

Determinants and Performance Effects of Social Performance Measurement Systems

Irene Eleonora Lisi^{1,2} 

Received: 26 August 2015 / Accepted: 26 July 2016 / Published online: 5 August 2016
© Springer Science+Business Media Dordrecht 2016

Abstract This study investigates the performance measurement systems adopted by companies to manage their social responsibility activities, a theme that remains under-researched despite the important role that these mechanisms may play in helping firms control and improve their social performance. An integrative model is developed to examine how the three fundamental drivers of corporate social strategies, i.e., business motivations, perceived stakeholder pressures, and top management's social commitment, influence the use of social performance indicators for internal decision-making and control and how such use impacts companies' social and economic performance. The results from a survey of 97 Italian companies suggest that economic motivations and top management's commitment are associated with a more intensive use of social performance indicators for decision-making and control, whereas perceived pressures from stakeholders do not represent a significant determinant of such use. The use of social performance indicators, in turn, is found to directly influence a firm's social performance and, indirectly, its bottom line.

Keywords Business case · Social performance · Social performance measurement systems · Stakeholders · Survey

Introduction

Over the last few decades, concepts such as Corporate Social Responsibility (CSR) (European Commission 2001) or sustainable development (World Commission on Environment and Development 1987) have gained momentum as an inescapable issue for business and a prominent topic for academia. Organizations in every sector have been confronted with increasing pressures from multiple sources to operate in a socially and environmentally responsible fashion (Porter and Kramer 2006). In response to such pressures, several thousand companies have started to disclose information about their social and environmental performance through the publication of CSR or sustainability reports (KPMG 2011). In addition, companies are increasingly adopting voluntary management systems to address the social and environmental impacts of their processes, products, and services (Albeda Perez et al. 2007).

While there is abundant research on firms' external CSR reporting practices (see, e.g., Owen 2008; Adams 2002; Gray et al. 1995; Cho et al. 2012), less is known about the management accounting and control systems internally adopted by companies to implement their CSR initiatives (Ditillo and Lisi 2014). As noted by Henri and Journeault (2010), most of this literature is either conceptual or descriptive and is often based on a limited number of case studies. In addition, this research is nearly exclusively focused on the environmental dimension of CSR (see, e.g., Perego and Hartmann 2009; Ferreira et al. 2010; Bartolomeo et al. 2000; Burnett and Hansen 2008; Henri and Journeault 2010; Henri et al. 2014), to the detriment of the social dimension (Crutzen and Herzig 2013).

This is unfortunate, given the important role that properly designed management accounting and control systems

✉ Irene Eleonora Lisi
ireneeleonora.lisi@unicatt.it

¹ Università Cattolica del Sacro Cuore, largo A. Gemelli 1,
20123 Milan, Italy

² Present Address: via Bigiogerà 13, 20128 Milan, Italy

are expected to play in helping firms substantially address their social and environmental responsibilities, beyond the ceremonial or symbolic (Gond et al. 2012; Songini and Pistoni 2012). Indeed, providing social performance indicators to external stakeholders in social reports is supposed to be ineffective if these data are not also used for internal decision-making and control purposes (Adams 2002). The literature has long recognized that such reports may represent greenwashing (Laufer 2003) or window dressing (Kolk and Perego 2014) aimed at maximizing perceptions of legitimacy but decoupled from organizations' internal functioning and therefore without any substantive influence on business behavior (Larrinaga-Gonzalez and Bebbington 2001; Milne et al. 2006).¹

The aforementioned paucity of management accounting research on the social dimension of CSR is also unfortunate in light of the peculiarities of social practices, which tend to be broader, softer and less quantifiable than environmental ones (Bansal et al. 2014). Indeed, a variety of different topics are included under the label 'social,' such as labor practices (i.e., occupational health and safety), human rights (i.e., child labor), society (i.e., relations with local communities), and product responsibility (i.e., customer health and safety) (GRI 2006). Moreover, social initiatives and social performance are generally less technical and thus less prone to exact quantification than their environmental counterparts, which focus on material objects that can be technologically measured, monitored, and controlled (Bansal and Knox-Hayes 2013).² Therefore, driving performance through management accounting and control systems may be more problematic in the social—as opposed to the environmental—domain because of various motivational and measurement challenges.

This study seeks to build knowledge on such important topics by focusing on the social performance measurement systems adopted by companies to manage their social responsibility activities. Indeed, performance measurement

systems are key foundations of companies' overall management control systems (Otley 1999). Through them, the main tasks traditionally assigned to management control systems, i.e., formulation and communication of objectives, monitoring performance through measurement, and motivating employees to achieve company goals (Anthony and Govindarajan 1998), can be pursued. More specifically, social performance measurement systems are defined here as the extent to which Social Performance Indicators (SPI)³ are used by managers for a variety of decision-making and control purposes (Luft and Shields 2003).⁴

By bridging CSR management and management control literature, this study develops an integrative model exploring both the determinants and the performance outcomes of SPI use. Concerning the determinants of SPI use, the model includes business (i.e., economic) motivations, perceived stakeholder pressures, and top management's social commitment, which the CSR management literature identifies as the three most influential motivations behind corporate social initiatives (see, e.g., Maignan and Ralston 2002; Bansal and Roth 2000; Banerjee et al. 2003; O'Dwyer 2003). SPI use, in turn, is hypothesized to positively influence a company's social and economic performance by extending to the social dimension under investigation findings from the environmental management accounting literature (Henri and Journeault 2010). Therefore, this study follows the "principles, processes, performance" logic suggested by Wood (1991, p. 693) as a way to examine the effects of firms' motivations and attitudes towards CSR on SPI use and, through this, on corporate performance. In so doing, this work embraces a 'managerial' approach (Burritt and Schaltegger 2010) focused on the utility of social accounting in achieving purposeful outcomes.

Data collected from a survey of Italian CSR/Sustainability managers are used to test the model. The empirical results presented are based on Partial Least Squares (PLS)

¹ The possibility of a disconnect between the measures adopted by companies in response to external pressures and firms' internal practices has been highlighted by various schools of thought, particularly by neo-institutional research (Baxter and Chua 2003). This is why the neo-institutional perspective has so far been extensively applied within the social and environmental accounting research (see, e.g., Bebbington et al. 2009; Chen and Roberts 2010; Larrinaga-Gonzalez 2007) to investigate the ceremonial and symbolic roles CSR reporting may play in signaling ritual conformity to institutionalized myths (Meyer and Rowan 1977).

² Indeed, sophisticated models and tools have been developed for computing companies' carbon or water footprints (see, e.g., Pinkse and Kolk 2009, 2010), despite the undeniable complexities of measuring many firms' environmental impacts (Unerman and Chapman 2014; Hartmann et al. 2013). The European Union Emissions Trading System also represents an attempt—albeit limited—to quantify in monetary terms companies' environmental externalities.

³ An exemplary list of SPI is provided by the Global Reporting Initiative (GRI) G3 guidelines, the most widely adopted standard for corporate responsibility reporting (KPMG 2011). More details on GRI SPI are provided in "SPI Use" section.

⁴ The decision-making use refers to, e.g., goal setting, capital investment decisions, or suppliers' selection, whereas the control use refers to, e.g., performance evaluation and rewarding. By investigating the extent to which SPI are used by managers for a variety of different purposes pertaining to both the decision-making and the control roles of management accounting information, this paper contributes to extant performance measurement literature that tends to examine only one or a few uses of performance measures (e.g., compensation) while ignoring other potential uses (Ittner and Larcker 2001). More details on the definition and operationalization of SPI use are provided in "SPI Use" section.

analysis (Chin 1998) of the 97 usable questionnaires returned. The results confirm a positive and significant link between firms' economic motivations and SPI use for internal decision-making and control, in line with a 'business case' mindset for CSR (Porter and Kramer 2006). Top management's social commitment is also associated with a more intensive use of SPI, in support of those claims emphasizing the importance of a strong and committed leadership in bringing about social improvements (Hemingway and Maclagan 2004). Contrary to what is expected, perceived stakeholder pressures do not represent a significant determinant of SPI use. This result seems to support the window dressing argument, according to which external stakeholder pressures concerning CSR are at best associated with legitimizing, image-enhancing practices such as external CSR reporting, but they do not exert any significant influence on companies' internal business operations. Concerning the performance outcomes, SPI use is found to positively influence a firm's social performance and, through this, its economic performance as well. This finding confirms the important role played by proper performance measurement systems in helping managers to improve their companies' social performance and, indirectly, the bottom line.

This study contributes to the literature in several ways. In general terms, it contributes to the social and environmental accounting research by shifting the focus of analysis (i) from external reporting to internal decision-making and control and (ii) from the environmental to the social dimension of CSR. In particular, the study is the first to empirically investigate both the determinants and the performance outcomes of SPI use for internal decision-making and control. In so doing, this work also contributes to the debate on the nature of social accounting by focusing on the substantive roles it may play, thereby complementing the most common understanding of the phenomenon based either on institutional or critical approaches (see, e.g., Larrinaga-Gonzalez 2007; Gray 2010; Milne and Gray 2013). Finally, by showing that there is a positive relationship between a company's social performance and its bottom line, this investigation provides additional confirmatory evidence for the positive impact of CSR on economic performance (Erhemjamts et al. 2013).

The remainder of the paper is organized as follows. The next section develops the theoretical model. "Research Method" section clarifies the research method. This is followed by a presentation of the results. The final section discusses the results and concludes the paper by raising implications for theory and practice, acknowledging the limitations of the study, and offering directions for further research.

Theoretical Development and Hypothesis Formulation

Determinants of Social Performance Measurement Systems

Over recent decades, management scholars have extensively examined the motivational factors behind firms' CSR commitment. The literature has outlined three main drivers to the adoption of CSR strategies. A major research stream in the field argues that firms adopt social and environmental agendas because they are economically beneficial to the firm. From this instrumental perspective (Donaldson and Preston 1995), management's concern for maximizing shareholder welfare is what drives their agenda to implement CSR initiatives. Even if economic gains can be ambiguous, long term, and difficult to assess (McWilliams and Siegel 2001), pursuing social and environmental strategies may generate intangible benefits that improve the firm's ability to attract resources, enhance reputational trust, and eventually build competitive advantage (Porter and Kramer 2006). A second stream of research emphasizes the role of exogenous drivers as the main influence to embark in social and environmental initiatives. The drivers include institutional forces (Campbell 2007; Hoffman 1999; Jennings and Zandbergen 1995) and stakeholder pressures (Buisse and Verbeke 2003; Sharma and Henriques 2005) to which firms respond in order to gain social legitimacy (Scott 1995). Under this view, firms react to unavoidable societal influences inducing the organization to positively contribute to the community. Finally, a third research stream explains the adoption of social and environmental strategies for normative reasons, "because it is the right thing to do" (Harrison et al. 2010). At the core of this perspective is the idea that social and environmental actions are deeply grounded in moral values and are a reflection of the top management's ethical stance and a genuine attitude towards social ills (Hemingway and Maclagan 2004). Some comprehensive models (Maignan and Ralston 2002; Bansal and Roth 2000; Banerjee et al. 2003; Weaver et al. 1999; O'Dwyer 2003) have been also proposed in which the main determinants of CSR initiatives reflect a combination of business-oriented, stakeholder-oriented and ethical motivations, suggesting that these three motivational factors coexist and can create a more comprehensive view of firms' CSR commitment.

Based on such premises, this study proposes an integrative framework including (i) expected competitive advantage, (ii) perceived stakeholder concern, and (iii) top management's social commitment as main drivers of the use of SPI for internal decision-making and control.

Expected Competitive Advantage and SPI Use

Expected competitive advantage is defined here as the perception that social initiatives and strategies lead to a competitive advantage and improve long-term profitability. The search for a competitive advantage—also known as the ‘business case’ rationale—has been repeatedly recognized as a fundamental motivation behind corporate commitment to CSR (Wood 2010; Porter and Kramer 2006). Typical justifications of a business case for CSR include the value of a good reputation and stakeholder goodwill, cost reductions and operating efficiencies, better risk management, competitive advantage through product differentiation and/or premium pricing capability, reducing the threat of burdensome regulation, opening new markets, keeping employees motivated, reducing ‘campaign risk’ (being targeted by external activist groups) and enhancing the local quality of life for employee retention purposes (Wood 2010). With respect to the environmental dimension of CSR, the literature has mainly confirmed that companies adhering to this business case rationale tend to be more environmentally ‘proactive’ (Aragón-Correa 1998; Aragón-Correa and Rubio-López 2007), i.e., to adopt voluntary and innovative strategies to improve their environmental performance (Sharma 2000).

In the management accounting literature, several arguments suggest that such an economic motivation provides a strong incentive for managers to invest in a performance measurement system that isolates and quantifies the costs, benefits, and operational outcomes of companies’ social strategies. Indeed, management control systems are adopted to assist managers in achieving some desired organizational outcomes (Chenhall 2003; Chapman 1997; Simons 2000) and, as such, need to be explicitly tailored to support the strategy of the business (Ittner and Larcker 1997; Langfield-Smith 1997). This need for an alignment of management control systems with organizations’ strategic goals is especially advocated with respect to firms’ performance measurement systems (Kaplan and Norton 2006; Simons 2000; Ittner et al. 2003). Performance measurement systems are, indeed, key foundations of firms’ overall management control systems (Otley 1999). Through them, the main tasks traditionally assigned to management control systems, i.e., formulation and communication of objectives, monitoring performance through measurement, and motivating employees to achieve company goals (Anthony and Govindarajan 1998), can be pursued. Therefore, organizations that interpret CSR as a key value driver leading to improved profitability should make more extensive use of SPI for decision-making and control to better align strategic goals, resource allocation and employees’ efforts with this value driver and to ensure that

the expected economic benefits actually materialize (Ittner et al. 2003).

