© *Academy of Management Annals*
2017, Vol. 11, No. 1, 105–149.
https://doi.org/10.5465/annals.2015.0095

SIMILAR BUT NOT THE SAME: DIFFERENTIATING CORPORATE SUSTAINABILITY FROM CORPORATE RESPONSIBILITY

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Corporate responsibility and sustainability tackle the relationship between business and society. However, the two fields of study have converged to become deeply entangled and blurred so that researchers from both research traditions now speak to the same business risks and opportunities. A field's development is shaped by the clarity of its constructs and underlying assumptions; however, such clarity has eroded in responsibility and sustainability research. By tracing the development of these fields, we show that responsibility and sustainability were historically distinctive. Responsibility research took a normative position, railing against the amorality of business; sustainability research took a systems perspective, sounding the alarm of business-driven failures in natural systems. The convergence in responsibility and sustainability has not only confused constructs but has also vacated vast tracts of unexplored territory that can inform the relationship between business and society. By sharpening the distinctiveness between responsibility and sustainability, we call for further research to deepen the areas of research unique to each of these two fields of study and explore their complementarities and intersections.

INTRODUCTION

> "To allow the market mechanism to be sole director of the fate of human beings and their natural environment . . . would result in the demolition of society." (Polanyi, 1944: 76)

In 1944, Karl Polanyi called attention to the negative effects of markets on society (Polanyi, 1944). He argued that markets had transformed societies so that the rules of rationality and utility were replacing the norms of reciprocity. The consequences were unintended and dire. Class divisions were growing and labor was being exploited. Market values were defining social values and structures. No longer were markets serving society; society was serving markets.

In the 1950s, economics, law, and business school professors started framing this conversation as corporate responsibility. These researchers questioned the limits of capitalism, drawing on normative reasoning and welfare economics to judge the suitability of corporate actions (e.g., Bowen, 1953; Frederick, 1960). These early commentators argued that managers' moral responsibilities to society and legal frameworks should guide managers' decisions related to labor, local communities, and product safety (e.g., Barnard, 1938; Bowen, 1953; Davis & Blomstrom, 1966; Drucker, 1954; Frederick, 1960; Heald, 1957, 1970; Preston & Post, 1975; Selekman, 1959; Walton, 1967).

In the 1980s, another group of civil society actors and governments sounded the alarm that economic development was breaching natural resource limits.

We are grateful to our editors, Forrest Briscoe and Sim Sitkin, for nudging us in directions that have deepened our understanding of the field. We would also like to thank the following people for helping sharpen the precision and accuracy of our arguments: Alberto Aragon-Correa, Tom Donaldson, Ed Freeman, Jean-Pascal Gond, Tobias Hahn, Bryan Husted, Dirk Matten, Markus Milne, Marc Orlitzky, Sandra Waddock, and Jim Walsh. We also benefited tremendously from our colleagues and doctoral students at the Ivey Business School. We have inevitably and inadvertently omitted important citations, misrepresented some contributions, and taken some debatable positions, but we also hoped to have sparked dialogue and inspired new research. Both authors contributed equally to this manuscript.

These groups advocated for sustainable development. Many of the business school researchers that took up this challenge saw businesses as systems nested in much larger macroeconomic, political, societal, and ecological systems. A systems logic focuses on the interconnections among elements in a system, arguing that a phenomenon cannot be explained only by analyzing its parts—one must understand the relationships among the parts in order to understand a system's organization, functioning, and outcomes (Meadows & Wright, 2008; Mele, Pels & Polese, 2010). Sustainability researchers argued that excess industrial production and human consumption was contributing to environmental imbalances, which would ultimately undermine the business and economic systems, but the effects were not necessarily immediate, visible, or predictable. These scholars drew insights from the natural sciences, including biology, ecology, engineering, and even physics (e.g., Gladwin, Kennelly, & Krause, 1995; Meadows, Meadows, Randers, & Behrens, 1972).

Although the concepts of responsibility and sustainability emerged at different times and reacted to different business transgressions, they both shared a common interest in the relationship between business and society and spoke to the same business audience. Business managers and researchers alike now use the words *responsibility* and *sustainability* interchangeably, inconsistently, and ambiguously. Even the United Nation's Global Compact, which self-proclaims to be "the world's largest corporate sustainability initiative" notes that "by committing to *sustainability*, business can take shared *responsibility* for achieving a better world" (emphasis added).[1]

Some commentators argue that this convergence should be celebrated, as the combined voice and effort of similar research communities is more impactful than fragmented communities working independently. We take the opposing position. The blurring between responsibility and sustainability has caused confusion and stunted the growth of the field. Scholars are proliferating constructs with similar, yet slightly different meanings in an effort to gain precision for their scholarly endeavor—constructs such as corporate social responsibility (CSR) (Carroll, 1999), corporate social performance (CSP) (Clarkson, 1995; Wood, 1991), corporate sustainable development (Bansal, 2005), stakeholder capitalism (Freeman, Martin, & Parmar, 2007), social entrepreneurship (Mair & Martí, 2006), corporate citizenship (Matten & Crane, 2005), the triple bottom line (Elkington, 1997), and shared value (Kramer, 2011). Instead of building precision, the proliferation of constructs is contributing to the confusion.

An academic field's development is aided by a consensual research agenda that guides "what" to solve and "how" (Kuhn, 1962/2012). Well-crafted constructs help academic communities define their fields' boundary and shape their members' identity (Kuhn, 1962/2012; Suddaby, 2010). If concepts and constructs are not defined clearly, scholars fail to build theory, communicate effectively, and think creatively (Suddaby, 2010), thereby hindering the development of the field (Pfeffer, 1993).

There is also a more insidious risk. Much of the convergence in the concepts has been around the business case for socially responsible or sustainable business practices. However, this focus on the business case risks producing amoral managers who act responsibly or support long-term sustainability only when it is in their own or their business's interests. In other words, the business case for responsibility and sustainability becomes a self-fulfilling prophecy (Ferraro, Pfeffer, & Sutton, 2005), making all too prescient Polanyi's (1944: 76) opening quote that markets are contributing to "the demolition of society." By deepening the distinctiveness in responsibility and sustainability, researchers can generate a deeper understanding of business's integral role in society, inching closer to the economic, social, and natural environments they envision.

We have organized this review in two major parts. The first part speaks to the blurring between responsibility and sustainability in recent years, by reviewing past literature and building on prior reviews (e.g., Aguinis & Glavas, 2012; Carroll, 1999; Etzion, 2007; Hahn, Figge, Aragón-Correa, & Sharma, 2015a; Lee, 2008; Linnenluecke & Griffiths, 2013; Lockett, Moon, & Visser, 2006; Montiel, 2008; Montiel & Delgado-Ceballos, 2014). We show conceptual convergence in four domains: 1) construct definitions, 2) ontological assumptions, 3) nomological networks, and 4) construct measurements.

