainability performance measure. Cochran and Wood (1984) made no differentiation between social disclosure and social performance since social disclosure measures social performance and found positive correlation between social disclosure and two of three economic performance measures. ’Social disclosure score’ from Bloomberg assesses performance with regard to social sustainability policies and practices within the organization.

The effect of Governance disclosure score, as a measure of social sustainability performance stems from the fact that governance helps a leader in transforming a company into a socially sustainable enterprise (Szekely, and 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 et al. (2013) found that corporate governance attributes play a vital role in ensuring organizational legitimacy and social performance while examining the relationship between governance and extend of disclosure in the annual report of Bangladeshi companies. In the context of Bangladesh, Belal and Roberts (2010) observed that companies committed to social performance encourage more governance disclosure than those who are less committed to the social performance. It may stem from the fact that ethical management would promote corporate governance mechanisms such as greater board independence and audit committee and CSR initiatives for higher social performance and higher disclosure (Khan et al., 2013). In order to capture resulting social sustainability performance from governance structures existing within the organization, we used governance disclosure score collected from Bloomberg. The social sustainability performance is thus reflected on two ‘Bloomberg’ provided measures: governance disclosure score and social disclosure score.

According to resource based view, intangible resources such as reputation significantly contribute to firm performance because they are rare, inimitable, non-substitutable and valuable (Barney, 1991; Amit and Schoemaker, 1993). Wiley and Zald (1968) argued that reputation creates a desirable image for the organizations, helps to garner resources and
helps in long term survival. Rao (1994) observed that reputation is an outcome of the process of legitimation. 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, ratings agencies, and governmental regulators may endorse an organization. Newsweek Green Ranking’s reputation score is “calculated from CorporateRegister.com surveys of corporate social responsibility professionals, academics, environmental experts, and industry executives” (Lyon and Shimshack, 2012, p.3) and was used as another indicator of sustainability reputation. Reputation scores reflects various perceptions about a firm like whether the firm is a leader or laggard within its sector on environmental performance, commitment, and communications relative to others within the same industry (Lyon and Shimshack, 2012). In our study, we have used ‘Newsweek Green Rankings’ measures: ‘reputation’ and ‘green score’ as indicators of sustainability reputation.

Our planet is witnessing human-induced changes negatively affecting sustainability. Shrivastava (1995) identified that sustainability problems associated with organizational activities have increased significantly and argued for sustainability management to attain sustainable development for corporations. In this study, we use Newsweek Green Rankings ‘environmental management’ score as one of the measures of sustainability management. A holistic planning for sustainability management requires the existence of green policies in organizations. Green policies and potential fines to avoidance of green policies may be viewed as a long term commitment to sustainability and continued profitability according to a study conducted by Johnson and Greening (1999). To this end, we used ‘green policies’ from ‘Newsweek Green Rankings’ as the second reflective measure of sustainability management. Newsweek Green Ranking’s green policies score was calculated from sustainability measures developed by the social investment from KLD Research and Analytics (Lyon and Shimshack, 2012). Green policy scores capture different sustainability management measures like proactive environmental management, climate change policies and performance, pollution policies and performance, and product impacts relative to others within the same industry (Lyon and Shimshack, 2012). Thus, and in trying to take a parsimonious approach to construct development, sustainability management is reflected on two measures: environmental management score and green policies scores.

Mcquire et al. (1988) used return on assets (ROA), total assets, sales growth, asset growth, and operating income growth to compare the social performance to the financial performance. Preston and Obannon (1997) also used the traditional financial indicators return on assets (ROA), return on investment (ROI) and return on equity (ROE) to compare corporate social indicators and financial performance and found a strong positive correlations in contemporaneous and lead lag formulations. We have used traditional financial indicators return on investment, return on assets and net profit margin as financial performance side of the relationship (Mcguire et al., 1988; Preston and O'bannon, 1997; Vickery et al., 2003). We take this traditional approach as a proxy for firm performance while also caveating this approach with a call for a more holistic approach to performance that will be necessary in the future to capture non-financial indications of performance such as a firm’s level of GRI reporting, rankings and scoring within industry indices.
HYPOTHESES

Companies are increasingly being asked to provide more and better information on how they identify and manage sustainability issues. It is not a one-time management decision and requires continuous assessment of sustainability management in companies (Szekely and Knirsch, 2005). Epstein and Roy (2001) argued that “by carefully 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 introduced a framework with detailed systems, structures and measures for long term management that are necessary to change organizational culture and process to improve social sustainability performance and financial performance.