The aforementioned arguments lead to the following hypothesis:

H1a Expected competitive advantage positively influences SPI use for decision-making and control.

Perceived Stakeholder Concern and SPI Use

Perceived stakeholder concern, which is defined here as the perceived degree of concern a company’s stakeholders demonstrate toward social responsibility and ethical issues, is a second influential motivation for corporate adoption of social strategies, as recognized by a well-established stream of research in the CSR management literature (Clarkson 1995; Buysse and Verbeke 2003; S. Sharma and Henriques 2005; Jones 1995). The stakeholder literature argues that stakeholders who are important, primary (Freeman 1984), or considered salient by managers (Agle et al. 1999) influence organizational strategies. This theoretical perspective has been widely applied within the CSR management literature because it helps explain why firms voluntarily adopt social and environmental initiatives that are not required by law (Clarkson 1995). Indeed, managers are under increasing pressure from their key stakeholders (shareholders, employees, customers, suppliers, governments, local communities, and environmental interest groups) to operate in a socially responsible fashion (Porter and Kramer 2006, 2011; Basu and Palazzo 2008). Therefore, the inclusion of social responsibility issues into corporate strategies and decision-making beyond what is required by government regulation can be viewed as a means to improve a company’s alignment with the growing concerns and expectations of its stakeholders. With respect to the environmental dimension of CSR, several studies empirically demonstrate the influence of stakeholder pressures on companies’ environmental strategies and initiatives (Sharma and Henriques 2005; Buysse and Verbeke 2003; Henriques and Sadorsky 1999; Banerjee et al. 2003). For example, Henriques and Sadorsky (1999) show that managerial perceptions of the importance of stakeholder pressures are associated with a more proactive stance toward environmental commitment by Canadian firms.

By extending such findings from the environmental to the social dimension of CSR, it could be argued that the perceived concern of stakeholders for social responsibility issues represents a strong incentive for firms to integrate social criteria into their performance measurement systems. Indeed, from a management control perspective, management must consider and weigh stakeholders’ concerns when designing and implementing performance

measurement systems (Ferreira and Otley 2009). Therefore, organizations should make more extensive use of SPI for decision-making and control purposes as a means to improve their alignment with stakeholders' growing CSR concerns, as well as to further direct managerial effort towards stakeholders' social responsibility priorities (Berone and Gomez-Mejia 2009).

Based on the aforementioned arguments, the following hypothesis is proposed:

H1b Perceived stakeholder concern positively influences SPI use for decision-making and control.

Top Management's Social Commitment and SPI Use

A third influential motivation behind corporate adoption of CSR activities is represented by the commitment of a company's top management team to social initiatives and strategies. Indeed, in the CSR management literature, there is extensive evidence for the notion that top management's personal values and interests influence—and are sometimes key determinants of—corporate CSR activities (see, e.g., Wood 1991; Pedersen 2006; Hemingway and Maclagan 2004; Maignan and Ralston 2002; Weaver et al. 1999; Battaglia et al. 2014). For example, Hemingway and Maclagan argue that “CSR can be the result of championing by a few managers, due to their personal values and beliefs, despite the risks associated with this” (p. 36). Similarly, in their study of the determinants of integrated and decoupled corporate ethics programs, Weaver et al. (1999) theorize and find that top management's commitment to ethics encourages both easily decoupled initiatives (i.e., policy communications) and integrated ones (i.e., ethics-oriented performance appraisal systems). More specifically, the authors argue that ethically committed executives are likely to want to communicate their commitment to ethics through a variety of means and thus are expected to support ethics program communication activities, even though those activities could easily be decoupled. However, these executives are also expected to follow through on their commitment to ethics through more deeply embedded organizational activities whose implications are difficult to avoid, such as the explicit inclusion of ethical concerns in regular employee performance appraisals. The empirical results provide support for these expectations.

Based on this line of reasoning, it can be expected that top management's social commitment will influence a company's social performance measurement systems. More specifically, CSR-committed managers should follow through on their social commitment by promoting the adoption of ad hoc performance measurement systems to ensure the business is operating in accordance with their

social responsibility priorities. As such, top management's social commitment is expected to be positively related to the use of SPI for internal decision-making and control purposes. Formally stated:

H1c Top management's social commitment positively influences SPI use for decision-making and control.

Performance Effects of Social Performance Measurement Systems

Hypotheses concerning the performance effects of social performance measurement systems are derived by extending to the social dimension of CSR results from the more established environmental management research (Judge and Douglas 1998; Melnyk et al. 2003; Klassen and Whybark 1999) as well as from the emerging stream of the literature on environmental management accounting (Burnett and Hansen 2008; Henri and Journeault 2010; Ferreira et al. 2010; Epstein and Birchard 2000; Henri et al. 2014). Based on such literature, the two performance dimensions considered in the theoretical model are (i) social performance and (ii) economic performance. More specifically, this study investigates the direct effect of SPI use on social performance as well as the indirect effect of SPI use on economic performance through social performance.

Direct Effect of SPI Use on Social Performance

With respect to the first performance dimension considered in the model, the literature has variously pointed to the complexities and ambiguities inherent in such notions as social performance, CSR performance and sustainability performance (see, e.g., Gray 2010; Gray and Milne 2004; Tregidga et al. 2013). In Gray and Milne's (2015) terms, such notions represent floating signifiers with rather different (and contestable) attached meanings. In particular, conceptualizations can range from 'organization-centric' definitions—focused on firms' immediate stakeholders and assuming an incrementalist perspective—to broader notions related to positive or negative changes in whole social systems and implying the need for a radical restructuring of society (Milne et al. 2006; Tregidga et al. 2013). In line with a managerial approach (Burrill and Schaltegger 2010) and with the purpose of exploring corporate motives towards CSR and related management processes, this study embraces a notion of social performance closer to the organization-centric end of the continuum.⁵ More specifically, social performance is here defined as a firm's effectiveness in meeting and exceeding

⁵ Some thoughts on the implications of such a definition, and related limitations, are offered in the final section.

society's expectations with respect to social responsibility issues. Such a definition was derived by adapting Judge and Douglas's (1998) definition of environmental performance to the social dimension of CSR.

Concerning the link with SPI use, prior empirical literature in the environmental management area provides some preliminary evidence regarding a positive relationship between some aspects of management control and planning systems and environmental performance. For example, Judge and Douglas (1998) find strong support for a positive relation between the level of integration of environmental management concerns in the strategic planning process and environmental performance. Similarly, Klassen and Whybark (1999) find that companies with greater reliance on management controls and pollution prevention technologies are associated with lower levels of toxic releases. Similar results have been reported in the emerging stream of literature on environmental management accounting. For instance, Wisner et al. (2006) report a positive relationship between environmental strategic planning and environmental performance. Similarly, Henri and Journeault (2010) find a positive relationship between 'eco-control'—defined as the integration of environmental matters within a company's management control systems—and environmental performance.

By extending the aforementioned findings of the environmental dimension to the social dimension of CSR, it is possible to expect that SPI use is positively associated with social performance. Indeed, the use of SPI for decision-making and control purposes allows for the integration of social concerns within organizational routines and processes. It improves social performance by clarifying expectations, reducing the ambiguity associated with tasks related to implementing social strategies, and providing a coherent reflection of social priorities (Chenhall 2005). It also motivates people to align their behavior with the social goals of the organization and to exert additional effort (Bonner et al. 2000), which in turn should lead to enhanced social performance.

Based on the preceding discussion, the following hypothesis is formulated:

H2a SPI use for decision-making and control positively influences social performance.

Indirect Effect of SPI Use on Economic Performance Through Social Performance

The second performance dimension included in the model is economic performance. Considering, again, the environmental dimension of CSR, little empirical evidence has been provided so far to support a direct link between environmental management control systems and economic

performance. Confirmatory empirical evidence is offered, for example, by the already cited study by Judge and Douglas (1998). However, work by Henri and Journeault (2010) and Henri et al. (2014) has not found any direct effect of environmental control systems on economic performance.

With respect to the social dimension of CSR, the management accounting literature reports contrasting theoretical arguments for a direct effect of social performance measurement systems on economic performance. On the one hand, such mechanisms—as a specific application of performance measurement systems—can be expected to support effective resource management and to improve the establishment of priorities based on organizational goals, therefore fostering economic performance (Ittner and Larcker 1997; Ittner et al. 2003). They can also contribute to companies' economic well-being by promoting goal congruence between the individual and the organization and by directing managers to critical areas of concerns (Flamholtz et al. 1985). On the other hand, social performance measurement systems may also have some costs that offset their benefits, such as making the systems too complex and difficult to understand, spreading managers' efforts over too many objectives, impairing motivation by introducing multiple goals that are inconsistent in the short term, and increasing administrative costs relative to simpler systems (Henri and Journeault 2010).

Nevertheless, if SPI use has no direct effect on economic performance, an indirect effect may occur through social performance. Such a mediation effect may be expected based on the vast stream of CSR studies testing the Corporate Social Performance (CSP)—Corporate Financial Performance (CFP) link, the so-called empirical CSP-CFP literature (Wood 2010; Erhemjamts et al. 2013). Indeed, over the last few decades, management scholars have been interested in exploring the CSP-CFP link to justify their approval or disapproval of corporate responsibility behaviors, with mixed results. In response to critiques of inconclusiveness against such literature (McWilliams and Siegel 2001), two notable meta-analyses of the CSP-CFP literature were performed, both demonstrating a consistent and positive relationship between CSP and CFP (Margolis and Walsh 2003; Orlitzky et al. 2003). The sophisticated meta-analytic technique by Orlitzky et al. (2003) is particularly interesting in light of the ends of the present study because the authors investigate the differences between the social and environmental dimensions by disaggregating their meta-analytic set into purely social performance indicators and purely environmental performance indicators. When the dataset is divided into these two conceptualizations of CSP, the findings show that the positive relationship between overall CSP and CFP is even stronger for social responsibility than for environmental responsibility.

The use of SPI for decision-making and control has been linked to social performance (H2a). As argued above, social performance positively influences economic performance. Therefore, SPI use can be expected to have an indirect positive effect on economic performance by influencing an intermediary level of performance—social performance—which in turn influences economic performance. Formally stated:

H2b SPI use for decision-making and control positively influences economic performance through social performance.

Control Variables

Considering the potential influence of other factors on the relationships under investigation, four control variables are also included in the model: (i) size, (ii) industry, (iii) performance measurement quality, and (iv) the presence of a certified social management system.

Because previous research has found that larger firms are more likely to adopt sophisticated management accounting techniques (Bouwens and Abernethy 2000), size is likely to affect companies' social performance measurement systems. Size may also influence the link between SPI use and corporate performance, as the potential cost savings or revenue improvements related to social matters may be more important for larger firms. Industry is also included as a control variable, as it is an important variable driving the type and degree of external pressures organizations are facing with respect to social responsibility issues (Adams et al. 1998). Thus, industry can alter organizations' responses to such issues and, consequently, their use of SPI for decision-making and control (Adams 2002). The model also controls for performance measurement quality. Indeed, if the quality of SPI is perceived to be particularly low, it is likely that their use is hindered (Abernethy et al. 2004). Finally, the presence of an SA8000 or OHSAS 18001 certified management system is also included as a control.

Figure 1 provides an overview of the proposed theoretical model concerning the determinants and performance effects of social performance measurement systems.

Research Method

Sample Selection and Data Collection

Data were collected using a web-based questionnaire administered to a target sample of Italian organizations from a wide variety of industries. However, survey data were complemented with archival data whenever possible.

The survey was administered under the sponsorship of the Italian branches of two of the world's leading bodies in the field of management systems certification services—Bureau Veritas and DNV GL Business Assurance—which acted as the 'legitimate authority' as a strategy to increase the response-rate (Dillman 2000). A non-random purposive sampling strategy was applied as it was considered better suited than a fully random sampling approach given the novelty of the field under investigation. More specifically, only companies with more than a hundred employees—as listed in the sponsors' client databases—were selected because they were expected to have more sophisticated management accounting techniques (Bouwens and Abernethy 2000; Henri and Journeault 2010) and therefore also more developed social performance measurement systems. The final target sample comprised 443 potential respondents. It was requested that the company's CSR/Sustainability manager (or, in absence, the person most responsible for social aspects within the firm) be involved in the survey. Such a profile was, indeed, identified as the most knowledgeable respondent about the topics object of study during the pre-tests of the questionnaire with various professionals in the field.

The web-survey was administered using a slightly modified version of the procedure suggested by Dillman (2000): a pre-notice mailing to alert participants about the study 2 days before the first mailing; a first mailing containing the link to access the web-based platform for questionnaire completion; and three follow-ups. To encourage completion of the questionnaire, confidentiality was assured and participants were promised a summary of the results (Dillman 2000).