In the second part, we speak to the unique foundations of each of the fields by digging deeper into the roots of responsibility and sustainability. We argue that early responsibility research was grounded in normative arguments and early sustainability research was grounded in systems arguments. There is considerable opportunity to explore the distinctiveness, complementarities, and integration of these

[1] United Nations Global Compact, https://www.unglobalcompact.org/what-is-gc/mission, downloaded on June 25, 2016.

two research traditions. The research agenda that we propose would revisit some old pathways and expose new ones, and in so doing, contribute to more resilient economic systems and societies.

PART 1: THE OVERLAP IN CORPORATE RESPONSIBILITY AND SUSTAINABILITY

A Historical Review That Shows Convergence

To understand and illustrate the convergence in the two fields, we reviewed the responsibility and sustainability articles published from 1995 to 2014 in high-quality, mainstream management journals. We located relevant articles by searching for the words *responsibility* or *sustainability* in articles' titles and abstracts. Moreover, we selectively reviewed some relevant papers and books (regardless of their publication dates) that placed the overlap between the two fields in sharp relief. The purpose of this review is not intended to be an exhaustive meta-analysis or a formal historical review; rather, we are aiming to understand and illustrate *representative* trends in responsibility and sustainability.

Given the proliferation of the constructs, we included articles that examined relationships between business and society, including CSR, business sustainability, CSP (e.g., Clarkson, 1995; Wood, 1991), stakeholder relationships (e.g., Donaldson & Preston, 1995), corporate social actions (e.g., Marquis, Glynn, & Davis, 2007), corporate citizenship (Matten & Crane, 2005), corporate social commitments (CSCs) (e.g., Bansal, Gao, & Qureshi, 2014), sustaincentric orientations (e.g., Valente, 2012), environmental management (e.g., Klassen & McLaughlin, 1996), ecoinitiatives (e.g., Ramus & Steger, 2000), ecological embeddedness (e.g., Whiteman & Cooper, 2000), and resilience (e.g., Whiteman, Walker, & Perego, 2013). We delimited the search to articles published in high-impact management journals: *Academy of Management Journal*, *Academy of Management Review*, *Administrative Science Quarterly*, *Journal of Management*, *Management Science*, *Journal of Management Studies*, *Organization Science*, *Organization Studies*, and *Strategic Management Journal*. We focused on these journals because the convergence is likely due, in part, because of scholars' efforts to reach broad academic audiences. We did not systematically review specialized journals such as *Business Ethics Quarterly*, *Journal of Business Ethics*, *Business and Society*, and *Organizations and Environment* because their disciplinary focus tends to also focus on the arguments (e.g., philosophical, such as a Kantian approach to manager's responsibility), topics (e.g., African famine), and functions (e.g., operation management for preventing air pollution). We also did not review practitioner-oriented journals, such as *California Management Review*, *Harvard Business Review*, and *Sloan Management Review*, as their demands for construct clarity are less arduous than in strictly scholarly journals.

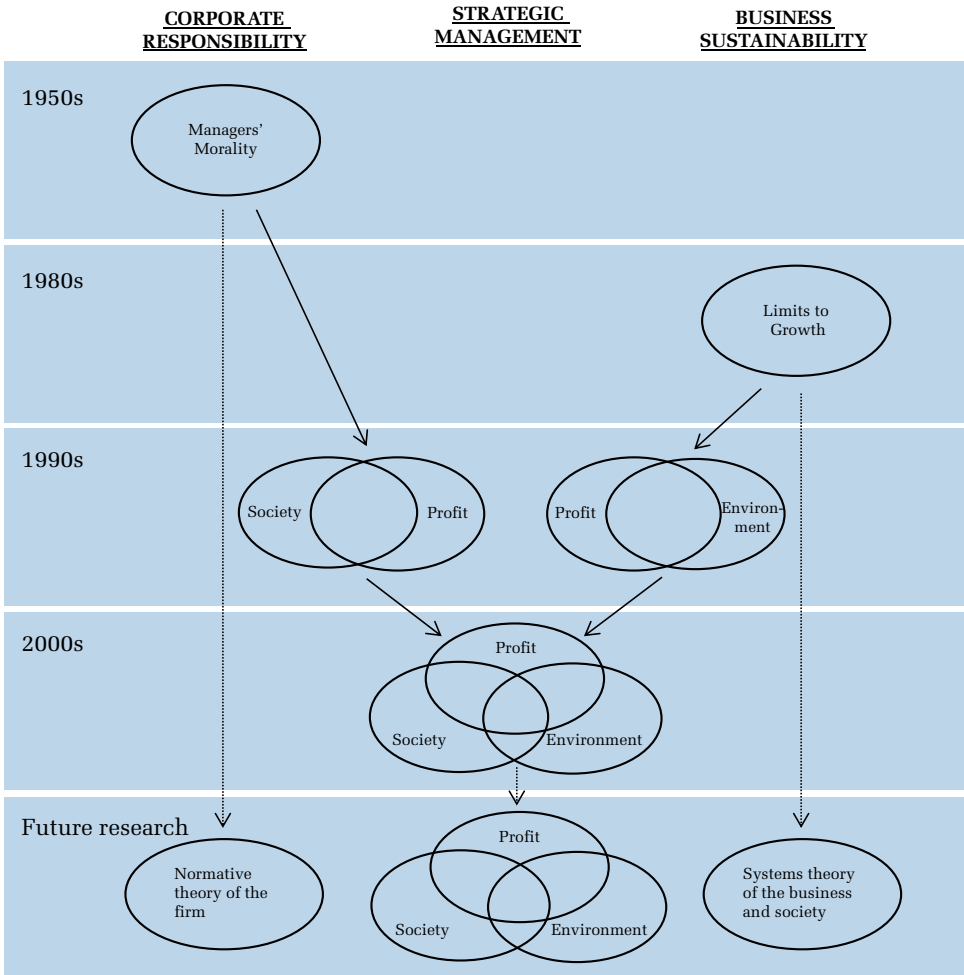
Figure 1 illustrates the development and convergence in the two fields. Corporate responsibility emerged in the 1950s, yet business sustainability did not emerge until the 1980s. Responsibility held more bias toward the harms of markets on society, whereas sustainability was oriented toward the harms of economic development on natural systems. In the latter part of the 20th century and the early part of the 21st century, we see a convergence, as both fields of responsibility and sustainability take a strategic orientation toward the business case for "good" social and environmental practices. In what follows, we describe the overlap across four key domains: 1) construct definitions, 2) ontological assumptions, 3) the nomological networks, and 4) construct measurements. We discuss each in the following sections.