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

H1a: Sustainability management positively influences the social sustainability performance.

Schaltegger and Synnestvedt (2002) argued that not only the level of sustainability performance, but also the kind of sustainability management with which a certain level is achieved, influences the financial outcome of the organizations. Figge et al. (2002) found that sustainability management with balanced scorecard helps in integrating the three pillars of sustainability into a single and overarching strategic management tool that significantly impact the economic success of a business. Claver et al. (2007) did a case study on COATO farming cooperative to clarify the relationship between sustainability management and economic performance and found a positive correlation exists between the pioneering proactive sustainability strategy adopted by the cooperative and the improvements of its firm performance with respect to other firms in its sector.

Montabon et al. (2007) studied the relationship between sustainability management practices and firm financial measures including return on investment (ROI) and sales growth and the results supported previously posited relationships based on traditional data and indicated that sustainability management practices are positively associated with firm financial performance. The study by Wagner (2007) found that if sustainability management aims at improving social aspects along with environmental aspects with regard to worker satisfaction, recruitment and retention, it can lead to reduced intra-firm conflicts between functions or goals of different departments, internal stakeholders, shareholders and managers, and subsequently lead to better financial performance. They found that improved financial performance from sustainability management is made possible through better product image, sales and new market opportunities. Hence we hypothesize,

H1b: Sustainability management leads to improved 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 and Van Riel, 1997; Scott and 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 and Kottasz, 2000). For the same reason, sustainability management and its relation to sustainability reputation needs high attention in research and practice. Bebbington et al. (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).

Sustainability reputation like any other reputation takes “time to create, cannot be brought and is easily damaged” (Scott and Walsham, 2005, p. 312). Fombrun et al. (2000) argued that reputational “capital” is at risk in everyday interactions between organizations and their stakeholders with risks from many sources like strategic, operational, compliance and financial and hence managing the sustainability initiatives in organizations are extremely important. Bebbington et al. (2008) found a positive relationship between good quality management and corporate reputation. The UNEP (2002) Survey of Corporate Sustainability Reporting mentioned sustainability as achieving the alignment of brand, reputation and reporting (UNEP/SustainAbility, 2002). The Global Reporting Initiative guidelines (GRI, 2002) also confirms the role of sustainability management in building reputation for organizations (Global Reporting Initiative (GRI), 2002). Hence we hypothesize,

H1c: Sustainability management positively influence sustainability reputation

Proponents of the business argument for reporting sustainability performance claim enhancement of the disclosing firm’s reputation as a major benefit to issuing the report (Brown et al., 2010). Several frameworks are available for reporting social sustainability performance along with environmental performance. Global Reporting initiative is one of the best ones among them (Brown et al., 2009). Simnett et al. (2009) found that companies enhance the credibility of their sustainability reports and build their reputation by assuring their sustainability reports from independent assurers that may or may not be from the auditing profession. According to research by Kolk (2005a and 2005b) and Palenberg et al. (2006), firm sustainability reputation and brand recognition are the main reasons for reporting sustainability performance.