Of the 443 distributed questionnaires, 124 were received (28 %). Of these returned questionnaires, 19 were discarded because the respondent declared that the topics under investigation did not apply to the company. Moreover, eight questionnaires with multiple missing values on dependent variables were excluded from hypothesis testing to avoid any artificial increase in relationships with independent variables (Hair et al. 2010). For the remaining sample of 97 cases, the level of randomness in missing values was tested with Little's missing completely at random (MCAR) test, and the result was found to be acceptable ($\chi^2 = 160.1$, DF 174, and Sig. 0.77). Therefore, given that the level of missing data was acceptably low and missing data did not seem to occur in a specific non-random fashion, in a small number of other cases individual missing values were replaced with mean values (Hair et al. 2010; Chapman and Kihn 2009). This resulted in a complete data set of 97 responses, which provides a response rate of 21.9 %. This response rate compares favorably with recent management accounting survey-based studies (see, e.g., Pondeville et al. 2013; Ferreira et al. 2010). However,

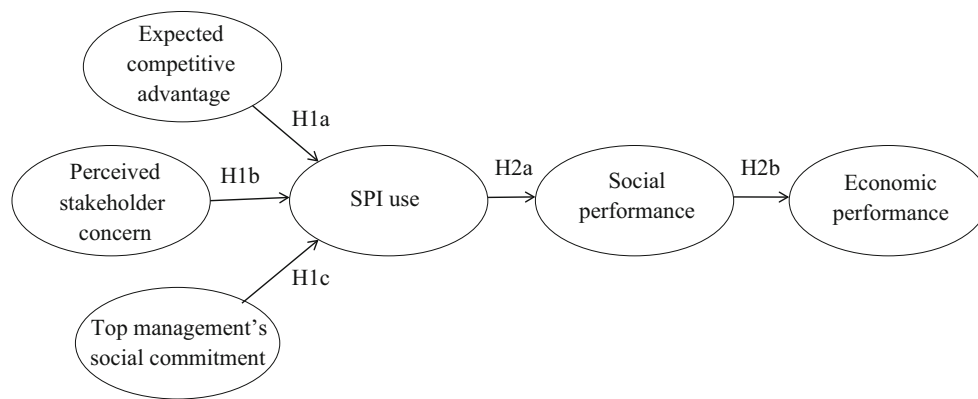


Fig. 1 General theoretical model

the possibility of non-response bias was also investigated. In particular, early and late responses were compared in paired samples of 45, 30 and 15 using both an independent samples *t* test and its non-parametric equivalent, the Mann–Whitney *U*-test. These tests suggest that there are no significant differences on any of the study variables, including demographic and control variables. As a unique exception, economic performance appears to be significantly higher for late respondents compared to early respondents when the independent samples *t*-test is applied to paired samples of 15. However, a statistically significant difference is not confirmed by the Mann–Whitney *U*-test. In addition, during some follow-up phone calls, I discussed with approximately 40 non-respondents their reasons for not completing the questionnaire. These reasons were mainly time pressures and receiving too many surveys, which are similar to the reasons for non-response reported in other studies (Hall 2008). Taken together, these tests suggest that non-response bias does not seriously affect the results of this study.

I also estimated the extent to which common method variance influences the findings by performing two statistical tests: Harman’s (1976) one factor test and partialling out a “marker variable” (Lindell and Whitney 2001). According to the first test, if a substantial amount of common method variance exists in the data, then either a single factor will emerge out of an exploratory factor analysis or one factor will account for the majority of the variance in the measurement items used in the model. The un-rotated exploratory factor analysis using the eigenvalue-greater-than-one criterion revealed seven distinct factors accounting for 74.2 % of the variance, with the first factor capturing only 30.5 % of the variance in the data. According to the second test, if a variable can be identified that is theoretically unrelated to at least one other variable in a study, preferably the dependent variable, then it can be used as a marker variable in controlling for common method variance (Lindell and Whitney 2001). Following

the approach by Elbashir et al. (2011), I used respondents’ age as the unrelated marker variable as a surrogate for common variance and examined the PLS structural model both with and without the marker variable. The findings (not reported) show that the original results are not affected by the inclusion of the marker variable in the model. Together, these procedures suggest that common method bias does not seriously affect the results of this study.

Demographic information was collected from respondents regarding role, job tenure, company tenure, hierarchical level, education level, age, gender, and main industry. Table 1 reports the descriptive statistics and frequencies for these variables.

As shown in this table, respondents were generally senior officers from the CSR/Sustainability or Health & Safety functional areas. They were mainly members of the top management team, as only 1.56 hierarchical levels, on average, separated respondents from their companies’ CEOs, and their mean company tenure was 12.19 years. This average high-level profile offers some assurance regarding respondents’ ability to provide valid and reliable subjective assessments of the variables under investigation.

Variable Measurement

The questionnaire collected respondents’ evaluations regarding the following: the use of SPI for decision-making and control, expected competitive advantage, perceived stakeholder concern, top management’s social commitment and social performance. Economic performance was instead measured by relying on archival data. Given the absence of established scales for several of the study variables, measurement items were newly developed by adapting instruments used in prior survey studies.

An initial survey draft was circulated among four academic scholars with substantive or psychometric expertise and was pre-tested by four professionals from the two survey sponsors and three managers (not part of the

Table 1 Demographic variables and sample composition ($n = 97$)

Panel A: Descriptive statistics for demographic variables				
Variable	Minimum	Maximum	Mean	SD
Job tenure (years)	1	30	8.86	5.87
Company tenure (years)	2	34	12.19	7.96
Age (years)	30	64	44.13	7.93
Hierarchical level ^a	0	5	1.56	0.84
Panel B: Respondents by functional area		Frequency	% ^b	
CSR/Sustainability/Health & Safety		39	42.9	
General management		9	9.9	
Quality		25	27.5	
HR		7	7.7	
Other		11	12.1	
Panel C: Respondents by education		Frequency	% ^b	
High school		28	29.8	
University degree		38	40.4	
Master degree		23	24.5	
Doctorate degree		5	5.3	
Panel D: Respondents by gender		Frequency	% ^b	
Male		61	64.9	
Female		33	35.1	
Panel E: Respondents by industry category (US SIC codes)		Frequency	% ^b	
Agriculture, mining and construction (01–19)		10	10.3	
Manufacturing (20–39)		50	51.5	
Transportation and utilities (40–49)		8	8.2	
Wholesale and retail (50–59)		9	9.3	
Services (60–89)		20	20.6	
Panel F: Respondents by company type		Frequency	% ^b	
Listed		19	20.4	
Non-listed		74	79.6	
Parent		59	75.6	
Subsidiary		19	24.4	

^a Measured by asking respondents how many hierarchical levels separate them from their companies' CEOs

^b Computed as a percentage of valid (non-missing) responses

sample) for clarity, understandability, ambiguity, and face validity (Dillman 2000). The review process and the pilot tests resulted in minor changes to the wording of some items and to the layout of the questionnaire. Once revised on the basis of this feedback, the questionnaire was translated into Italian by applying the back-translation procedure proposed by Behling and Law (2000). A full overview

of the questionnaire is contained in Appendix A. Descriptive statistics for the study variables are presented in Table 2.

SPI Use

To enhance the understandability and uniformity of interpretation on the part of survey respondents, a definition of SPI based on the Global Reporting Initiative (GRI) G3 guidelines was provided in the introductory section of the study's questionnaire. Because the GRI guidelines represent the de facto global standard for corporate responsibility reporting (KPMG 2011), they are supposed to be familiar to most organizations. In particular, the GRI G3 SPI cover performance related to labor practices (i.e., occupational health and safety), human rights (i.e., child labor), society (i.e., relations with local communities), and product responsibility (i.e., customer health and safety) (GRI 2006).

As previously noted, this paper explores the extent to which SPI are used within organizations⁶ for a variety of different purposes pertaining to both the decision-making and decision-control roles of management accounting information (Luft and Shields 2003). Given the absence of an established scale simultaneously capturing the extent to which SPI are used by managers for both decision-making and control, the instrument for SPI use was newly developed by taking items from Ittner and Larcker (2001), Perego and Hartmann (2009) and Gerdin (2005) and adapting them to the social responsibility context. It consists of seven items measured over a seven-point fully anchored Likert scale that ask the respondent to rate to what extent (ranging from 1 = not at all to 7 = totally) his/her firm uses SPI for a variety of decision-making and control purposes. Specifically, for decision-making, two items (i.e., establishing formal strategic objectives and evaluating capital expenditures) were derived from Ittner and Larcker (2001) and three items (regarding product decisions, suppliers' selection and operational decisions) were adapted from Gerdin's (2005) comprehensive list of different classes of decision-making problems for which management accounting information can be used by managers. For decision-control, one item (i.e., evaluating managerial performance) was derived from Ittner and Larcker (2001), and one item (incentivizing and rewarding managers) was adapted from Perego and Hartmann (2009).

Because the scale has not been used in prior research, I performed additional tests to examine the extent to which it converged with alternative measures of SPI internal use.

⁶ Indeed, this study investigates the use of SPI at the corporate level of analysis, consistently with prior environmental management accounting literature (e.g., Henri and Journeault 2010; Perego and Hartmann 2009).

Table 2 Descriptive statistics^a
(*n* = 97)

Panel A: Descriptive statistics (for scale variables)				
Variable	Mean	SD	Theoretical range	Actual range
SPI use	4.08	0.98	1.00–7.00	1.52–6.51
Expected competitive advantage	5.00	0.95	1.00–7.00	2.54–6.85
Perceived stakeholder concern	5.46	0.88	1.00–7.00	2.49–6.81
Top management's social commitment	5.67	1.24	1.00–7.00	1.00–7.00
Social performance	5.46	0.82	1.00–7.00	3.75–7.00
Economic performance	−3.51 %	15.40	NA	−49 to 77 %
Size (ln n. employees)	5.92	1.44	NA	4.28–11.29
SPI perceived quality	5.04	1.20	1.00–7.00	1.00–7.00
Panel B: Frequencies (for dummy variables)				
Variable	Frequency	% ^b		
Industry = 1 (manufacturing)	50	51.5		
Industry = 0 (non-manufacturing)	47	48.5		
Certification = 1 (certified social management system)	42 ^c	44.2		
Certification = 0 (no certified social management system)	53	55.8		

^a Descriptive statistics for multi-item variables are based on the weighted factor scores calculated in the final PLS measurement model

^b Computed as a percentage of valid (non-missing) responses

^c More specifically, the frequency per type of certificate is as follows: 26 companies with an OHSAS 18001 certified management system, 12 companies with an SA8000 certified management system, and 4 companies with both certificates

First, respondents were asked whether there were any social targets amongst the objectives formally assigned to managers within their firms (yes/no). A dichotomous variable was then obtained by coding 1 for affirmative answers and 0 for negative ones. I chose an alternative measure that was quite different in format (forced choice) from the seven-point Likert type scale to be consistent with the principle of maximally dissimilar forms of ratings, as urged in the literature on convergent validation (Hall 2008). The point-biserial correlation between the multi-item measure and the dichotomous measure is 0.405 ($p < 0.001$), providing support for the convergent validity of the multi-item measure used in the study.⁷ Respondents answering affirmatively to this same question were also asked to indicate the percentage of managers to whom such social targets were formally assigned. The Pearson correlation coefficient among the multi-item scale for SPI use and this percentage is 0.462 ($p < 0.001$), providing additional support for the convergent validity of the scale. Finally, as a test of discriminant validity, I examined the relationship between the multi-item measure of SPI internal use and a measure of SPI use for external accountability

purposes, i.e., a dichotomous variable equal to 1 if the company publishes a CSR/Sustainability report and 0 otherwise. As expected, the point-biserial correlation between the measure for internal use and the dichotomous measure for external use is statistically insignificant, providing support for the divergent validity of the scale used in the study.

Expected Competitive Advantage, Perceived Stakeholder Concern and Top Management's Social Commitment

The items to measure expected competitive advantage, perceived stakeholder concern and top management's social commitment were all developed by taking the corresponding instruments proposed by Banerjee et al. (2003) to measure the antecedents of corporate environmentalism and adapting them to the context under investigation. Therefore, their focus was shifted from the environmental to the social domain.

Specifically, expected competitive advantage was measured by asking respondents about their agreement (ranging from 1 = completely disagree to 7 = completely agree) on six statements concerning the competitive advantage benefits (in terms of cost savings, quality improvements and growth opportunities) perceived to be derived from social initiatives and strategies.

⁷ The score for each respondent on the multi-item scale is based on the weighted factor score calculated in the final PLS measurement model.

Perceived stakeholder concern was measured by asking respondents about their agreement (ranging from 1 = completely disagree to 7 = completely agree) on four statements concerning their perceptions of importance assigned by the company's stakeholders to a socially responsible corporate conduct.

Finally, top management's social commitment was measured by asking respondents about their agreement (ranging from 1 = completely disagree to 7 = completely agree) on three statements concerning their perceptions of top management's commitment to and support for social responsibility initiatives.

Social and Economic Performance

In line with the organization-centric conceptualization employed in the study, social performance is measured using a perceptual instrument aimed at eliciting managers' subjective evaluations of their firms' social impacts. This instrument was developed by taking the scale originally advanced by Judge and Douglas (1998) to measure environmental performance and adapting it to the social context. In particular, four questions asked the respondent to rate his or her firm's performance, compared to other competitors across the industry, on several social dimensions (such as compliance with social regulations and limitation of social impact beyond compliance). Answer categories ranged from 1 = much worse to 7 = much better. To establish the validity of the answers provided by the respondents, the weighted factor score for each respondent (as computed in the final PLS measurement model) was compared with an objective measure of social performance—namely, injury rate⁸—collected through a specific question positioned elsewhere in the questionnaire. Respondents answered this question in 69 cases. The Pearson correlation coefficient is negative (−0.22) and slightly significant ($p < 0.1$). Therefore, the firms that reported having good social performance are those with a lower injury rate. This provides some support for the validity of the subjective measure employed in the study.