First Area of Overlap: Construct Definitions

We reviewed the semantic changes in constructs related to corporate responsibility and sustainability. In doing so, we identified the evolution and overlap in the respective definitions of the two research streams. We found that earlier definitions of responsibility and sustainability were relatively more distinct than contemporary definitions. Early responsibility studies expressed concern for *social* issues, whereas early sustainability studies focused on *environmental* issues. This distinction blurs over time, as responsibility studies acknowledge that social issues include stewardship of the natural environment, and sustainability studies recognized that society was an important element in environmental systems. We show examples of distinctive definitions in Table 1 and a more complete list of definitions in Appendix A (for responsibility) and Appendix B (for sustainability).

Earlier responsibility definitions focused on the theoretical frame of "shareholder value versus stakeholder rights." For example, to reflect the core meaning of responsibility, scholars used terms such as "servants of society" (Bowen, 1953), "social impacts" (Swanson, 1995), "stakeholder management and social issues management" (Hillman & Keim, 2001), "social effect" (Schuler & Cording,

FIGURE 1
The Evolution of Corporate Responsibility and Sustainability.



2006), and "social welfare orientation and stakeholder relationship orientation" (Barnett, 2007). Early responsibility research dealt with societal issues such as labor disputes, gender inequality, product recalls, consumer issues, and fair trade. It included environmental issues, seen as trespasses against society, as a subset of social issues.

However, sustainability was often conceptualized as environmental/ecological management. Therefore, sustainability contrasted environmental protection with economic development. For example, Shrivastava (1995a: 127) defined ecocentric management as "ecologically sustainable organizational designs and practices." Jennings and Zandbergen (1995: 1026) suggested two main sources of the meaning of sustainability: "modernity" and humans' relationship with "the surrounding world in partially biological and ecological terms." Society was situated within the natural environment and treated as a part of the system that either contributed to or was affected by environmental issues. Hence, early sustainability researchers used constructs such as "ecological sustainability" (Starik & Rands, 1995), "ecocentric values" (Purser, Park, & Montuori, 1995), "ecological embeddedness" (Whiteman & Cooper, 2000), "ecoinitiative" (Ramus & Steger, 2000), and "ecologically sustainable industry" (Russo, 2003).

In the early 2000s, however, both responsibility and sustainability scholars began to discuss society *and* the natural environment in their respective theoretical frames. The constructs associated with responsibility and sustainability research started being used interchangeably, and were inadvertently seen as one and the same. Montiel (2008: 260) points to this conceptual convergence.

TABLE 1
Representative Distinctive Definitions of Responsibility and Sustainability

Construct	Definition	Reference
Responsibility concepts	In his stakeholder framework, Clarkson suggests some of typical corporate and stakeholder issues (see Table 1: 101–102).	Clarkson (1995)
	"We define CSR [corporate social responsibility] as actions that appear to further some social good, beyond the interests of the firm and that which is required by law. This definition underscores that, to us, CSR means going beyond obeying the law. Thus, a company that avoids discriminating against women and minorities is not engaging in a socially responsible act; it is merely abiding by the law" (p. 117).	McWilliams and Siegel (2001)
	"CSP [corporate social performance] is generally conceived as a broad construct comprised of *stakeholder management* and *social issue management* (Clarkson, 1995; Swanson, 1995; Wood, 1991)" (p. 126; emphasis added).	Hillman and Keim (2001)
Sustainability concepts	"An ecologically sustainable industry is a collection of organizations, with a commitment to economic and environmental goals, whose members can exist and fourish (either unchanged or in evolved forms) for lengthy time-frames, in such a manner that the existing and fourishing of other collectivities of entities is permitted at related levels and in related systems" (p. 319).	Russo (2003)
	"A sustainable development strategy, however, also dictates that effort be made to sever the negative links between environment and economic activity in the developing countries of the South" (p. 996).	Hart (1995)
	"The meaning or value of sustainability as a term comes from two main sources. First, human beings have a strong need to construct their relationship with the surrounding world in partially biological and ecological terms (Berger & Luckman, 1967; Kluckhon & Stadtbeck, 1961; Schein, 1987); therefore, concepts like "sustainability," which helps humans to bridge between the ecological and the social system, become meaningful or valued. Second, "sustainability" is currently becoming associated, to varying degrees, with "modernity" (Meyer & Scott, 1983)" (p. 1026).	Jennings and Zandbergen (1995)

> Both CSR [corporate social responsibility] and CS [corporate sustainability] aim to balance economic prosperity, social integrity, and environmental responsibility, regardless of whether they conceptualize environmental issues as a subset of social issues or as the third element of sustainability.

Such conceptual convergence is far more prevalent in recent definitions in contemporary literature. Valente (2012: 568) calls a sustaincentric orientation as one in which "the integrity of multiple social and ecological systems is embedded equitably and interdependently"; and Hart and Dowell (2011: 1466) argue that sustainable development is "not restricted to environmental concerns but also involves focusing on economic and social concerns." On the other hand, Cheng, Ioannou, and Serafeim (2014: 1) describe CSR as "the voluntary integration of social and environmental concerns in their companies' operations"; and Bansal et al. (2014: 950) describe CSR as "commitments to both social and environmental practices." Further, Flammer (2013: 758) in her recent conceptualization of CSR suggests that,

While the original focus of CSR was on "social" responsibility (e.g., paying fair wages to employees, community-based programs), a recent development is the inclusion of environmental responsibility (e.g., the reduction of CO_2 emission).

Table 2 presents some salient definitions showing the convergence in construct definitions.

Our review also shows that the constructs often contain meanings that try to express a model of a "good" company. In the responsibility literature, Matten and Moon (2008: 405) point out that "CSR is an umbrella term overlapping with some, and being synonymous with other conceptions of business–society relations." In the sustainability literature, Montiel (2008: 259) indicates that "CS [corporate sustainability] scholars tend to argue that the economic, social, and environmental pillars are interconnected." As these pillars cut across all systems, the current definition of business sustainability also represents an umbrella construct or at least extends the conceptual boundary to include social issues. In this sense, both responsibility and sustainability studies cover increasingly wider conceptual territory, which fails to discriminate the two constructs.

Second Area of Overlap: Ontological Assumptions of the Role of Business in Society

Organization scholars are often motivated by two ontological questions: *what is a firm?* and *how does it operate?* Such preoccupations are particularly evident among responsibility and sustainability scholars because of their interest in the interface of business and society. At the heart of their focus is this question: *to whom, or to what, are organizations responsible?* The assumption is that organizations operate in a broader context, which should influence the answer to this question. Thus, both responsibility and sustainability scholars call into question an egocentric perspective of business interests that preoccupies much of management theory.