Toms (2002) and Hasseldine et al. (2005) argued that increased sustainability performance and their subsequent reporting is a way to increase a firm’s reputation. Their studies have looked at how sustainability performance disclosure result in enhanced reputation following agency and signaling theories within resource based approach. Study by Michelon (2011) found that companies use sustainability disclosure to communicate ‘legitimacy to operate’ to stakeholders. His study concluded that companies disclosing their sustainability performance and showing their commitment to stakeholders, get positive reputation from media exposure. Hence we hypothesize,

H2a Social sustainability performance positively influences sustainability reputation.
Richardson et al. (2001) claimed 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 fulfill social objectives” p. 598. Epstein (2004) also used social disclosure as social performance measure and found the same relationship between the cost of capital and social disclosures/performace. Early researches concluded that social sustainability practices like employee knowledge enhancement, employee involvement programs and improving employee attitudes and satisfaction have improved quality performance and lead to financial performance in organizations (Flynn et al., 1995; Adam et al., 1997). Johnson (2006) found that worker participation and training improves social sustainability performance which may lead to financial performance.

Previous studies established a significant positive relationship between employee attitudes and satisfaction, employee development and involvement programs and overall quality improvements which results in improved financial performance and sustainable competitive advantage (Flynn et al., 1995; Adam et al., 1997). Daily and Huang (2001) established that human resource and organizational behavior practices improve social sustainability performance in organizations leading to financial performance. Waddock and Graves (1997) found a significant positive relationship between an overall corporate social performance index and firm financial performance. Better worker safety programs and social sustainability employee programs reduce cost of production and improves firm’s financial performance (Brown 1996; Brown et al., 2000).

The financial performances resulting from social sustainability performance can be explained by modern corporate stakeholder theory (Cornell and Shapiro, 1987). From the view point of modern corporate stakeholder theory, firm’s resources are beyond the bondholders and stockholders to include employees within the organization. Cornell and Shapiro (1987) have noticed that firms with socially sustainable practices have more low-cost implicit claims than other firms, leading to higher financial performance. Lack of socially sustainable practices can also discourage investors as they perceive higher risk in investing such firms (Alexander & Bucholtz, 1978; Spicer, 1978).

Mcguire et al. (1988) noted that perceptions of low social sustainability may decrease a firm’s ability to obtain capital at constant rates and to have more stable relationship with the financial community and the government. Ellinger et al. (2002) used ROI and ROA along with Tobin’s q to empirically assess the relationship between the learning organization concept and financial performance. ‘Learning organization’ concept focus on socially sustainable practices in the organization from learning like acquiring, improving, and transferring knowledge, facilitating individual and collective learning, and integrating and modifying behaviors and practices of the organization and its members (Appelbaum and Reichart, 1998; Leitch et al. 1996). They have found a significant positive relationship between learning organization concept and financial performance indicating a payoff for organizations having high socially sustainable performance. Hence we hypothesize,

H2c: Social sustainability performance mediates the relationship between sustainability management and firm financial performance.
H2d: Social sustainability performance mediates the relationship between sustainability management and sustainability reputation.

According to resource based view, reputation is one such valuable resources which
lead to improved firm financial performance and create a sustainable competitive advantage for the firm (Barney, 1991). Robert and Dowling (2002) confirmed a positive relationship between reputation and firm financial performance. The corporate reputation can be understood as a fundamental intangible source which can be created by investing in social sustainability activities and disclosure (Branco and Rodrigues, 2006). Riordan et al. (1997) suggested that employees’ reactions to firm’s actions will often be based on the image of the firm. The firms with high sustainability reputation can attract better job applicants, increase employees motivation, morale, commitment and loyalty to the firm which may in turn improve financial performance (Branco and Rodrigues, 2006).

Klassen and McLaughlin (1996) studied the linkage between sustainability reputation from strong sustainability management and firm performance. The linkage to firm performance was empirically tested using financial event methodology and archival data of firm level financial and financial performance. They found that those companies with high sustainability reputation from strong environmental management resulting in awards tend to financially outperform significantly from its competitors. This connection between sustainability reputation and improved firm financial performance is the premise for our next hypothesis. The Economist has argued that “the era of corporate image, in which consumers will increasingly make purchases on the basis of a firm’s whole role in society: how it treats employees, shareholders, and local neighborhoods” (Economist 1994, p.71). Based on this logic, increase in purchases from firm sustainability reputation can positively influence firm financial performance. Hence we hypothesize

H3a: Sustainability reputation leads to improved firm financial performance.