Economic performance is instead measured by relying on archival data. Prior accounting studies have used both accounting-based and market-based measures to represent economic performance. In this study, because the majority of firms in the sample are not publicly quoted, I used return on capital employed (ROCE), a standard accounting measure of operating profitability calculated by dividing EBIT

by net operating assets. ROCE data were collected from Amadeus, a database developed by Bureau Van Dijk Electronic Publishing that contains financial data about European companies. To control for industry influences, I subtracted from each firm's ROCE the average industry ROCE based on a firm's dominant four-digit SIC code. This method of controlling for industry effects has been used frequently (Agle et al. 1999).

Control Variables

Size is measured using the natural log of the number of employees, as derived from the Amadeus database. Industry is measured as a dummy variable distinguishing between manufacturing (US SIC codes 20–39 inclusive) and non-manufacturing firms. Companies' industrial codes were also derived from the Amadeus database. The perceived quality of SPI is measured through a single-item instrument developed by Abernethy and Vagnoni (2004). Finally, the presence of a certified social management system is measured through a dummy variable based on the respondents' answers to a question asking them whether the majority of their firms' facilities are certified according to the SA8000 or OHSAS 18001 standards.

Partial Least Squares (PLS) Regression

PLS regression analysis was used to test the research model and hypotheses.⁹ PLS is a component-based structural equation modeling technique that simultaneously tests the psychometric properties of the scales used to measure the constructs (i.e., measurement model) and examines the strength of the relations between the constructs (i.e., structural model) (Chin 1998). PLS was chosen for this study because it is suitable for the causal-predictive analysis of complex relationships with multiple independent and dependent variables, when there is scarcity of prior theoretical knowledge, and/or when the sample size is relatively small (Chin and Newsted 1999; Hair et al. 2014).¹⁰ It also makes minimal data assumptions, as it does not require multivariate normal data (Chin 1998). In this study, PLS was used to test reflective links between constructs and measures (indicators), meaning that indicators

⁹ I use Smart PLS 2.0 (Ringle et al. 2005).

¹⁰ Chin's (1998) rule of thumb suggests that the sample size for a PLS study should be 5 to 10 times for either: 1) the largest number of formative indicators for a particular construct in the measurement model; or 2) the largest number of structural paths directed at a particular construct in the structural model. In this study, the dependent latent variable with the largest number of structural paths directed at it is SPI use, with seven independent variables (namely, expected competitive advantage, perceived stakeholder concern, top management's social commitment and the four control variables). Thus, the sample size of 97 cases satisfies this requirement.

⁸ Injury rate was chosen as an objective, proxy measure of social performance for two reasons. First, it represents a particularly relevant, albeit limited, aspect of a company's overall social performance. In addition, it emerged as the social performance indicator most frequently measured by firms during the pre-tests of the questionnaire.

are believed to reflect the unobserved underlying construct, with the construct giving rise to the observed measures (Chapman and Kihn 2009; Chenhall 2005). As previously reported, PLS comprises a measurement model and a structural model, which are estimated simultaneously. However, to maximize the interpretability of both models, the PLS model is typically interpreted in two stages: first, the reliability and validity of the measurement model is assessed and then the structural model is assessed. As such, the results from the measurement model are presented first, followed by an examination of the hypothesized relations between the constructs.

Results

Measurement Model

The measurement model in PLS is assessed in terms of indicator reliability, internal consistency reliability, convergent validity and discriminant validity (Hair et al. 2014). In assessing the measurement model, it is considered important to retain as many items as possible to ensure the content validity of the instruments (Hulland 1999; Hair et al. 2014). Specifically, indicator reliability is adequate when an item has a factor loading that is greater than 0.7 on its respective construct. Indicators with very low loadings (<0.4) should always be removed, while indicators with loadings between 0.4 and 0.7 should be considered for removal only if deletion leads to an increase in composite reliability and average variance extracted (AVE) statistics above the recommended threshold values of 0.7 and 0.5, respectively (Hair et al. 2014). Based on such recommendations, one item was deleted from the SPI use scale and the model was re-estimated. Table 3 reports the item loadings from both the initial and the final PLS measurement model. All loadings in the final model are statistically significant at $p < 0.001$.

Internal consistency reliability is assessed using the composite reliability measure. As shown in Table 3, the composite reliability exceeds 0.85 for all latent variables, indicating satisfactory reliability of the constructs in the model (Hair et al. 2014; Hulland 1999). Additional support for reliability is provided by the Cronbach's alphas, with the minimum value at 0.78 for perceived stakeholder concern.

The convergent validity of constructs is assessed by examining the AVE statistics. As Table 3 shows, the AVE for each variable is above 0.50, which demonstrates adequate convergent validity (Hair et al. 2014).

Finally, concerning discriminant validity, Table 4 shows that the square roots of the AVEs (diagonal) are all greater than the respective correlations between constructs. This

indicates that all measures have satisfactory discriminant validity (Chin 1998).

An additional test of discriminant validity assesses each measurement item to ensure that it has a higher loading on its assigned factor than on the other factors (Chin 1998). As reported in Appendix B, each measurement item loads higher on the appropriate construct than on any other construct, providing additional support as to the discriminant validity of the measures.

Overall, the results from the PLS measurement model indicate that each construct exhibits satisfactory reliability and validity, thereby enabling an interpretation of the structural model.

The correlations displayed in Table 4 provide preliminary support for the research model. Indeed, in terms of bivariate relationships, SPI use appears to be highly correlated with all three independent variables (i.e., expected competitive advantage, perceived stakeholder concern and top management's social commitment). Concerning the performance side of the model, SPI use is significantly correlated with social performance but not with economic performance. Finally, a significant correlation is found between social performance and economic performance.

Test of Hypotheses

A structural model in PLS was estimated to test the study's hypotheses. PLS produces standardized β -statistics for each path coefficient, which are interpreted in the same way as in OLS regression.¹¹ Because PLS makes no distributional assumptions, bootstrapping (5,000 samples with replacement) is used to evaluate the statistical significance of each path coefficient (Hair et al. 2014).¹²

Because the objective of PLS is to maximize variance explained rather than fit, the overall incidence of significant relationships between constructs and the explained variance of the dependent variables (i.e., the R^2 measures) are used to evaluate the PLS model instead of goodness-of-fit measures (Chin 1998). Another assessment of the structural model involves the model's prediction capability, as expressed by Stone–Geisser's Q^2 measure of predictive relevance (Hair et al. 2014). The R^2 and Q^2 for each

¹¹ Given that the estimation of path coefficients in the PLS structural model is based on OLS regressions of each endogenous latent variable on its predecessor constructs, these coefficients might be biased in the presence of high levels of collinearity among the predictor constructs. Therefore, collinearity diagnostics were assessed as a preliminary test of the structural model (Hair et al. 2014). Because the VIF values for all the predecessor constructs are well below the threshold value of 5, it seems possible to conclude that collinearity does not represent a threat to the robustness of the study's results.

¹² Statistical significance is determined using the reported original PLS estimates and bootstrapped standard errors.

Table 3 Item loadings, composite reliability, Cronbach's Alpha and AVE statistics for the main variables ($n = 97$)

	Final model	Initial model
Panel A: SPI use		
Evaluate managers' performance (Item 1)	0.724	0.697
Incentivize and reward managers (Item 2)	0.744	0.715
Establish formal strategic objectives (Item 3)	0.704	0.699
Evaluate and approve capital expenditures (Item 4)	0.731	0.699
Make product decisions, e.g., product price, product mix (Item 5)	0.778	0.757
Define standards for the selection/retention of external suppliers (Item 6)	–	0.626
The daily management and operational decisions, e.g., assess make-or-buy alternatives, assess the manufacturing process to use (Item 7)	0.662	0.676
Composite Reliability	0.869	0.868
Cronbach's Alpha	0.822	0.825
AVE	0.525	0.485
Panel B: Expected competitive advantage		
Being socially conscious can lead to substantial cost advantages for our firm (Item 1)	0.783	
Our firm has realized significant cost savings by experimenting with ways to reduce the social impact of our products and processes (Item 2)	0.706	
By regularly investing in research and development on healthier and safer products and processes, our firm can be a leader in the market (Item 3)	0.623	
Our firm can enter lucrative new markets by adopting social strategies (Item 4)	0.846	
Our firm can increase market share by reducing the social impact of our current products (Item 5)	0.863	
Reducing the social impact of our firm's activities will lead to a quality improvement in our products and processes (Item 6)	0.698	
Composite Reliability	0.889	
Cronbach's Alpha	0.850	
AVE	0.575	
Panel C: Perceived stakeholder concern		
Our stakeholders feel that social responsibility is a critically important issue facing the world today (Item 1)	0.826	
The public is very concerned about social problems, e.g., work-related injuries, human rights violations, corruption (Item 2)	0.580	
Our customers are increasingly demanding healthier and safer products and services (Item 3)	0.784	
Our stakeholders expect our firm to be socially responsible (Item 4)	0.888	
Composite Reliability	0.857	
Cronbach's Alpha	0.784	
AVE	0.605	
Panel D: Top management's social commitment		
The top management team in our firm is committed to social issues (Item 1)	0.965	
Our firm's social efforts receive full support from our top management (Item 2)	0.954	
Our firm's social strategies are driven by the top management team (Item 3)	0.965	
Composite Reliability	0.973	
Cronbach's Alpha	0.959	
AVE	0.924	
Panel E: Social performance		
Complying with social regulations, e.g., health and safety, human rights (Item 1)	0.855	
Limiting social impact beyond compliance (Item 2)	0.843	
Preventing and mitigating social crises, e.g., work-related fatal injuries, incidents of discrimination, incidents of human rights violations across the supply chain (Item 3)	0.829	
Educating employees and the public about social issues, e.g., health and safety, human rights (Item 4)	0.791	
Composite Reliability	0.898	
Cronbach's Alpha	0.849	
AVE	0.689	
Panel F: Economic performance		
Composite Reliability	NA ^a	
Cronbach's Alpha	NA ^a	
AVE	NA ^a	

^a Composite reliability, Cronbach's Alpha and AVE will only be suitable to use for multi-item constructs

endogenous variable, together with the path coefficients and the corresponding *t*-statistics, are shown in Table 5 and, graphically, in Fig. 2.

As shown in Fig. 2, the research model tests the extent to which expected competitive advantage, perceived stakeholder concern and top management's social commitment influence SPI use (H1a-c), the direct effect of SPI use on social performance (H2a), and the indirect effect of SPI use on economic performance through social performance (H2b).

Overall, the results are largely consistent with the correlation statistics and suggest that the model has good predictability. As Table 5 shows, the coefficients for four out of five hypothesized paths in the model are statistically significant at the 0.1 level or better. The results also indicate that approximately 24 % of SPI use, 25 % of social performance and 11 % economic performance are explained by the model. In addition, Stone–Geisser's Q^2 is greater than zero for all endogenous latent variables, providing support for the predictive relevance of the corresponding explanatory variables (Hair et al. 2014).

Concerning the determinants of SPI use, the results suggest that expected competitive advantage positively influences SPI use ($\beta = 0.326, p < 0.01$), providing strong support for H1a. However, no support is found for H1b, as the path between perceived stakeholder concern and SPI use is statistically insignificant ($\beta = 0.004, p > 0.1$). Finally, H1c finds modest support, since the path between top management's social commitment and SPI use is positive and significant at the 0.1 level ($\beta = 0.134, p < 0.1$).

Regarding the performance effects of SPI use, the findings reported in Table 5 provide strong support for the proposed positive association between SPI use and social performance ($\beta = 0.438, p < 0.01$), in line with H2a. The results also suggest that SPI use positively influences economic performance indirectly through social performance (H2b). Indeed, the direct path between social performance and economic performance is positive and strongly significant ($\beta = 0.281, p < 0.01$). Combined with the positive and significant path coefficient between SPI use and social performance on the one hand and with the insignificant direct link between SPI use and economic performance¹³ on the other hand, this result provides confirmatory evidence for a full mediating effect of social performance on the relation between SPI use and economic performance. In other words, even if SPI use does not directly enhance a firm's bottom line, it does so indirectly through its positive influence on social performance. To provide a more thorough analysis of this mediating effect, the significance of the indirect path was also tested by

bootstrapping its sampling distribution, as suggested by Preacher and Hayes (2008),¹⁴ obtaining confirmatory results (not reported).

Finally, in terms of control variables, an intriguing—and somehow mixed—pattern emerges with respect to the certification dummy. On the one hand, the path between certification and SPI use is negative and significant ($\beta = -0.183, p < 0.05$), suggesting that companies with a certified social management system tend to make a less intensive use of SPI for decision-making and control. On the other hand, having a certified social management system is still beneficial in terms of social performance, since the path between certification and social performance is positive and significant ($\beta = 0.183, p < 0.05$). Some thoughts on these findings are offered in the final section.

Sensitivity and Additional Analyses

To check the robustness of the overall model, several sensitivity analyses were run. Firstly, the PLS structural model was tested with alternative measures of economic performance (i.e., EBIT margin and cash flow divided by operating revenues). These data were also collected from the Amadeus database, like ROCE, and were similarly adjusted for industry by subtracting the dominant four-digit industry average from their respective firm counterparts. An alternative method of controlling for industry effects was also employed by adjusting firms' performance data for industry median (rather than average) performance. The findings are qualitatively similar with all the alternative measures, both average- and median-adjusted. More specifically, all of the results that were previously significant are still significant, and the paths that were not significant remain unchanged.