But, both responsibility and sustainability researchers started in different spots. Early responsibility researchers viewed a firm as a *social* actor among various stakeholders—for example, employees, government, suppliers, trade associations, or consumers (McWilliams & Siegel, 2001; McWilliams, Siegel, & Wright, 2006). According to Walton (1967: 18), CSR "recognizes the intimacy of

TABLE 2
Representative Similar Definitions of Sustainability and Responsibility

Construct	Definition	Reference
Responsibility concepts	"The voluntary integration of social and environmental concerns in their companies' operations and in their interactions with stakeholders (European Commission, 2001)" (p. 1).	Cheng, Ioannou, and Serafeim (2014)
	"Corporate social responsibility (CSR) includes commitments to both social and environmental practices" (p. 950).	Bansal, Gao, and Qureshi (2014)
	"The definition of CSR that we are using refers to the firm's considerations of, and response to, issues beyond the narrow economic, technical, and legal requirements of the firm to accomplish social [and environmental] benefits along with the traditional economic gains which the firm seeks" (pp. 836–837).	Aguilera, Rupp, Williams, and Ganapathi (2007)
Sustainability concepts	"Sustainable development rests on three principles: environmental integrity, social equity, and economic prosperity" (p. 259).	Scherer, Palazzo, and Seidl (2013)
	"A sustainability standard can be defined as a set of voluntary predefined rules, procedures, and methods to systematically assess, measure, audit, and/or communicate the social and environmental behavior and/or performance of firms" (p. 793).	Reinecke, Manning, and von Hagen (2012)
	Three conditions are required to achieve sustainable development: 1) environmental integrity, 2) economic prosperity, and 3) social equity.	Bansal (2005)

the relationships between the corporation and society and realizes that such relationships must be kept in mind by top managers as the corporation and the related groups pursue their respective goals." Early sustainability researchers focused on the natural environment, and saw firms as systems nested within other systems, such as ecosystems or economic systems (Gladwin et al., 1995). Ecologists and environmental economists advanced the concept of "sustainability" to discuss the preservation or persistence of organizational systems coexisting with other systems. Sustainability researchers assumed a tight interconnection between business and the natural environment, leading Gladwin et al. (1995: 875) to ask "how many organizations could exist in the absence of oxygen production, fresh water supply, or fertile soil?"

However, the ontological positions converged toward the end of the 1990s so that both responsibilty and sustainability researchers now focus on both social and environmental considerations, and saw the firm as responsible to a broad range of demands and constituencies. Responsibility researchers focus on stakeholder relationships, which they see as strategic (Berman, Wicks, Kotha, & Jones, 1999), political (Mitchell, Agle, & Wood, 1997), evolving (Jawahar & McLaughlin, 2001), and interdependent (Rowley, 1997). Contemporary firms are expected to respond to the demands of sometimes invisible, distant, and even marginalized stakeholders. As the firm grows, so does the scope and complexity of stakeholders (Jawahar & McLaughlin, 2001). Dyadic, stable relationships between firms and stakeholders no longer make sense in contemporary stakeholder networks (Rowley, 1997), which are complex interdependencies among firms and often invisible and unpredictable actors.

Sustainability researchers have also expanded their focus from the natural environment to include the social environment (Bansal, 2002; Elkington, 1997; Hart & Milstein, 2003). Scholars argue for the interconnection/integration among the three domains of economy, society, and environment, thereby shifting the focus from how systems could be sustained to how firms can sustain those systems. Elkington (1997), a management practitioner, coined the term "the triple bottom line" to reflect the three types of performance a firm needs to consider. Echoing this notion of a triple bottom line in the scholarly literature, Bansal (2005) operationalized business sustainability by considering a firm's financial, environmental, and social initiatives.

Researchers argue that firms are situated in a complex environment where they should create value that not only aids their own survival but also benefits ecological, social, and other systems. These systems are often complex (connected elements) and layered (hierarchical) so that linear, causal relationships among different systems cannot be assumed (Ortiz-de-Mandojana & Bansal, 2016).

This shared perspective of the organization in a broader context has important implications for corporate objectives. Both responsibility and sustainability researchers have always challenged the assumption that the only objective of firms is maximizing profits; responsibility scholars assume that firms serve the general needs of society and sustainability scholars see organizations as part of a larger system, in which a singular pursuit of profits will ultimately disrupt the system. Both perspectives argue that organizations need a multidimensional view of performance, and consider organizations' interdependency on broader organizational systems.

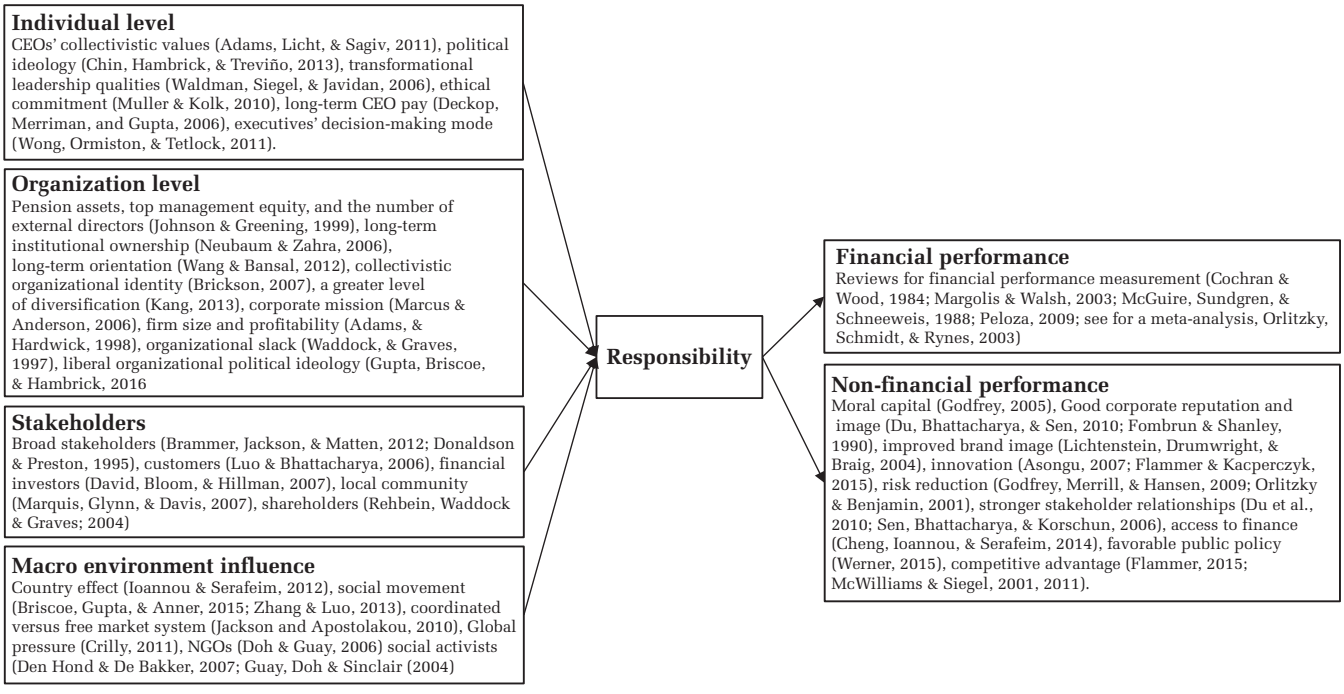
Scholars outside of these fields often see the broader organizational mandate adopted by responsibility and sustainability scholars as ideological, whereas responsibility and sustainability scholars are aligned in their reaction that an economic mandate is in itself ideological. There is little dispute among most scholars that the ontological differences in terms of the purpose of the firm is greater between responsibility/sustainability scholars and other management scholars than between responsibility and sustainability scholars.