H3b: Sustainability reputation mediates the relationship between social sustainability performance and firm financial performance.

Our study’s research hypothesis, which encompass sustainability management and social sustainability performance and sustainability reputation and their posited financial performance outcomes are displayed in Figure 1.
Figure 1

Conceptual model: The Mediating Effect of Social sustainability Performance

METHODS

A purposeful sample was sought out to highlight and test relationships within large multinational firms recognized for their sustainable practices. The 82 sample firms are all recognized by each of the following organizations over multiple years by Newsweek’s rankings of green companies, The Corporate Knight’s Global 100, and a firm being included on the 100 Best Corporate Citizens listing, and they are involved in GRI reporting. Bloomberg terminal was used to collect social disclosure score and environmental disclosure score. For the purpose of this study, sustainability management is reflected by green policies score and environmental management score; social sustainability performance is reflected by two measures: governance disclosure score and social disclosure score and sustainability reputation is measured by ‘reputation’ and ‘green score’ of the company. Financial data on the firms has been pulled from Bloomberg and Compustat including return on assets (ROA), return on investments (ROI), and net profit margin (NPM). The constructs, indicators and units of measurement are shown in a tabular form in table 1
<table>
<thead>
<tr>
<th>Constructs</th>
<th>Indicators</th>
<th>Unit of measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainability Management</td>
<td>a) Green policies score</td>
<td>Rating system with “100” being the maximum score and “0” being minimum score</td>
</tr>
<tr>
<td></td>
<td>b) Environmental management score</td>
<td>Rating system with “100” being the maximum score and “0” being minimum score</td>
</tr>
<tr>
<td>Social sustainability</td>
<td>a) Governance disclosure score</td>
<td>Rating system with “100” being full disclosure and “0” being no disclosure</td>
</tr>
<tr>
<td>performance</td>
<td>b) Social disclosure score</td>
<td>Rating system with “100” being full disclosure and “0” being no disclosure</td>
</tr>
<tr>
<td>Firm Financial Performance</td>
<td>a) Return on Investment</td>
<td>Percentage return on investment</td>
</tr>
<tr>
<td></td>
<td>b) Net profit margin</td>
<td>Percentage of net income to sales revenue</td>
</tr>
<tr>
<td></td>
<td>c) Return on Assets</td>
<td>Percentage of net income to total assets</td>
</tr>
<tr>
<td></td>
<td>a) Green score</td>
<td>Rating system with “100” being the maximum score and “0” being minimum score</td>
</tr>
<tr>
<td>Sustainability</td>
<td>b) Reputation score</td>
<td>Rating system with “100”</td>
</tr>
<tr>
<td>---------------</td>
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</tr>
<tr>
<td>Reputation</td>
<td></td>
<td>being the maximum score and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“0” being minimum score</td>
</tr>
</tbody>
</table>

### Data Analysis

Our empirical study combines different secondary data sources: Newsweek Green rankings, Bloomberg and Compustat for three years 2009, 2010, and 2011 in order to minimize the potential threat of common method variance affecting the results of the analysis (Podsakoff et al., 2003). We collected data points 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 for multiple measures. Of the 82 companies finally considered for the study, we did ‘Little 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=0.284, which shows the missing values were random.

To handle the missing data issues, multiple imputation was used whereby observed values are used to generate a range of plausible values. In 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 and Olsen, 1998). This was followed by normality check and found non-normality issues (with the Skewness and Kurtosis values exceeding the range from -1 to +1). The issues of non-normality of the data collected was handled using logarithmic transformation that helps to restore normality in the distribution and equalize the variances simultaneously. The transformation supposedly conforms the data to additivity, normality assumptions and constant variance required for further analysis (Hoyle, 1973). Lognormal distribution is defined as “the distribution of a variate whose logarithm obeys the normal law of probability” (Aitchison and 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 run the normality test after log normal transformation, but couldn’t improve much with the non-normality inherent to financial data especially after the market downturn of fall 2008 (Esch, 2010).