Secondly, a PLS structural model including two additional dummy variables was tested to control for the potential influence of ownership (listed/non-listed) and company type (parent/subsidiary). The findings show that the original results are not altered by the inclusion of these two additional controls in the model. Also, to control for potential respondent bias—and particularly for the endogeneity concern that the respondent's function systematically influences his/her subjective evaluations with regard to both the independent and dependent variables in the theoretical framework—a robustness check was performed by adding to the PLS structural model a control variable equal to one if the respondent came from the CSR/Sustainability or Health & Safety functional areas, and zero otherwise. The results are the same as

¹³ As reported in Table 5, the path coefficient between SPI use and economic performance is $\beta = 0.050$ ($p > 0.1$).

¹⁴ As noted by Hair et al. (2014), this approach is particularly suited for PLS settings, as it makes no distributional assumption, unlike the Sobel (1982) test. It also exhibits higher levels of statistical power.

Table 4 Inter-construct correlations and square root of AVE statistics^a (*n* = 97)

	SPI use	Expected competitive advantage	Perceived stakeholder concern	Top manag. social commitment	Social performance	Economic performance	Size	Industry	SPI perceived quality	Certification
SPI use	0.725									
Expected competitive advantage	0.384***	0.758								
Perceived stakeholder concern	0.263***	0.482***	0.778							
Top manag. social commitment	0.275***	0.295***	0.489***	0.961						
Social performance	0.412***	0.219**	0.377***	0.363***	0.830					
Economic performance	0.188	0.157	0.136	0.164	0.274***	1.000				
Size	0.075	0.062	0.047	0.206**	-0.027	0.097	1.000			
Industry	-0.005	-0.052	-0.037	-0.149	-0.190	0.073	-0.309***	1.000		
SPI perceived quality	0.284***	0.213**	0.389***	0.369***	0.300***	0.135	0.096	-0.158	1.000	
Certification	-0.083	0.139	0.218**	0.176	0.152	-0.094	0.168	-0.152	0.145	1.000

^a Diagonal elements are the square roots of the AVE statistics. Off-diagonal elements are the correlations between the latent variable scores calculated in PLS. AVE will only be suitable to use for multi-item constructs

** and *** denote significance at the 0.05 and 0.01 levels (two-tailed)

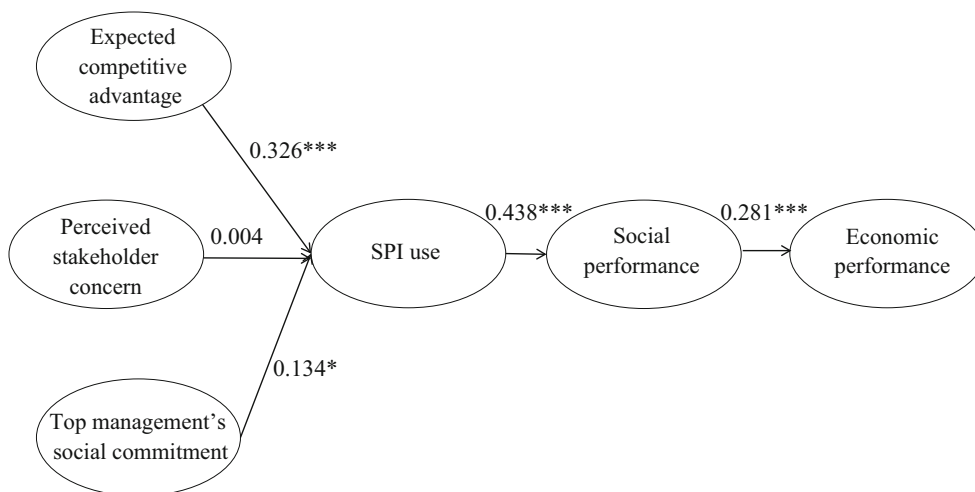
Table 5 PLS structural model: path coefficients, *t*-statistics, R^2 and Q^2 ($n = 97$)

Paths from	Paths to		
	SPI use	Social performance	Economic performance
Expected competitive advantage	0.326 (3.128)***	–	–
Perceived stakeholder concern	0.004 (0.051)	–	–
Top manag. social commitment	0.134 (1.434)*	–	–
SPI use	–	0.438 (5.657)***	<i>0.050 (0.733)</i>
Social performance	–	–	0.281 (2.767)***
Size	<i>0.055 (0.811)</i>	<i>–0.155 (1.585)</i>	<i>0.127 (1.609)</i>
Industry	<i>0.051 (0.777)</i>	<i>–0.208 (2.370)**</i>	–
SPI perceived quality	<i>0.193 (1.590)</i>	–	–
Certification	<i>–0.183 (2.014)**</i>	<i>0.183 (2.106)**</i>	<i>–0.154 (1.867)*</i>
R^2	0.237	0.252	0.113
Stone–Geisser’s Q^2	0.109	0.172	0.089

Each cell reports the path coefficient (*t*-value)

Bold style denotes hypothesized paths, while italic style denotes control paths

*, ** and *** denote significance at the 0.1, 0.05 and 0.01 levels using a one-tailed test for hypotheses with predicted sign and a two-tailed test for control paths

**Fig. 2** PLS structural model (paths for control variables not shown) ($n = 97$). *, ** and *** denote significance at the 0.1, 0.05 and 0.01 levels

those obtained by estimating the model without such a control variable.

Thirdly, to verify that the results were robust to alternative model specifications, several additional models were run. More specifically, these alternative specifications comprised i) a model with the determinants of SPI use only and (ii) a complete model in which all exogenous variables (i.e., the three determinants and the four controls) are linked with all endogenous constructs (i.e., SPI use, social performance and economic performance). The results from both alternative specifications are in line with those obtained from the main model, as shown in Table 6 (panel A and B, respectively).

These findings provide support for the robustness of the PLS analyses reported in “[Test of Hypotheses](#)” section.¹⁵

In addition, some additional analyses were run to explore in greater depth the (unexpectedly insignificant) relationship between perceived stakeholder concern and SPI use. In particular, even if perceived stakeholder concern does not appear to directly affect SPI use, an indirect effect may

¹⁵ Interestingly enough, the findings from the complete model (see Table 6, panel B) indicate a positive and slightly significant direct path between perceived stakeholder concern and social performance ($\beta = 0.253$, $p < 0.1$). Some thoughts on this result are offered in the final section.

possibly occur via the sensibility of a company's top management team towards social responsibility issues. Indeed, it could be the case that perceived stakeholder concern enhances top management's social commitment, which in turn positively affects SPI use (as found when testing H1c). Arguments for expecting a positive relationship between perceived stakeholder concern and top management's commitment (as well as between expected competitive advantage and top management's commitment) can be found in Banerjee et al. (2003). Therefore, a model was tested in which two additional paths were drawn between perceived stakeholder concern and expected competitive advantage on the one hand and top management's social commitment on the other hand. The results shown in Table 6 (panel C), however, do not seem to provide support for such an indirect effect. More specifically, perceived stakeholder concern does indeed positively affect top management's social commitment ($\beta = 0.460$, $p < 0.01$). However, the path between top management's social commitment and SPI use, which was significant at the 0.1 level in the original model, is even weaker in this alternative specification ($\beta = 0.122$, $p = 0.104$). As a result, the indirect path between perceived stakeholder concern and SPI use, acting through top management's social commitment, turns out to be insignificant at conventional statistical levels ($\beta = 0.056$, $p = 0.128$).¹⁶

Finally, a PLS model was also tested in which the SPI use variable was split into two components, one for decision-making (items 3–7) and one for decision-control (items 1 and 2). The results are nearly identical to those obtained when SPI use is modeled as one-dimensional,¹⁷ confirming the robustness of the main findings.

Discussion and Conclusions

By bridging CSR management and management control research, this study aimed to improve our understanding of the determinants and performance effects of the performance measurement systems adopted by companies to manage their social responsibility activities. Specifically, a theoretical model was developed to examine how the three main motivations for CSR, i.e., expected competitive advantage, perceived stakeholder concern, and top

management's social commitment, are variously associated with the use of SPI for internal decision-making and control and how such use is in turn associated with social and economic performance. The model was tested using PLS on survey data collected across 97 Italian firms.

The results are generally in line with the expectations and offer nuanced insights into the differential strength of the various motivations and their implications for social performance measurement systems and for corporate performance. Concerning the determinants of social performance measurement systems, the results confirm that expected competitive advantage is strongly associated with SPI use, both in the main analyses and in the various robustness checks performed. These findings confirm the idea that the 'business case' for CSR is the most influential motivation behind corporate adoption of CSR initiatives and strategies (Porter and Kramer 2006; Plaza-Úbeda et al. 2009). They also confirm the argument that a firm's performance measurement systems should be aligned with its key value drivers (Ittner and Larcker 2001). As expected, top management's social commitment is also positively associated with SPI use, although the relationship is generally significant only at the 0.1 level (and even at the 0.15 level in the model specification reported in Table 6, panel C). Such results provide modest support for those claims emphasizing the importance of a strong and committed leadership in bringing about social improvements (Hemingway and Maclagan 2004). Interestingly, the empirical findings fail to confirm the hypothesized positive influence of external stakeholders' pressures on firms' social performance measurement systems. Indeed, both the direct path between perceived stakeholder concern and SPI use, as well as the indirect path acting through top management's social commitment, turn out to be insignificant. These results seem to suggest that external stakeholder pressures concerning CSR are relatively weak and do not stimulate a substantive integration of social and ethical concerns into companies' decision-making and control processes. While a positive link was hypothesized based on stakeholder theory's arguments, these findings are more in line with the tenets of neo-institutionalism (Powell and DiMaggio 1991), according to which companies react to external institutional pressures by adopting legitimacy-enhancing measures but without necessarily re-examining their internal practices (Meyer and Rowan 1977). For example, companies may use external CSR disclosures as a way to signal their commitment to social responsibility issues, yet such reports may serve as veils hiding activities (Deegan 2002). In this respect, the social and environmental accounting literature has extensively documented the partial and selective nature of corporate CSR reports (Moerman and Van Der Laan 2005; Adams 2004), which have often been described as greenwashing (Laufer 2003)

¹⁶ The statistical significance of the indirect path is again computed by applying the bootstrapping procedure suggested by Preacher and Hayes (2008).

¹⁷ More specifically: (i) the path between expected competitive advantage and SPI use is positive and strongly significant for both the decision-making and the decision-control components; (ii) perceived stakeholder concern is not a significant predictor of either component; (iii) top management's social commitment is a weak determinant of both components; and (iv) both the decision-making and the decision-control components have a strong and positive influence on social performance.

Table 6 Alternative model specifications ($n = 97$)

Paths from	Paths to SPI use			
Panel A: Determinants only				
Expected competitive advantage	0.331 (2.986)***			
Perceived stakeholder concern	0.004 (0.050)			
Top manag. social commitment	0.127 (1.394)*			
Size	0.043 (0.592)			
Industry	0.051 (0.769)			
SPI perceived quality	0.192 (1.525)			
Certification	-0.180 (1.924)*			
Paths from	Paths to			
	SPI use	Social performance	Economic performance	
Panel B: Complete model				
Expected competitive advantage	0.326 (2.970)***	-0.097 (1.156)	0.119 (1.361)	
Perceived stakeholder concern	-0.011 (0.120)	0.253 (1.977)*	-0.045 (0.628)	
Top manag. social commitment	0.137 (1.379)*	0.136 (1.347)	0.046 (0.527)	
SPI use	-	0.358 (3.669)***	-0.028 (0.395)	
Social performance	-	-	0.305 (2.596)***	
Size	0.054 (0.836)	-0.168 (1.643)	0.169 (1.791)*	
Industry	0.052 (0.764)	-0.196 (2.217)**	0.180 (1.708)*	
SPI perceived quality	0.196 (1.628)	0.048 (0.709)	0.061 (0.883)	
Certification	-0.180 (1.906)*	0.105 (1.423)	-0.167 (1.761)*	
Paths from	Paths to			
	Top manag. social commitment	SPI use	Social performance	Economic performance
Panel C: Top management's social commitment as mediating variable				
Expected competitive advantage	0.113 (1.156)	0.323 (2.922)***	-	-
Perceived stakeholder concern	0.460 (4.565)***	-0.002 (0.027)	-	-
Top manag. social commitment	-	0.122 (1.267)	-	-
SPI use	-	-	0.438 (5.892)***	0.050 (0.737)
Social performance	-	-	-	0.281 (2.726)***
Size	-	0.059 (0.816)	-0.155 (1.535)	0.127 (1.577)
Industry	-	0.049 (0.740)	-0.208 (2.413)**	-
SPI perceived quality	-	0.196 (1.648)	-	-
Certification	-	-0.181 (1.866)*	0.183 (2.059)**	-0.154 (1.826)*

Each cell reports the path coefficient (t -value)

Bold style denotes hypothesized paths, while italic style denotes control paths

*, ** and *** denote significance at the 0.1, 0.05 and 0.01 levels using a one-tailed test for hypotheses with predicted sign and a two-tailed test for control paths

or window dressing (Kolk and Perego 2014) phenomena with little, if any, effects on the real work of organizations (Larrinaga-Gonzalez and Bebbington 2001; O'Dwyer 2003, 2005). In line with such arguments, this study's findings seem to support a rather skeptical view according to which external stakeholders' pressures do not exert any significant influence on companies' internal business operations. This could be due, for instance, to the nature of

firms' social initiatives and social performance, which tend to be hardly observable by external stakeholders, as their exact definition and quantification remain rather elusive.¹⁸

¹⁸ An exemplary case is Enron, which "looked like an exceptional corporate citizen, with all the corporate social responsibility and business ethics tools and status symbols in place" (Basu and Palazzo 2008, p. 123).