Third Area of Overlap: Nomological Networks

No social construct is completely *de novo*. Therefore, for construct clarity, researchers must discriminate a focal concept from similar existing constructs by drawing theoretical linkages with relational constructs (e.g., antecedents and outcomes), which forms a conceptual network within disciplinary fields (Suddaby, 2010). Psychologists call this conceptual network the *nomological network* (Cronbach & Meehl, 1955), which helps to validate constructs (i.e., nomological validity, see Peter, 1981; Venkatraman & Grant, 1986).

Two conditions are required for nomological validity. First, a construct should be appropriately

FIGURE 2
Responsibility's Current Nomological Network.



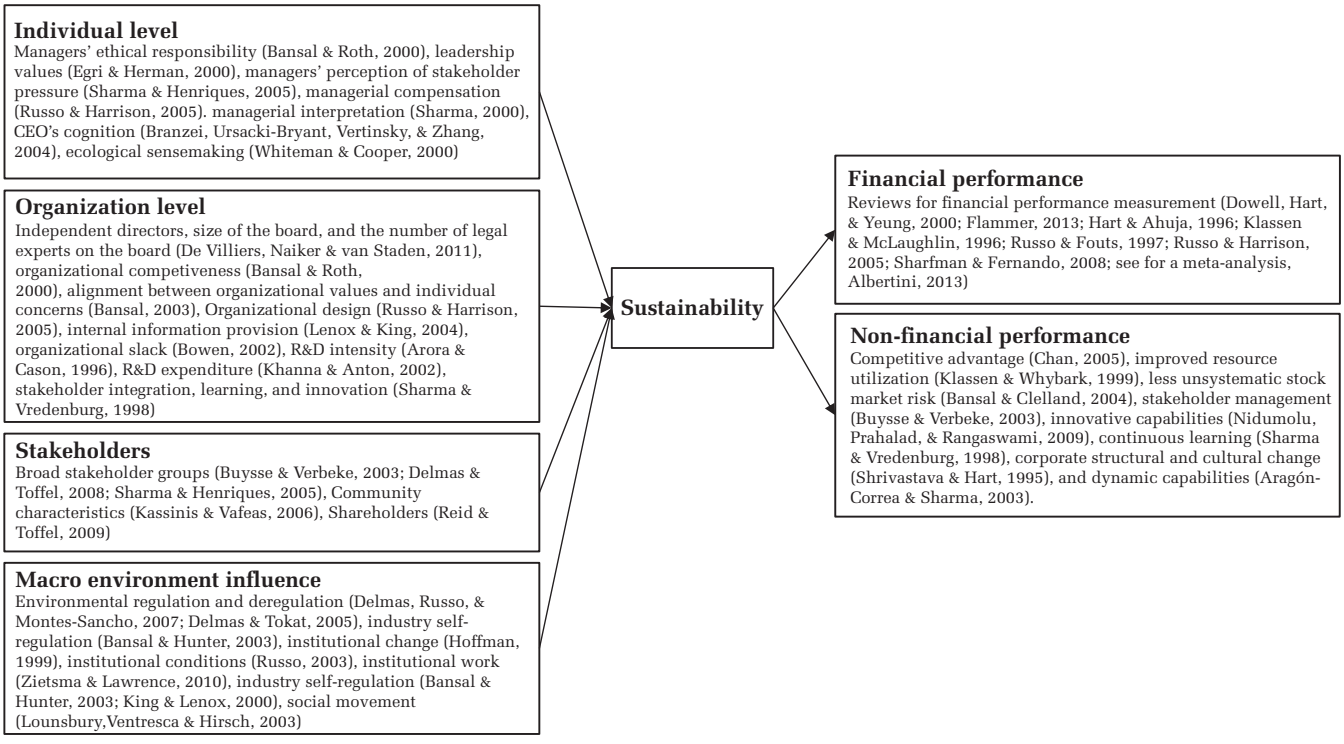
scoped to ensure coherence (Hirsch & Levin, 1999; LePine, Erez, & Johnson, 2002). A construct with too many dimensions or attributes can say anything and often means nothing. Second, two concepts that are conceptually distinctive will have different antecedents and consequents. The web of relationships with preexisting constructs provides not only meaning to the focal construct but also provides more accurate operationalization for robust empirical research (Venkatraman & Grant, 1986).

The cumulative empirical findings from responsibility and sustainability research are so similar that the conceptual networks of related constructs cannot be discriminated. In other words, the antecedents and consequents of constructs related to responsibility and sustainability are convergent. Researchers often fail to identify the factors that uniquely predict their target phenomenon. Given the breadth of this literature, we devote considerable space to review studies that examine antecedents and consequents. Even though we have not aimed to be comprehensive in this review, the parallels in the nomological networks are evident, as illustrated in Figures 2 and 3, across the different levels of analysis, including individual, organization, stakeholder, and institutional.[2]

The strategic turn that pointed to financial outcomes. As the concepts of corporate responsibility and sustainability became popular in business world, scholars searched for a relationship between corporate social or environmental performance (CSP/CEP) and corporate financial performance (CFP). If scholars could uncover a positive relationship between CSP/CEP and CFP, they could show that it paid to be green or good. Both responsibility and sustainability scholars reported that there was generally

[2] The overlap between responsibility and sustainability is even reflected in the biases in the levels of analysis. In responsibility, Aguinis and Glavas (2012) reviewed 588 journal articles and 102 books published from 1970 to 2011 and found that 4 percent studies were at an individual level, 57 percent at organizational level, 33 percent at institutional context and 5 percent two or more levels. In sustainability, Bansal and Gao (2006) found that of the 79 articles published in high-status management journals between 1995 and 2005 inclusive, 6 percent studies were at the individual level, 43 percent at the organizational level, 22 percent at macrolevel such as institutional context or a certain industry, and 19 percent crossed levels.

FIGURE 3
Sustainability's Current Nomological Network.



a positive relationship between CSP and CFP (Cochran & Wood, 1984; Margolis & Walsh, 2003; McGuire, Sundgren, & Schneeweis, 1988; Peloza, 2009; see for a meta-analysis, Orlitzky, Schmidt, & Rynes, 2003) as well as CEP (Dowell, Hart, & Yeung, 2000; Flammer, 2013; Hart & Ahuja, 1996; Klassen & McLaughlin, 1996; Russo & Fouts, 1997; Russo & Harrison, 2005; Sharfman & Fernando, 2008; see for a meta-analysis, Albertini, 2013). In their review, Margolis and Walsh (2003) uncovered 109 empirical studies supporting a relationship between CSP and CFP published between 1972 and 2002. Among them, half the studies (54) reported a positive link and only seven studies reported a negative relationship. In sustainability, Albertini (2013) reviewed 52 empirical studies of CEP and CFP between 1975 and 2011 and found that 42 studies reported a positive correlation.