Financial quantitative researchers have expressed serious concern over the non-normal distribution and sometimes negative skewness of the financial data (Taylor et.al, 2009, Fuertes et al., 2009) because many of the statistical procedures including regression, analysis of variance, t tests are based on the normality assumption (Field, 2009; Pallant, 2007) i.e. the populations from which the samples are taken are normally distributed. Our financial data from 2009-2011, after the market downturn in the fall of 2008, had issues of non-normality and a component based SEM is preferable in this case considering the moderate sample size and non-normality issues (Qureshi, & Compeau, 2009). We also
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checked for multicollinearity issues using SPSS and found no multicollinearity issues except for financial data. The VIF for NPM was 6.464 higher than 5 (i.e. tolerance level of less than 0.2) indicating possible collinearity problem (Hair et al., 2011). The VIF for ROA was 4.454 and for ROI is 2.504 and all other variables were having VIF less than 2. PLS-SEM data analysis helps to deal multi-collinearity among construct values (Tenenhaus et al., 2005). Eriksson et al. (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 chose PLS to perform the data analysis.

The PLS modelling approach is used in this study as social sustainability constructs selected have little available theory, have clearly directed correlation, financial data have skewed distribution and predictive accuracy is paramount for this research (Hwang et al., 2010; Wong, 2010; Wong 2013; Sarstedt, 2008). Moreover, 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 (Hoyle, 1995) and our sample size ( 82 x 3 years = 246) exceeded this requirement. Although the results of hypothesis testing were similar using multiple regression and structural modeling using PLS, we preferred the latter because the constructs could be measured with multiple indicators.

We submitted 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 and Yi, 1988; Hair et al., 2012). Table 2 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 and Yi, 1988; Hair et al., 2012). Average variance extracted (AVE) was calculated to check convergent validity. Again from table 2, convergent validity is confirmed, as all of the AVE values are greater than the acceptable threshold of 0.5. The discriminant validity is established as the square root of AVE for each latent variable is larger than the other correlation values among the latent variables (Fornell and Larcker, 1981). The square root of AVE for each latent variable and the correlation among the latent variables are given in the table 3. We concluded the constructs were relevant and the final four constructs considered for the study included social sustainability performance reflected by two measures: governance disclosure score and social disclosure score, financial performance reflected by three measures: ROA and ROI and NPM, sustainability reputation reflected by two measures: reputation score and green score, and sustainability management reflected by two measures: green policies score and environmental management score.
The Relationship between Sustainability Management and Firm Performance of US Firms

Table 2

AVE and Composite Reliability measure of the constructs

<table>
<thead>
<tr>
<th></th>
<th>AVE</th>
<th>Composite reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm Financial Performance</td>
<td>0.844</td>
<td>0.942</td>
</tr>
<tr>
<td>Social Sustainability Performance</td>
<td>0.685</td>
<td>0.813</td>
</tr>
<tr>
<td>Sustainability Management</td>
<td>0.646</td>
<td>0.777</td>
</tr>
<tr>
<td>Sustainability Reputation</td>
<td>0.584</td>
<td>0.732</td>
</tr>
</tbody>
</table>

Table 3

Fornell-Larcker Criterion Analysis for Checking Discriminant Validity

<table>
<thead>
<tr>
<th></th>
<th>Firm Financial Performance</th>
<th>Social Sustainability Performance</th>
<th>Sustainability Management</th>
<th>Sustainability Reputation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm Financial Performance</td>
<td>0.817</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Sustainability Performance</td>
<td>0.002</td>
<td>0.827</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainability Management</td>
<td>0.125</td>
<td>0.248</td>
<td>0.804</td>
<td></td>
</tr>
<tr>
<td>Sustainability Reputation</td>
<td>-0.045</td>
<td>0.289</td>
<td>0.422</td>
<td>0.764</td>
</tr>
</tbody>
</table>