If stakeholders have difficulties in distinguishing a substantive commitment from façade activities, it seems possible that stakeholders' pressures represent a relatively weak incentive towards the integration of social responsibility concerns into companies' decision-making and control processes. Nevertheless, the findings obtained in relation to the complete model (see Table 6, panel B) also point to an alternative, and possibly less skeptical, interpretation. More specifically, these findings suggest a positive and slightly significant direct path between perceived stakeholder concern and social performance. Such a direct link could indicate that firms may adequately align their conduct with the CSR expectations of their stakeholders not primarily through formal performance measurement systems, but rather by relying on other mechanisms such as softer and informal cultural controls (Epstein 2010). Interestingly, it seems possible to apply an analogous line of reasoning while discussing the somewhat contradictory findings obtained in relation to the certification variable. Indeed, on the one hand, the negative relationship between certification and SPI use, in line with neo-institutionalist arguments, seems to suggest that the adoption of a certified social management system may primarily serve as a ceremonial behavior detached from a company's daily practices (cf. Boiral 2007 for a similar discussion applied to the ISO 14001 standard). On the other hand, a less skeptical interpretation could stem from the identified positive link between certification and social performance. More specifically, this finding could suggest that a certified social management system may indeed favorably orient business conduct towards improved social performance even in the absence of specific social performance measurement systems. In this sense, certified social management systems and social performance measurement systems may act as substitutes. Future work could investigate these initial thoughts in greater depth.

Coming to the performance effects of social performance measurement systems, the results show that, as expected, SPI use is significantly associated with social performance. These results support the claim that social performance measurement systems play an important role in helping managers better address their firms' social responsibilities. Indeed, the use of SPI for decision-making and control purposes improves social performance by clarifying and communicating social strategies and targets, encouraging the establishment of priorities based on such social goals, improving the allocation of resources, and motivating people to align their behavior with the social aims of the organization (Chenhall 2005; Ittner et al. 2003; Anthony and Govindarajan 1998). Finally, the results also provide confirmatory evidence for an indirect, positive effect of SPI use on economic performance acting through social performance. In other words, although SPI use does not directly enhance a firm's bottom

line, it does enhance it indirectly by influencing an intermediary level of performance—social performance—which in turn influences economic performance.

These findings need to be interpreted in light of the limitations of this work. First, the instrument to measure SPI use was newly developed for this study, and all of the other instruments were derived by taking scales originally developed with respect to the environmental area and adapting them to the social dimension. Although all of the instruments exhibited satisfactory psychometric properties, they could be refined and further validated by future research. Second, no clear evidence of causality can be established with survey-data obtained from cross-sectional analyses. Rather, the evidence must be considered consistent with theoretical arguments and predicted hypotheses. Third, the theoretical framework proposed and tested, consistently with an established tradition in contingency-based research in management accounting, is based on a reductionist approach and the corresponding identification of a relatively restricted set of variables and relationships (Gerdin and Greve 2004). Nevertheless, more exhaustive and holistic approaches, such as those based on the notion of systems fit (Drazin and Van de Ven 1985) or on complementarity theory (Milgrom and Roberts 1995), have recently been suggested as fruitful avenues for encouraging the consideration of wider sets of variables and relations (Burkert et al. 2014; Grabner and Moers 2013). Such observations are particularly pertinent with respect to the study's focus on social performance measurement systems only. This specific focus was chosen because performance measurement systems are key foundations of companies' overall management control systems (Otley 1999) and allow the investigation of a wide variety of decision-making and control problems for which management accounting information can be used. However, performance measurement systems represent only one component of a firm's overall control "system" or "package" (Malmi and Brown 2008; Grabner and Moers 2013). If social performance measurement systems were systematically linked (i.e., interdependent) with other types of control mechanisms—for example, social (Ouchi 1979) or personnel (Merchant and Van Der Stede 2003) controls—failing to control for this interdependence could lead to spurious findings (Grabner and Moers 2013). Fourth, the particular notion of social performance employed in this work should also be considered in interpreting the results. Indeed, as already noted, the study's findings are based on an organization-centric definition of social performance, as reflected in managers' (possibly restricted) views of their firms' social responsibilities and impacts (Milne et al. 2006; Tregidga et al. 2013). While such a notion of social performance is consistent with the purposes and the managerial approach of the present work, it is possible that the

observed relationships would not hold if broader notions of social performance were employed.

Despite the aforementioned limitations, this study is believed to contribute to both social accounting research and practice. Concerning contributions to research, this investigation extends the social and environmental accounting research by shifting the focus of analysis (i) from external reporting to internal decision-making and control and (ii) from the environmental to the social dimension of CSR, as urged by recent calls (Owen 2008; Crutzen and Herzig 2013). In particular, the study is the first to empirically investigate both the determinants and the performance effects of the performance measurement systems adopted by companies to manage their social responsibility activities. On the one hand, this work develops insights into the motivations under which companies are more likely to adopt substantive mechanisms such as the use of SPI for internal decision-making and control, thus complementing the most common understanding of the social accounting phenomenon based either on institutional or critical approaches (see, e.g., Gray 2010; Larrinaga-Gonzalez 2007). In particular, it contributes to the window dressing debate (Adams 2004; Larrinaga-Gonzalez and Bebbington 2001; O'Dwyer 2003, 2005; Moerman and Van Der Laan 2005) by showing that, within the social domain, external CSR pressures do not seem sufficient to ensure a substantive integration of social and ethical concerns into companies' formal decision-making and control processes. On the other hand, this study is among the first to test whether such a substantive use of SPI for internal decision-making and control is indeed associated with improvements in companies' social and economic performance. In so doing, this investigation also contributes to the CSP-CFP literature in CSR research (Erhemjamts et al. 2013; Wood 2010) by providing additional confirmatory evidence for a positive impact of a company's social performance on its bottom line.

This study is also of practical significance for management accountants, CSR/Sustainability managers and top management in general. In particular, it provides empirical support for the business case rationale for CSR and, thus, encourages managers to adopt initiatives aimed at improving their companies' social performance as a way to contribute to corporate financial performance. The use of SPI for internal decision-making and control is shown to represent an effective mechanism in that respect. The study's findings concerning the determinants of SPI use have relevant implications for academia as well. Indeed, the two most influential determinants of SPI use emerging from this work, i.e., top management's perceptions about the business case for CSR and its commitment towards social responsibility, depend to a large extent on our efforts as researchers and teachers. Therefore, ever more

convincing empirical evidence on the business case for CSR and more attention to the inclusion of social accounting courses into universities' and business schools' programs are needed to positively influence managerial attitudes towards CSR and, thus, to incentivize the diffusion of appropriate social performance measurement systems leading to enhanced corporate social performance.

This study also opens up avenues for future research. In particular, as previously mentioned, it could be interesting to further investigate the reasons why the stakeholder concern rationale is not a significant determinant of SPI use. In this regard, it could be also useful to adopt a more fine-grained operationalization of perceived stakeholder concern, distinguishing among different categories of stakeholders (see, e.g., Buysse and Verbeke 2003). Such an analysis would be functional to investigate whether the overall insignificant link between the stakeholder concern rationale and SPI use turns out to be significant for some specific stakeholder categories. Moreover, this study's model could be extended through the inclusion of other, more informal control systems such as social or personnel controls, which can also be expected to play a significant role in relation to social issues (Epstein 2010; Ditillo and Lisi 2014). Such an extension could be particularly useful to explore whether different types of control mechanisms act as complements (or substitutes) in orienting organizational behavior towards more socially responsible practices (Grabner and Moers 2013; Ditillo and Lisi 2014). The inclusion of additional types of controls could also be interesting to investigate whether, as speculated above, perceived stakeholder pressures do indeed affect organizational behavior and social performance through other control mechanisms different from formal performance measurement systems.

Funding No funding was received for this study.

Compliance with Ethical Standards

Conflict of Interest The author declares he/she has no conflict of interest.

Appendix 1: Questionnaire

Section I: Firm's Social Performance Measurement Systems

In this section you will find questions on your firm's social performance measurement systems. The adjective social is related to: labor practices (i.e., occupational health and safety), human rights (i.e., child labor), society (i.e., relations with local communities), product responsibility (i.e., customer health and safety).

1. Amongst performance indicators measured within your firm on a regular basis (i.e., at least once a year), are there indicators of social performance (i.e., injury rates)? (yes/no).
2. Indicate to what extent (1 = not at all, 2 = to a very small extent, 3 = to a small extent, 4 = to a moderate extent, 5 = to a large extent, 6 = to a very large extent, 7 = totally) your firm uses social performance indicators for each of the following purposes:
 - Evaluate managers' performance
 - Incentivize and reward managers (e.g., determine salary increases, set annual bonuses, and/or career advances)
 - Establish formal strategic objectives (or goals)
 - Evaluate and approve capital expenditures
 - Make product decisions (e.g., product price, product mix, new product development)
 - Define standards for the selection/retention of external suppliers
 - The daily management and operational decisions (e.g., assess make-or-buy alternatives, assess the manufacturing process to use)
 - Prepare and issue the corporate financial and/or sustainability report
 - Disclose information to the public through the firm website, conference calls, press releases
 - Provide information to analysts and/or rating agencies
 - Provide information to government officials for compliance to legislation
 - Provide information to local communities and non-governmental organizations
 - Other uses not mentioned (please specify) _____
3. Rank the three most important uses for social performance indicators within your firm among the following (put a 1 in the box for most important use, 2 in box for second most important use and 3 in box for third most important use):
 - Evaluate managers' performance
 - Incentivize and reward managers (e.g., determine salary increases, set annual bonuses and/or career advances)
 - Establish formal strategic objectives (or goals)
 - Evaluate and approve capital expenditures
 - Make product decisions (e.g., product price, product mix, new product development)
 - Define standards for the selection/retention of external suppliers
 - The daily management and operational decisions (e.g., assess make-or-buy alternatives, assess the manufacturing process to use)
 - Prepare and issue the corporate financial and/or sustainability report
 - Disclose information to the public through the firm website, conference calls, press releases
 - Provide information to analysts and/or rating agencies
 - Provide information to government officials for compliance to legislation
 - Provide information to local communities and non-governmental organizations
 - Other uses not mentioned (please specify) _____
4. Indicate your agreement (1 = completely disagree, 2 = mostly disagree, 3 = somewhat disagree, 4 = neither disagree nor agree, 5 = somewhat agree, 6 = mostly agree, 7 = completely agree) on the following statements:
 - Overall, managers are satisfied with the quality (relevance, timeliness, accuracy and format) of social information provided by our firm's measurement and internal reporting systems
5. Amongst the objectives formally assigned to managers within your firm, are there any targets related to social issues (i.e., work-related injury rates, absenteeism rates, health and safety costs and investments, average number of training hours per employee, number of third-party social audits on suppliers) (yes/no)?
6. If yes:
 - how many managers (in percentage) such social targets are assigned to formally? (%)
 - what percentage (if any) of managers' variable compensation (annual bonus and/or annual salary increase) depends upon the achievement of such social targets on average? (%)
7. Rate your firm's overall performance for the last fiscal year, compared to other competitors across the industry, on each of the following objectives (1 = much worse, 2 = worse, 3 = slightly worse, 4 = neither worse nor better, 5 = slightly better, 6 = better, 7 = much better):
 - Complying with social (i.e., health and safety, human rights) regulations
 - Limiting social impact beyond compliance
 - Preventing and mitigating social crises (i.e., work-related fatal injuries, incidents of discrimination, incidents of human rights violations across the supply chain)
 - Educating employees and the public about social issues (i.e., health and safety, human rights)

Section II: Firm's Social Responsibility Approach

In this section you will find questions on your firm's approach to social responsibility, in terms of beliefs, practices and structure.