This strategic turn is often framed as the "business case" (Hahn, Preuss, Pinkse, & Figge, 2014), a "win–win" (Du, Bhattacharya, & Sen, 2010), or "shared value" (Kramer, 2011). It offered strategy-minded scholars the opportunity to pitch responsibility and sustainability as a long-term strategy, such as encouraging innovation, building reputation, and attracting skilled employees. However, even though this strategic turn contributed to the popularity of the concepts, it inadvertently accelerated conceptual convergence. Researchers were eager to uncover a positive relationship between CSP/CEP and CFP, quite likely in an effort to reach 'hard-headed and tough-minded' economists and management scholars. Strategy researchers did not have to convince managers to act responsibly for moral reasons—they could now argue that it makes good business sense (Aupperle, Carroll, & Hatfield, 1985; Graves & Waddock, 1994; McWilliams & Siegel, 2001; Waddock & Graves, 1997). If social and environmental practices could be shown to contribute to profits, scholars no longer needed to argue for responsibility and sustainability as objectives in themselves.

In responsibility, the strategic turn bypassed the heavily entrenched and sometimes irreconcilable moral debate, allowing scholars to enter mainstream business studies. Frederick (1994a) helped direct this strategic turn by discriminating CSR_1 (corporate social *responsibility*) from CSR_2 (corporate social *responsiveness*). CSR_1, he claimed, focused on *why* companies should respond to social issues; CSR_2 addressed *how*. Frederick (1994a) was able, therefore, to separate and legitimize the strategic

discussions of responsibility from the philosophical moral debate. Frederick (1994a: 155) notes that "while the debate over the merits of CSR_1 has always carried heavy philosophic overtones, CSR_2 shuns philosophy in favor of a managerial approach." This shift has helped the field flourish and elevate its profile and status among management researchers and practitioners more broadly (Carroll, 1999; Lee, 2008). It has also sparked new questions in more mainstream business research.

This same strategic turn was also experienced by sustainability scholars. Early research treated firms as embedded within macrosystems, but later researchers treated firms as discrete entities from macrosystems. In the 1990s, firm-level analysis replaced the multilevel systems perspective. Studies started exploring the costs, risks, and strategic opportunities exposed by complying with environmental regulations and expectations (Hoffman & Bansal, 2011). Although the emphasis was still primarily on the natural environment, the overarching tone was similar to the business case of responsibility research (Aragón-Correa, 1998; Hart, 1995; Klassen & Whybark, 1999; Russo & Fouts, 1997; Russo & Minto, 2011).

The strategic turn also pointed to nonfinancial outcomes. The strategic turn also encouraged scholars to consider nonfinancial variables that served as the mediators and mechanisms to financial performance. Researchers argued that corporate *responsibility* contributed to moral capital (Godfrey, 2005), a good corporate reputation and image (Du et al., 2010; Fombrun & Shanley, 1990), improved brand image (Lichtenstein, Drumwright, & Braig, 2004), innovation (Asongu, 2007; Flammer & Kacperczyk, 2015), risk reduction (Godfrey, Merrill, & Hansen, 2009; Orlitzky & Benjamin, 2001), stronger stakeholder relationships (Du et al., 2010; Sen, Bhattacharya, & Korschun, 2006), access to finance (Cheng et al., 2014), favorable public policy (Werner, 2015), and competitive advantage (Flammer, 2015; McWilliams & Siegel, 2001, 2011).

Similarly, *sustainability* scholars argued that environmental performance contributed to competitive advantage (Chan, 2005), improved resource utilization (Klassen & Whybark, 1999), less unsystematic stock market risk (Bansal & Clelland, 2004), stakeholder management (Buysse & Verbeke, 2003), innovative capabilities (Nidumolu, Prahalad, & Rangaswami, 2009), continuous learning (Sharma & Vredenburg, 1998), corporate structural and cultural change (Shrivastava & Hart, 1995), and dynamic capabilities (Aragón-Correa & Sharma, 2003). As a result, a body of empirical findings reported similar or the same nonfinancial outcomes that blurred the conceptual distinctiveness of the constructs.

What is most evident in this convergence is that similar concepts and theories were being applied in both responsibility and sustainability research. Responsibility scholars argued that CSR "can be viewed as a form of investment" (McWilliams & Siegel, 2001: 119). In parallel, sustainability scholars were writing "it is likely that strategy and competitive advantage in the coming years will be rooted in capabilities that facilitate environmentally sustainable economic activity" (Hart, 1995: 991). Both responsibility and sustainability had taken a strategic turn.

The role of CEOs and the top management team. Responsibility and sustainability researchers both recognized the importance of CEOs and the top management team (TMT) in shaping responsible and sustainable practices. Responsibility researchers pointed to the importance of the CEOs' collectivistic values (Adams, Licht, & Sagiv, 2011), political ideology (Chin, Hambrick, & Treviño, 2013), transformational leadership qualities (Waldman, Siegel, & Javidan, 2006), ethical commitment (Muller & Kolk, 2010), long-term CEO pay (Deckop, Merriman, and Gupta, 2006), and executives' decision-making mode (Wong, Ormiston, & Tetlock, 2011). They recognized the 'social instinct' within humans that respects human dignity and social justice in their economic decisions (Davis, Schoorman, & Donaldson, 1997). Scholars argued that CEOs are often willing to act in socially desirable ways to satisfy their "need for *meaningful existence*" (Aguilera, Rupp, Williams, & Ganapathi, 2007: 842).

The parallel in research among sustainability scholars is indisputable. Researchers found that the factors that contribute to commitment to environmental issues include leadership values (Egri & Herman, 2000), managers' perception of stakeholder pressure (Sharma & Henriques, 2005), and managerial compensation (Russo & Harrison, 2005). In the Chinese context, Branzei, Ursacki-Bryant, Vertinsky, and Zhang (2004) found that CEOs' cognition plays a significant role in formulating corporate green strategy, and Sharma's (2000) study showed that the executives' interpretation of threat and opportunity shape the organization's approach to managing pollution. Moreover, an ethnography by Whiteman and Cooper (2000, 2011) showed a tight connection between sensemaking and embeddedness in the ecosystem as salient in ecological responsiveness, calling for a micromanagerial understanding on natural environment.