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

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 and Newsted, 1999; Fornell and Cha, 1994). PLS predict values for the latent variables using multiple regressions (Chin 1998; Chin and Newsted, 1999; Fornell and Bookstein, 1982; Fornell and Cha, 1994). To test the significance of path coefficients, t-values were
calculated using bootstrapping procedure (Chartelin et al., 2002; Chin, 1998). We ran PLS with 246 samples with more stable results. The final coefficients estimated by SmartPLS are shown in two tables below (see Table 4, Table 5) followed by the framework and structural model in the Figure 2.

Table 4
Path Loadings and t Value Path Statistics

<table>
<thead>
<tr>
<th>Relationships</th>
<th>Path coefficient s</th>
<th>t Statistic s</th>
<th>p Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Sustainability Performance -&gt; Firm Financial Performance</td>
<td>-0.007</td>
<td>0.099</td>
<td>0.921</td>
</tr>
<tr>
<td>Social Sustainability Performance -&gt; Sustainability Reputation</td>
<td>0.196</td>
<td>1.492</td>
<td>0.136</td>
</tr>
<tr>
<td>Sustainability Management -&gt; Firm Financial Performance</td>
<td>0.176</td>
<td>2.684</td>
<td>0.008</td>
</tr>
<tr>
<td>Sustainability Management -&gt; Social Sustainability Performance</td>
<td>0.248</td>
<td>4.107</td>
<td>0.000</td>
</tr>
<tr>
<td>Sustainability Management -&gt; Sustainability Reputation</td>
<td>0.373</td>
<td>3.716</td>
<td>0.000</td>
</tr>
<tr>
<td>Sustainability Reputation -&gt; Firm Financial Performance</td>
<td>-0.117</td>
<td>0.811</td>
<td>0.418</td>
</tr>
</tbody>
</table>

The t statistics exhibit a statistical significance from a value greater than 1.96 and hence only three relationships hold significant.

Table 5
p Values and t-value Statistics for Outer Loadings

<table>
<thead>
<tr>
<th>Relationships</th>
<th>Path coefficients</th>
<th>t Statistics</th>
<th>p Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disclosure Score &lt;- Sustainability Management</td>
<td>0.617</td>
<td>5.768</td>
<td>0.000</td>
</tr>
<tr>
<td>Green Score &lt;- Sustainability Reputation</td>
<td>0.874</td>
<td>12.891</td>
<td>0.000</td>
</tr>
<tr>
<td>Environmental management &lt;- Sustainability Management</td>
<td>0.955</td>
<td>58.361</td>
<td>0.000</td>
</tr>
<tr>
<td>Governance disclosure score &lt;- Social Sustainability Performance</td>
<td>0.861</td>
<td>9.770</td>
<td>0.000</td>
</tr>
<tr>
<td>Reputation &lt;- Sustainability Reputation</td>
<td>0.635</td>
<td>4.822</td>
<td>0.000</td>
</tr>
<tr>
<td>Social disclosure score &lt;- Social Sustainability Performance</td>
<td>0.793</td>
<td>11.689</td>
<td>0.000</td>
</tr>
<tr>
<td>NPM &lt;- Firm Financial Performance</td>
<td>0.968</td>
<td>98.357</td>
<td>0.000</td>
</tr>
<tr>
<td>ROA &lt;- Firm Financial Performance</td>
<td>0.916</td>
<td>35.501</td>
<td>0.000</td>
</tr>
<tr>
<td>ROI &lt;- Firm Financial Performance</td>
<td>0.870</td>
<td>15.793</td>
<td>0.000</td>
</tr>
</tbody>
</table>
The outer loadings and their respective t statistics indicated that all variables used in this study for measuring constructs were valid and significant (Table 4). Examination of the individual model paths shows significant positive path between sustainability management and social sustainability performance (supporting H1a). Social sustainability performance, measured by social and governance disclosure scores, did not directly improve firm financial performance (rejecting H2b). There was no significant relationship between social sustainability performance and sustainability reputation (supporting H2a). Thus the mediating role of social sustainability performance for the relationship between sustainability management and sustainability reputation has also been rejected (rejecting H2d). Similarly the hypothesis stating mediating role of social sustainability performance in the relationship between sustainability management and firm financial performance has also been rejected (rejecting H2c). There was no significant relationship between sustainability reputation and firm financial performance, leading to rejection of H3a. This also led to the rejection of hypothesis (H3b) stating the mediating role of sustainability reputation for the relationship between social sustainability performance and firm financial performance. The study showed a positive significant relationship between sustainability management and firm financial performance was supported (supporting H1b). The study also supported the hypothesis stating the positive relationship between sustainability management and sustainability reputation (supporting H1c). The research hypothesis results from path analysis is given in the table 6 below.
### Table 6