8. Indicate your agreement (1 = completely disagree, 2 = mostly disagree, 3 = somewhat disagree, 4 = neither disagree nor agree, 5 = somewhat agree, 6 = mostly agree, 7 = completely agree) on the following statements:
 - Our stakeholders feel that social responsibility is a critically important issue facing the world today
 - The public is very concerned about social problems (i.e., work-related injuries, human rights violations, corruption)
 - Our customers are increasingly demanding healthier and safer products and services
 - Our stakeholders expect our firm to be socially responsible
 - Being socially conscious can lead to substantial cost advantages for our firm
 - Our firm has realized significant cost savings by experimenting with ways to reduce the social impact of our products and processes
 - By regularly investing in research and development on healthier and safer products and processes, our firm can be a leader in the market
 - Our firm can enter lucrative new markets by adopting social strategies
 - Our firm can increase market share by reducing the social impact of our current products
 - Reducing the social impact of our firm's activities will lead to a quality improvement in our products and processes
9. Indicate your agreement (1 = completely disagree, 2 = mostly disagree, 3 = somewhat disagree, 4 = neither disagree nor agree, 5 = somewhat agree, 6 = mostly agree, 7 = completely agree) on the following statements:
 - The top management team (President/Chairman, Chief Executive Officer, Chief Operating Officer) in our firm is committed to social issues
 - Our firm's social efforts receive full support from our top management
 - Our firm's social strategies are driven by the top management team
10. Does your firm issue a social (or sustainability) report (yes/no)?
11. If yes, in which year did your firm publish its first social (or sustainability) report?
12. Does your firm have a Corporate Social Responsibility (or Sustainability) manager (i.e., a person formally in charge of managing social and/or environmental responsibility issues) (yes/no)?
13. If yes:
 - Which department does the CSR (or Sustainability) manager belong to?
 - Communication and/or Public Relations
 - Marketing
 - Human Resources
 - Finance and/or Accounting
 - Risk Management and Compliance
 - CSR (or Sustainability) unit, reporting directly to the CEO
 - Other (please specify) _____
 - How many levels/tiers (according to your firm's organization chart) separate the CSR (or Sustainability) manager from the CEO? (indicate 0 if the CSR manager is the CEO, 1 if the CSR manager directly reports to the CEO and so on)
 - How many times a year does the CSR (or Sustainability) manager interact with the top management team (President/Chairman, Chief Executive Officer, Chief Operating Officer)?
 - Never
 - From 1 to 2
 - From 3 to 6
 - About once a month
 - About once a week
 - More than once a week
14. Indicate the importance of each of the following practices in your firm (1 = not important at all, 2 = very slightly important, 3 = slightly important, 4 = somehow important, 5 = important, 6 = highly important, 7 = exceptionally important):
 - Use of social arguments in marketing
 - Social aspects in administrative work
 - Periodic social audits
 - Health & Safety training for firm's employees
 - Total quality program with Health & Safety aspects
 - Sponsorship of social events
15. Indicate whether the majority of your firm's facilities is certified according to the following standards:
 - OHSAS 18001
 - SA8000

Section III: Personal Details of the Respondent

In this section you will find questions on you.

- 16. Current role (job title)
- 17. Years of experience in the current role
- 18. Years of experience within the firm
- 19. How many levels/tiers (according to your firm’s organization chart) separate you from the CEO? (indicate 0 if you are the CEO, 1 if you directly report to the CEO and so on)
- 20. Education level:
 - 1. High school
 - 2. Professional education or university degree
 - 3. Master degree
 - 4. Doctorate degree
- 21. Gender
 - Male
 - Female
- 22. Age (years)

Section IV: Health and Safety Information

In this section you will find questions on Health and Safety data within your firm.

- 23. Total number of full-time employees (personnel) at the end of the last fiscal year
- 24. Total number of hours actually worked in the last fiscal year
- 25. Total number of work-related injuries in the last fiscal year

Section V: Firm’s Financial And General Information

In this section you will find questions on your firm and on its financial performance.

- 26. Rate your firm’s overall performance for the last fiscal year, compared to other competitors across the industry, on each of the following objectives (1 = much worse, 2 = worse, 3 = slightly worse, 4 = neither worse nor better, 5 = slightly better, 6 = better, 7 = much better)
 - Return on investments (ROI)
 - Operating profit (EBIT)
 - Cash flow from operations
- 27. Sales (in thousand euros or thousand pounds) in the last fiscal year
- 28. ROI (Return on investments) in the last fiscal year
- 29. Country where your firm is located
- 30. Type of business
 - Food and beverages
 - Other light industries such as textiles, pulp and paper, printing, furniture, plastics, and other packaging materials
 - Chemical products including pharmaceuticals, oils, detergents, and cosmetics
 - Heavy manufacturing and machinery
 - Natural resources
 - Other sectors such as wholesale distribution, construction, transportation, and utilities
- 31. Main product(s)/service(s)
- 32. Indicate whether your firm is
 - 1 = Listed 2 = Non-listed
 - 1 = Parent company 2 = Local subsidiary

Appendix 2: Item Cross Loadings for the Main Variables (n = 97)

	SPI use	Expected competitive advantage	Perceived stakeholder concern	Top manag. social commitment	Social performance	Economic performance
SPI use						
Item 1	0.724	0.306	0.211	0.259	0.357	0.184
Item 2	0.744	0.272	0.136	0.243	0.318	0.184
Item 3	0.704	0.129	0.180	0.225	0.195	0.050
Item 4	0.731	0.219	0.150	0.070	0.193	0.046
Item 5	0.778	0.422	0.190	0.111	0.242	0.124
Item 7	0.662	0.247	0.245	0.230	0.381	0.150

continued

	SPI use	Expected competitive advantage	Perceived stakeholder concern	Top manag. social commitment	Social performance	Economic performance
Expected competitive advantage						
Item 1	0.300	0.783	0.393	0.240	0.233	0.149
Item 2	0.310	0.706	0.362	0.407	0.173	0.073
Item 3	0.188	0.623	0.396	0.331	0.176	0.145
Item 4	0.367	0.846	0.353	0.163	0.188	0.093
Item 5	0.319	0.863	0.417	0.141	0.124	0.162
Item 6	0.199	0.698	0.290	0.087	0.091	0.116
Perceived stakeholder concern						
Item 1	0.212	0.438	0.826	0.440	0.308	0.086
Item 2	0.099	0.184	0.580	0.412	0.386	0.098
Item 3	0.255	0.402	0.784	0.322	0.261	0.101
Item 4	0.202	0.404	0.888	0.409	0.299	0.146
Top management's social commitment						
Item 1	0.291	0.286	0.415	0.965	0.365	0.177
Item 2	0.261	0.300	0.547	0.954	0.335	0.151
Item 3	0.234	0.262	0.451	0.965	0.344	0.140
Social performance						
Item 1	0.296	0.160	0.260	0.256	0.855	0.260
Item 2	0.317	0.077	0.279	0.381	0.843	0.259
Item 3	0.402	0.187	0.343	0.307	0.829	0.147
Item 4	0.350	0.289	0.361	0.265	0.791	0.242
Economic performance	0.188	0.157	0.136	0.164	0.274	1.000

References

- Abernethy, M. A., Bouwens, J., & van Lent, L. (2004). Determinants of control system design in divisionalized firms. *The Accounting Review*, 79(3), 545–570.
- Abernethy, M. A., & Vagnoni, E. (2004). Power, organization design and managerial behaviour. *Accounting, Organizations and Society*, 29(3–4), 207–225.
- Adams, C. A. (2002). Internal organizational factors influencing corporate social and ethical reporting. Beyond current theorizing. *Accounting, Auditing and Accountability Journal*, 15(2), 223–250.
- Adams, C. A. (2004). The ethical, social and environmental reporting-performance portrayal gap. *Accounting, Auditing and Accountability Journal*, 17(5), 731–757.
- Adams, C. A., Hill, W., & Roberts, C. B. (1998). Corporate social reporting practices in Western Europe: Legitimizing corporate behaviour? *British Accounting Review*, 30(1), 1–21.
- Agle, B. R., Mitchell, R. K., & Sonnenfeld, J. A. (1999). Who matters to CEOs? An investigation of stakeholder attributes and salience, corporate performance, and CEO values. *Academy of Management Journal*, 42(5), 507–525.
- Albeda Perez, E., Correa Ruiz, C., & Carrasco Fenech, F. (2007). Environmental management systems as an embedding mechanism: A research note. *Accounting, Auditing and Accountability Journal*, 20(3), 403–422.
- Anthony, R. N., & Govindarajan, V. (1998). *Management control systems*. New York: McGraw-Hill.
- Aragón-Correa, J. A. (1998). Strategic proactivity and firm approach to the natural environment. *Academy of Management Journal*, 41(5), 556–567.
- Aragón-Correa, J. A., & Rubio-López, E. A. (2007). Proactive corporate environmental strategies: Myths and misunderstandings. *Long Range Planning*, 40, 357–381.
- Banerjee, S. B., Iyer, E. S., & Kashyap, R. K. (2003). Corporate environmentalism: Antecedents and influence of industry type. *Journal of Marketing*, 67(2), 106–122.
- Bansal, P., Gao, J., & Qureshi, I. (2014). The extensiveness of corporate social and environmental commitment across firms over time. *Organization Studies*, 35(7), 949–966.
- Bansal, P., & Knox-Hayes, J. (2013). The time and space of materiality in organizations and the environment. *Organization & Environment*, 26(1), 61–82.
- Bansal, P., & Roth, K. (2000). Why companies go green: A model of ecological responsiveness. *Academy of Management Journal*, 43(4), 717–736.
- Bartolomeo, M., Bennet, M., Bouma, J. J., Heydkamp, P., James, P., & Wolters, T. (2000). Environmental management accounting in Europe: Current practice and future potential. *European Accounting Review*, 9(1), 31–52.
- Basu, K., & Palazzo, G. (2008). Corporate social responsibility: A process model of sensemaking. *Academy of Management Review*, 33(1), 122–136.
- Battaglia, M., Frey, M., & Passetti, E. (2014). Accidents at work and costs analysis: A field study in a large Italian company. *Industrial Health*, 52(4), 354–366.

- Baxter, J., & Chua, W. F. (2003). Alternative management accounting research—Whence and whither. *Accounting, Organizations and Society*, 28(2–3), 97–126.
- Bebbington, J., Higgins, C., & Frame, B. (2009). Initiating sustainable development reporting: Evidence from New Zealand. *Accounting, Auditing and Accountability Journal*, 22(4), 588–625.
- Behling, O., & Law, K. S. (2000). *Translating questionnaires and other research instruments: Problems and solutions*. Thousand Oaks, CA: Sage.
- Berrone, P., & Gomez-Mejia, L. R. (2009). The pros and cons of rewarding social responsibility at the top. *Human Resource Management*, 48(6), 959–971.
- Boiral, O. (2007). Corporate greening through ISO 14001: A rational myth? *Organization Science*, 18(1), 127–146.
- Bonner, S. E., Hastie, R., Sprinkle, G. B., & Young, S. M. (2000). A review of the effects of financial incentives on performance in laboratory tasks: Implications for management accounting. *Journal of Management Accounting Research*, 12(1), 19–64.
- Bouwens, J., & Abernethy, M. A. (2000). The consequences of customization on management accounting system design. *Accounting, Organizations and Society*, 25(3), 221–241.
- Burkert, M., Davila, T., Mehta, K., & Oyon, D. (2014). Relating alternative forms of contingency fit to the appropriate methods to test them. *Management Accounting Research*, 25, 6–29.
- Burnett, R. D., & Hansen, D. R. (2008). Ecoefficiency: Defining a role for environmental cost management. *Accounting, Organizations and Society*, 33(6), 551–581.
- Burritt, R. L., & Schaltegger, S. (2010). Sustainability accounting and reporting: Fad or trend? *Accounting, Auditing and Accountability Journal*, 23(7), 829–846.
- Buyse, K., & Verbeke, A. (2003). Proactive environmental strategies: A stakeholder management perspective. *Strategic Management Journal*, 24(5), 453–470.
- Campbell, J. L. (2007). Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility. *Academy of Management Review*, 32, 946–967.
- Chapman, C. S. (1997). Reflections on a contingent view of accounting. *Accounting, Organizations and Society*, 22(2), 189–205.
- Chapman, C. S., & Kihn, L. A. (2009). Information system integration, enabling control and performance. *Accounting, Organizations and Society*, 34(2), 151–169.
- Chen, J. C., & Roberts, R. W. (2010). Toward a more coherent understanding of the organization-society relationship: A theoretical consideration for social and environmental accounting research. *Journal of Business Ethics*, 97, 651–665.
- Chenhall, R. H. (2003). Management control system design within its organizational context: Findings from contingency-based research and directions for the future. *Accounting, Organizations and Society*, 28(2–3), 127–168.
- Chenhall, R. H. (2005). Integrative strategic performance measurement systems, strategic alignment of manufacturing, learning and strategic outcomes: An exploratory study. *Accounting, Organizations and Society*, 30(5), 395–422.
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. In G. A. Marcoulides (Ed.), *Research methods for business research* (pp. 295–336). Mahwah, NJ: Lawrence Erlbaum.
- Chin, W. W., & Newsted, P. R. (1999). Structural equation modeling analysis with small samples using partial least squares. In R. H. Hoyle (Ed.), *Statistical strategies for small sample research* (pp. 307–341). Thousand Oaks, CA: Sage.
- Cho, C. H., Freedman, M., & Patten, D. M. (2012). Corporate disclosure of environmental capital expenditures: A test of alternative theories. *Accounting, Auditing and Accountability Journal*, 25(3), 486–507.
- Clarkson, M. B. E. (1995). A stakeholder framework for analyzing and evaluating corporate social performance. *Academy of Management Review*, 20(1), 92–117.
- Crutzen, N., & Herzog, C. (2013). A review of the empirical research in management control, strategy and sustainability. In L. Songini, A. Pistoni, & C. Herzog (Eds.), *Accounting and control for sustainability*. Bingley: Emerald.
- Deegan, C. (2002). The legitimizing effect of social and environmental disclosures—A theoretical foundation. *Accounting, Auditing and Accountability Journal*, 15(3), 282–311.
- Dillman, D. A. (2000). *Mail and Internet surveys: The tailored design method*. New York: Wiley.
- Ditillo, A., & Lisi, I. E. (2014). Towards a more comprehensive framework for sustainability control systems research. *Advances in Environmental Accounting and Management*, 5, 23–47.
- Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence and implications. *Academy of Management Review*, 20(1), 65–91.
- Drazin, R., & Van de Ven, A. H. (1985). Alternative forms of contingency fit. *Administrative Science Quarterly*, 30, 514–539.
- Elbashir, M. Z., Collier, P. A., & Sutton, S. G. (2011). The role of organizational absorptive capacity in strategic use of business intelligence to support integrated management control systems. *The Accounting Review*, 86(1), 155–184.
- Epstein, M. J. (2010). The challenge of simultaneously improving social and financial performance: New research results. In M. J. Epstein, J.-F. Manzoni, & T. Davila (Eds.), *Performance measurement and management control: Innovative concepts and practices*. Bingley: Emerald.
- Epstein, M. J., & Birchard, B. (2000). *Counting what counts*. Cambridge, MA: Perseus Books.
- Erhemjamts, O., Li, Q., & Venkateswaran, A. (2013). Corporate social responsibility and its impact on firms' investment policy, organizational structure, and performance. *Journal of Business Ethics*, 118(2), 395–412.
- European Commission. (2001). *Green paper*. Brussels: Promoting a European framework for corporate social responsibility.
- Ferreira, A., Moulang, C., & Hendro, B. (2010). Environmental management accounting and innovation: An exploratory analysis. *Accounting, Auditing and Accountability Journal*, 23(7), 920–948.
- Ferreira, A., & Otley, D. (2009). The design and use of performance management systems: An extended framework for analysis. *Management Accounting Research*, 20(4), 263–282.
- Flamholtz, E. G., Das, T. K., & Tsui, A. S. (1985). Toward an integrative framework of organizational control. *Accounting, Organizations and Society*, 10(1), 35–50.
- Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Boston: Pitman.
- Gerdin, J. (2005). The impact of departmental interdependencies and management accounting system use on subunit performance. *European Accounting Review*, 14(2), 297–327.
- Gerdin, J., & Greve, J. (2004). Forms of contingency fit in management accounting research—A critical review. *Accounting, Organizations and Society*, 29, 303–326.
- Gond, J.-P., Grubnic, S., Herzog, C., & Moon, J. (2012). Configuring management control systems: Theorizing the integration of strategy and sustainability. *Management Accounting Research*, 23(3), 205–223.
- Grabner, I., & Moers, F. (2013). Management control as a system or a package? Conceptual and empirical issues. *Accounting, Organizations and Society*, 38, 407–419.
- Gray, R. H. (2010). Is accounting for sustainability actually accounting for sustainability and how would we know? An exploration of narratives of organisations and the planet. *Accounting, Organizations and Society*, 35(1), 47–62.