Organizational variables in shaping responsibility and sustainability. Organizational level antecedents have dominated responsibility research (Aguinis & Glavas, 2012; Orlitzky, Louche, Gond, & Chapple, 2015). Johnson and Greening (1999) found that a high ratio of pension assets, a large percentage of top management equity ownership, and a large number of external directors are all positively related to the people and product quality dimensions of CSR. Neubaum and Zahra (2006) reported that long-term institutional ownership predicts CSP. Wang and Bansal (2012) found that a new venture's long-term orientation decreases the negative effect of corporate responsibility on organizational performance. In addition, the following factors are positively related to corporate responsibility: a collectivistic organizational identity (Brickson, 2007), a supportive corporate mission (Marcus & Anderson, 2006), a larger firm size and higher profitability (Adams & Hardwick, 1998), a greater degree of diversification (Kang, 2013), liberal organizational political ideology (Gupta, Briscoe, & Hambrick, 2016), and greater organizational slack (Waddock, & Graves, 1997).

Sustainability scholars also studied how organizational variables lead to environmental practice. De Villiers, Naiker, and van Staden (2011) tested 11 hypotheses that explained the importance of governance structure in shaping environmental performance, including independent directors on boards, the size of the board, and the number of legal experts on boards. Bansal and Roth (2000), in their multianalysis, showed that competitiveness is an important driver for environmental management. Bansal (2003) also found that the alignment between organizational values and individual concerns drove environmental issue responses. Scholars reported that various organizational variables such as internal information provision (Lenox & King, 2004), organizational slack (Bowen, 2002), R&D intensity (Arora & Cason, 1996), R&D expenditure (Khanna & Anton, 2002), and the organizational capabilities to integrate stakeholders, learn, and innovate (Sharma & Vredenburg, 1998) improve environmental performance.

Stakeholders. Stakeholder theory has largely been the domain of responsibility researchers, but has also bled into sustainability research. Within responsibility, stakeholders reflect a fundamental ontological position that the firm is responsible not only to shareholders, but a variety of stakeholders (Donaldson & Preston, 1995; Freeman, 1995). Grunig (1979) showed that different stakeholders demand different types of responsibilities, which makes managing stakeholders complicated. Such a position is noticeable in a wide body of work. Corporations are pressured to respond to social issues by various stakeholder groups, including customers (Luo & Bhattacharya, 2006), financial investors (David, Bloom, & Hillman, 2007), and the local community (Marquis et al., 2007). This line of study suggests that "CSR is more tightly linked to formal institutions of stakeholder participation or state intervention" (Brammer, Jackson, & Matten, 2012: 3). While these studies offered 'outside-in' mechanisms to explain the role of different stakeholder groups on corporate social actions, Crilly and Sloan (2012) took an 'inside-out' approach to explain why firms differ in their effectiveness in dealing with stakeholder pressures in the same institutional settings.

Stakeholder management has also made its way into sustainability literature. Several studies showed that differences across stakeholders shape corporate environmental strategies (Buysse & Verbeke, 2003; Delmas & Toffel, 2008; Murillo-Luna, Garcés-Ayerbe, & Rivera-Torres., 2008; Sharma & Henriques, 2005). Many researchers focused on specific stakeholders. For example, Kassinis and Vafeas (2006) focused on community characteristics and Reid and Toffel (2009) focused on shareholders' collective pressure.

Institutional and societal context. It is not surprising that the 'societal' aspects of the research are salient in business and society research. These societal aspects have made their way into both responsibility and sustainability research through sociology-based theories, such as institutional theory and social movement theory, and through economics-based theories, especially related to regulations and nonmarket strategies.

Many responsibility and sustainability scholars were attracted to institutional theory because it spoke to both the normative interests of responsibility scholars and the regulatory interests of sustainability scholars. Institutional theory provided a theoretical framework that provided deeper insights into the institutional forces between business and society.

In the responsibility literature, Campbell (2007: 950) argued that "socially responsible corporate behavior may mean different things in different places to different people and at different times" because of differences in regulations, monitoring groups, and institutional norms. Additionally, Matten and Moon (2008) argued that U.S.-based businesses exhibited a different form of responsibility from European businesses because of differences in the expected social role of firms. And, researchers found good

empirical support for this institutional analysis. Using data from 42 different countries, Ioannou and Serafeim (2012) found that nations' politics, education, labor, and cultural systems shaped commitments to corporate responsibility. Drawing upon comparative institutional analysis, Jackson and Apostolakou (2010) found that firms located in Anglo-Saxon countries, for example, Ireland and United Kingdom showed greater responsibility than those located in coordinated market economies in Continental Europe, for example, Germany and France.

In the sustainability literature, many researchers have applied institutional theory (Ansari, Wijen, & Gray, 2013; Delmas, 2002; Delmas & Toffel, 2004; Jennings & Zandbergen, 1995). Jennings and Zandbergen (1995) theorized an institutional approach to ecological sustainable organizations in that institutions are distinctive elements in macrosystems. Hoffman (1999) applied institutional theory to explain the evolution of environmentalism in the U.S. chemical industry from 1960 to 1993, Russo (2003) showed the importance of institutional conditions in the emergence of wind energy industry in California, and Zietsma and Lawrence (2010) showed the value of institutional work in legitimizing responsible forest practices.

Social movement theory has also entered both responsibility and sustainability literatures. Social actors are seen as influencing corporate behaviors to better align with society (Bartley & Child, 2011; Doh & Guay, 2006; King, 2008; Lounsbury, 2001; for a review, see Briscoe & Gupta, 2016). Social movement plays a pivotal role in diffusion of responsible practices among corporations (Briscoe & Gupta, 2016; Den Hond & De Bakker, 2007; Hiatt, Sine, & Tolbert, 2009). Briscoe, Gupta, and Anner (2015), for example, examined how social movements led to the diffusion of social responsibility practices across U.S. colleges and universities, and Guay, Doh, and Sinclair (2004) documented nongovernmental organizations' (NGO) contributions to the emergence of socially responsible investing.

Social movement theory has also shaped environmentalism in the mid-20th century. Lounsbury, Ventresca, and Hirsch (2003) described how nonprofit recyclers triggered a field-level social movement in recycling, which created a new for-profit recycling industry. Activist groups not only challenge multinational corporations' *status quo*, but they also play a seed role of corporate social and environmental practice by providing "cultural and material resources for entrepreneurs in the burgeoning industry" (King & Pearce, 2010: 260).

One point of departure between responsibility and sustainability scholars has been the emphasis that sustainability scholars have paid to government regulations and nonmarket strategies because of the role of government in managing commonly held resources (King & Lenox, 2000; Marcus, Aragón-Correa, & Pinkse, 2011; Ostrom, 1990). Several studies showed that regulatory changes drive environmental engagement, such as new environmental regulations and deregulation (Delmas, Russo, & Montes-Sancho, 2007; Delmas & Tokat, 2005). Focusing on voluntary initiatives, researchers have shown the possibilities of industry self-regulation, such as certifications for Responsible Care, ISO 14001, and organic food (Bansal & Hunter, 2003; King & Lenox, 2000). Although the notion of commonly held resources applies less to social issues, responsibility researchers have analyzed the importance of legislation that permits a stakeholder orientation, rather than a strict shareholder orientation, on responsibility (Flammer & Kacperczyk, 2015).