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a Sustainability management positively influences the social sustainability performance</td>
<td>Supported $p &lt; 0.0001$</td>
</tr>
<tr>
<td>H1b Sustainability management leads to improved financial performance.</td>
<td>Supported $p &lt; 0.0001$</td>
</tr>
<tr>
<td>H1c Sustainability management leads to higher sustainability reputation.</td>
<td>Supported $p &lt; 0.0001$</td>
</tr>
<tr>
<td>H2a Social sustainability performance positively influences sustainability reputation.</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H2b Social sustainability performance positively influences firm financial performance.</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H2c Social sustainability performance mediates the relationship between sustainability management and firm financial performance</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H2d Social sustainability performance mediates the relationship between sustainability management and firm sustainability reputation</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H3a Sustainability reputation leads to improved firm financial performance</td>
<td>Not supported</td>
</tr>
<tr>
<td>H3b Sustainability reputation mediates the relationship between social sustainability performance and firm financial performance.</td>
<td>Not supported</td>
</tr>
</tbody>
</table>

### Limitations and Suggestions for Future Research

While we measured one side of the financial performance picture (traditional accounting measures), the model did not address the potential improvement in market value from social sustainability performance. This limitation of the dependent variable must be taken into account. Looking at values like market value assessment (MVA) which focuses upon the financial markets perception of the firm would help in assessing the influence of sustainability reputation and social sustainability performance on how financial market value such efforts. The use of MVA as dependent variable will give an idea on how social sustainability performance and subsequent reputation influence the combined opinion of the investors in the financial markets.

One main limitation of this study is the bias toward large organizations due to the selection criteria of the firms. Our analysis is specific to Fortune 500 companies, which faces a unique set of social and environmental challenges. It will be equally important to conduct study among small and medium organizations and compare the practices and outcomes to their larger counterparts. Other realistic outcomes from social sustainability performance, especially for larger companies, might include better employee acquisition, employee retention and employee satisfaction. In a similar vein of thought, future research could examine motivation for pursuing higher social sustainability performance (e.g. job choice decisions, retention). The focus of this study was to examine the 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, the authors suggest that future research should examine other variables which could be used as proxy for social sustainability performance.

Our study aggregated sustainability management and subsequent sustainability performance elements into few factors and took a parsimonious approach to 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 (because more firms are engaging in sustainability practices). It would be compelling to examine how a broader array of practices costs and resulting financial performance gains as there are already over a hundred environmental social and governance measures within the Global Reporting Initiative. This can help in performing a more dynamic modeling.

Summary

A primary motive for this study is to help others to understand and encourage future research and investigate into the types and impacts of social performance practices of exemplary firms and their effects on specific dimensions of performance. 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. By investigating different dimensions of the social performance of firms and their relationships to a firm's financial performance, researchers will be able to advance knowledge and understanding in this area while also integrating this learning into pedagogy. Future research should take 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.
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