- Gray, R. H., Kouhy, R., & Lavers, S. (1995). Corporate social and environmental reporting. A review of the literature and a longitudinal study of UK disclosure. *Accounting, Auditing and Accountability Journal*, 8(2), 47–77.
- Gray, R. H., & Milne, M. (2004). Towards reporting on the triple bottom line: Mirages, methods and myths. In A. Henriques & J. Richardson (Eds.), *The triple bottom line: Does it all add up?* (pp. 70–80). London: Earthscan.
- Gray, R. H., & Milne, M. J. (2015). It's not what you do, it's the way that you do it? Of method and madness. *Critical Perspectives on Accounting*, 32, 51–66.
- GRI. (2006). *Sustainability reporting guidelines*. Amsterdam: GRI.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks, CA: Sage.
- Hall, M. (2008). The effect of comprehensive performance measurement systems on role clarity, psychological empowerment and managerial performance. *Accounting, Organizations and Society*, 33(2–3), 141–163.
- Harman, H. H. (1976). *Modern factor analysis*. Chicago, IL: University of Chicago Press.
- Harrison, J. S., Bosse, D. A., & Phillips, R. A. (2010). Managing for stakeholders, stakeholder utility functions, and competitive advantage. *Strategic Management Journal*, 31, 58–74.
- Hartmann, F., Perego, P., & Young, A. (2013). Carbon accounting: Challenges for research in management control and performance measurement. *ABACUS*, 49(4), 539–563.
- Hemingway, C. A., & MacLagan, P. W. (2004). Managers' personal values as drivers of corporate social responsibility. *Journal of Business Ethics*, 50(1), 33–44.
- Henri, J.-F., Boiral, O., & Roy, M.-J. (2014). The tracking of environmental costs: Motivations and impacts. *European Accounting Review*, 23(4), 647–669. doi:10.1080/09638180.2013.837400.
- Henri, J.-F., & Journeault, M. (2010). Eco-control: The influence of management control systems on environmental and economic performance. *Accounting, Organizations and Society*, 35(1), 63–80.
- Henriques, I., & Sadosky, P. (1999). The relationship between environmental commitment and managerial perceptions of stakeholder importance. *Academy of Management Journal*, 42(1), 87–99.
- Hoffman, A. J. (1999). Institutional evolution and change: Environmentalism and the U.S. chemical industry. *Academy of Management Journal*, 42(4), 351–371.
- Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic Management Journal*, 20, 195–204.
- Ittner, C. D., & Larcker, D. F. (1997). Quality strategy, strategic control systems, and organizational performance. *Accounting, Organizations and Society*, 22, 293–314.
- Ittner, C. D., & Larcker, D. F. (2001). Assessing empirical research in managerial accounting: A value-based management perspective. *Journal of Accounting and Economics*, 32(1–3), 349–410.
- Ittner, C. D., Larcker, D. F., & Randall, T. (2003). Performance implications of strategic performance measurement in financial services firms. *Accounting, Organizations and Society*, 28(7–8), 715–741.
- Jennings, P. D., & Zandbergen, P. A. (1995). Ecologically sustainable organizations: An institutional approach. *Academy of Management Review*, 20(4), 1015–1052.
- Jones, T. M. (1995). Instrumental stakeholder theory: A synthesis of ethics and economics. *Academy of Management Review*, 20, 404–437.
- Judge, W. Q., & Douglas, T. J. (1998). Performance implications of incorporating natural environmental issues into the strategic planning process: an empirical assessment. *Journal of Management Studies*, 35(2), 241–262.
- Kaplan, R. S., & Norton, D. P. (2006). *Alignment. Using the balanced scorecard to create corporate synergies*. Boston: Harvard Business School Press.
- Klassen, R. D., & Whybark, D. C. (1999). Environmental management in operations: The selection of environmental technologies. *Decision Sciences*, 30(3), 601–631.
- Kolk, A., & Perego, P. (2014). Sustainable bonuses: Sign of corporate responsibility or window dressing? *Journal of Business Ethics*, 119(1), 1–15.
- KPMG. (2011). *KPMG international survey of corporate responsibility reporting 2011*. Amsterdam: KPMG.
- Langfield-Smith, K. (1997). Management control systems and strategy: A critical review. *Accounting, Organizations and Society*, 22(2), 207–232.
- Larrinaga-Gonzalez, C. (2007). Sustainability reporting: Insights from neo-institutional theory. In J. Unerman, J. Bebbington, & B. O'Dwyer (Eds.), *Sustainability accounting and accountability*. London: Routledge.
- Larrinaga-Gonzalez, C., & Bebbington, J. (2001). Accounting change or institutional appropriation? A case study of the implementation of environmental accounting. *Critical Perspectives on Accounting*, 12(3), 269–292.
- Laufer, W. S. (2003). Social accountability and corporate greenwashing. *Journal of Business Ethics*, 43, 253–261.
- Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology*, 86(1), 114–121.
- Luft, J., & Shields, M. D. (2003). Mapping management accounting: Graphics and guidelines for theory-consistent empirical research. *Accounting, Organizations and Society*, 28(2–3), 169–249.
- Maignan, I., & Ralston, D. (2002). Corporate social responsibility in Europe and the U.S.: Insights from businesses' self-presentations. *Journal of International Business Studies*, 33, 497–514.
- Malmi, T., & Brown, D. A. (2008). Management control systems as a package—Opportunities, challenges and research directions. *Management Accounting Research*, 19(4), 287–300.
- Margolis, J. D., & Walsh, J. P. (2003). Misery loves companies: Rethinking social initiatives by business. *Administrative Science Quarterly*, 48(2), 268–305.
- McWilliams, A., & Siegel, D. (2001). Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review*, 26(1), 117–127.
- Melnik, S. A., Sroufe, R. P., & Cantalone, R. (2003). Assessing the impact of environmental management systems on corporate and environmental performance. *Journal of Operations Management*, 21(3), 329–351.
- Merchant, K. A., & Van Der Stede, W. A. (2003). *Management control systems: Performance measurement, evaluation and incentives*. Harlow: Prentice Hall.
- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83(2), 340–363.
- Milgrom, P., & Roberts, J. (1995). Complementarities and fit: Strategy, structure and organizational change in manufacturing. *Journal of Accounting and Economics*, 19, 179–208.
- Milne, M. J., & Gray, R. (2013). W(h)ither ecology? The triple bottom line, the global reporting initiative, and corporate sustainability reporting. *Journal of Business Ethics*, 118(1), 13–29.

- Milne, M. J., Kearins, K., & Walton, S. (2006). Creating adventures in Wonderland: The journey metaphor and environmental sustainability. *Organization, 13*(6), 801–839.
- Moerman, L., & Van Der Laan, S. (2005). Social reporting in the tobacco industry: All smoke and mirrors? *Accounting, Auditing and Accountability Journal, 18*(3), 374–389.
- O'Dwyer, B. (2003). Conceptions of corporate social responsibility: The nature of managerial capture. *Accounting, Auditing and Accountability Journal, 16*(4), 523–557.
- O'Dwyer, B. (2005). The construction of a social account: A case study in an overseas aid agency. *Accounting, Organizations and Society, 30*(3), 279–296.
- Orlitzky, M., Schmidt, F. L., & Rynes, S. L. (2003). Corporate social and financial performance: A meta-analysis. *Organization Studies, 24*(3), 403–441.
- Otley, D. (1999). Performance management: A framework for management control systems research. *Management Accounting Research, 10*(4), 363–382.
- Ouchi, W. G. (1979). A conceptual framework for the desing of organizational control mechanisms. *Management Science, 25*(9), 833–848.
- Owen, D. (2008). Chronicles of wasted times? A personal reflection on the current state of, and future prospects for, social and environmental accounting research. *Accounting, Auditing and Accountability Journal, 21*(2), 240–267.
- Pedersen, E. R. (2006). Making corporate social responsibility (CSR) operable: How companies translate stakeholder dialogue into practice. *Business and Society Review, 111*(2), 137–163.
- Perego, P., & Hartmann, F. (2009). Aligning performance measurement systems with strategy: The case of environmental strategy. *ABACUS, 45*(4), 397–428.
- Pinkse, J., & Kolk, A. (2009). *International business and global climate change*. London: Routledge.
- Pinkse, J., & Kolk, A. (2010). Challenges and trade-offs in corporate innovation for climate change. *Business Strategy and the Environment, 19*(4), 261–272.
- Plaza-Úbeda, J. A., Burgos-Jiménez, J., Vazquez, D. A., & Liston-Heyes, C. (2009). The 'win-win' paradigm and stakeholder integration. *Business Strategy and the Environment, 18*(8), 487–499.
- Pondeville, S., Swaen, V., & De Rongé, Y. (2013). Environmental management control systems: The role of contextual and strategic factors. *Management Accounting Research, 24*(4), 317–332. doi:10.1016/j.mar.2013.06.007.
- Porter, M. E., & Kramer, M. R. (2006). Strategy and society: The link between competitive advantage and corporate social responsibility. *Harvard Business Review, 84*(12), 78–92.
- Porter, M. E., & Kramer, M. R. (2011). Creating shared value. *Harvard Business Review, 89*, 62–77.
- Powell, W. W., & DiMaggio, P. J. (1991). *The new institutionalism in organizational analysis*. Chicago, IL: University of Chicago Press.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*(3), 879–891.
- Ringle, C. M., Wende, S., & Will, A. (2005). SmartPLS. (2.0 (beta ed.). Hamburg, Germany.
- Scott, R. (1995). *Institutions and organizations*. Thousand Oaks, CA: Sage.
- Sharma, S. (2000). Managerial interpretations and organizational context as predictors of corporate choice of environmental strategy. *Academy of Management Journal, 43*(4), 681–697.
- Sharma, S., & Henriques, I. (2005). Stakeholder influences on sustainability practices in the Canadian forest products industry. *Strategic Management Journal, 26*(2), 159–180.
- Simons, R. (2000). *Performance measurement and control systems for implementing strategy*. Upper Saddle River, NJ: Prentice Hall.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology, 13*, 290–312.
- Songini, L., & Pistoni, A. (2012). Accounting, auditing and control for sustainability. *Management Accounting Research, 23*(3), 202–204.
- Tregidga, H., Kearins, K., & Milne, M. (2013). The politics of knowing “organizational sustainable development”. *Organization & Environment, 26*(1), 102–129.
- Unerman, J., & Chapman, C. (2014). Academic contributions to enhancing accounting for sustainable development. *Accounting, Organizations and Society, 39*, 385–394.
- Weaver, G. R., Trevino, L. K., & Cochran, P. L. (1999). Integrated and decoupled corporate social performance: Management commitments, external pressures and corporate ethics practices. *Academy of Management Journal, 42*(5), 539–552.
- Wisner, P. S., Epstein, M. J., & Bagozzi, R. P. (2006). Organizational antecedents and consequences of environmental performance. *Advances in Environmental Accounting and Management, 3*, 143–167.
- Wood, D. J. (1991). Corporate social performance revisited. *Academy of Management Review, 16*(4), 691–718.
- Wood, D. J. (2010). Measuring corporate social performance: A review. *International Journal of Management Reviews, 12*(1), 50–84.
- World Commission on Environment and Development. (1987). *Our common future*. Oxford: Oxford University Press.