Fourth Area of Overlap: Construct Measurement

While early work on CSR was highly normative, the field evolved to become more descriptive and empirical in the 1990s. Lockett et al. (2006) showed that from 1992 to 2002, 53 percent of CSR articles published in management journals were based on empirical data and 89 percent of the theoretical articles took a nonnormative approach.[3] CSR researchers started to seek data sources that would reveal the salient antecedents and consequences. Table 3 lists the construct labels and the data sources used in responsibility research. A more complete list of data sources and measurement dimensions is presented in Appendix C.

One of the significant observations from Table 3 is that recent studies rely heavily on KLD/MSCI corporate social ratings. Some researchers use specific dimensions of KLD/MSCI to measure different aspects of responsibility (e.g., Bansal et al., 2014; Muller & Kolk, 2010), but many researchers aggregate all the dimensions, including community relations,

[3] Lockett et al. (2006) reviewed CSR articles published from 1992 to 2002 in such management journals as the *Academy of Management Journal*, *Academy of Management Review*, *Administrative Science Quarterly*, *Journal of Management*, *Journal of Management Studies*, *Organizational Science*, and *Strategic Management Journal*. Of the 114 CSR articles reviewed, 60 articles (53 percent) were empirical and 54 articles (47 percent) were theoretical. Of the 54 theoretical articles, only 6 (11 percent) were normative.

TABLE 3
Responsibilty Measures

Data Source	Construct Labels	Citations
Aggregated KLD/MSCI	CSP	Agle, Mitchell, and Sonnenfeld (1999), Barnett and Salomon (2012), Chiu and Sharfman (2011), Deckop, Merriman, and Gupta (2006), Johnson and Greening (1999), Kang (2013), Koh, Qian, and Wang (2014), Oikonomou, Brooks, and Pavelin (2014), Wong, Ormiston, and Tetlock (2011)
	CSR	Chin, Hambrick, and Treviño (2013)
	Environmental CSR	Flammer (2013)
	CSR reputation	Janney and Gove (2011)
	CSR engagement	Tang, Hull, and Rothenberg (2012)
	CSC	Bansal, Gao, and Qureshi (2014)
	Corporate environmental commitment (CEC)	Bansal et al. (2014)
	Social issues participation	Hillman and Keim (2001)
	Stakeholder relationship	Berman, Wicks, Kotha, and Jones (1999)
	Stakeholder management	Hillman and Keim (2001)
	Corporate attention to stakeholders	Kacperczyk (2009)
Domini Social Investment (DSI) 400 and KLD	CSP	McWilliams and Siegel (2000)
	CSR	Ramchander, Schwebach, and Staking (2012)
Thomson Reuters ASSET4	CSR performance	Cheng, Ioannou, and Serafeim (2014)
Sustainalytics	Corporate social irresponsibility (CSiR)	Surroca, Tribó, and Zahra (2012)
Ghana Club 100 selected by Ghana Investment Promotion Centre (GIPC)	CSR	Julian and Ofori-dankwa (2013)
Online work site for ISO's standard development process	Settlement of new CSR	Helms, Oliver, and Webb (2012)
Online survey	CSP	Muller and Kolk (2010)
Socrates social performance	CSR	Godfrey, Merrill, and Hansen (2009)
Business map foundation *BEE database*	CSR event (CSR adoption)	Arya and Zhang (2009)
Ethical investment research	Social performance	Brammer and Pavelin (2006)

human rights, workplace diversity, environmental management, product liability, employee relations, and corporate governance (e.g., Chin et al., 2013; Janney & Gove, 2011; Kang, 2013; Koh, Qian, & Wang, 2014; Wong et al., 2011).

We identified two concerns about the measures used for responsibility research. First, most responsibility measures are assumed to be reflective of the responsibility construct. This implies that the items comprising responsibility measures are valid, consistent, and correlated—that is, social and environmental items are correlated. Yet, there is evidence that suggests that the social dimensions differ from the environmental dimensions and cannot be assumed to be the same (Bansal et al., 2014; Chatterji, Levine, & Toffel, 2009). Although stakeholders may define actions that go over and above what is profitable is responsible (El Akremi, Gond, Swaen, De Roeck, & Igalens, 2015), firms will act differently in different domains of responsibility.

Second, the items for responsibility were developed by agencies that speculate on the qualities of "good" corporate behavior, but researchers have not validated the constructs as "reflective" of responsibility (Gond & Crane, 2008). Moreover, different agencies often rate the same firm very differently, pointing to low reliability (Chatterji, Durand, Levine, & Touboul, 2016; Sharfman, 1996). Not only do these measures have low validity and reliability, the rating agencies do not discriminate between responsibility and sustainability and use the terms interchangeably. For example, the MSCI KLD 400 is a *Social* Index and uses the same environmental, social, and governance (ESG) criteria as does the MSCI Global *Sustainability* Index.[4]

Sustainability research has drawn on empirical analysis almost since its inception. Table 4 shows the empirical studies with sustainability-related constructs. A more complete list of data sources and measurements is presented in Appendix D. These studies focused primarily on the environmental dimension, which they operationalized as environmental

[4] https://www.msci.com/esg-indexes accessed June 17, 2016.

TABLE 4
Sustainability and Environmental Management Measures

Data Source	Construct Labels	Citations
Survey	Environmental strategy	Buysse and Verbeke (2003), Sharma (2000)
	Environmental policy	Ramus and Steger (2000)
	Environmental champion	Anderson and Bateman (2000)
	Approaches to the natural environment	Aragón-Correa (1998)
	Best practices of environmental management	Christmann (2000)
	Global environmental policy standardization	Christmann (2004)
	Ecological values and environmental performance	Branzei, Ursacki-Bryant, Vertinsky, and Zhang (2004)
	Environmental response pattern	Murillo-Luna, Garcés-Ayerbe, and Rivera-Torres (2008)
U.S. Toxics Release Inventory (TRI)	Environmental practice	Berchicci, Dowell, and King (2012), Berrone, Cruz, Gomez-Mejia, and Larraza-Kintana (2010), Berrone and Gomez-Mejia (2009), Kassinis and Vafeas (2006), Russo and Harrison (2005)
	Environmental capability	Berchicci, Dowell, and King (2012)
	Environmental performance (pollution reduction)	King and Lenox (2000)
Interview and survey	Ecological responsiveness	Bansal and Roth (2000)
	Environmental decision making and behavior	Flannery and May (2000)
Survey response (World Environmental Directory's listing of corporate environmental officers)	Environmental performance	Judge and Douglas (1998)
Franklin Research Development Corporation	Environmental performance	Russo and Fouts (1997)
NEXIS database	Environmental performance	Klassen and McLaughlin (1996)
Westlaw environmental law database, industry trade journals	Institutional evolution of environmentalism in the United States	Hoffman (1999)
Interview	Corporate environmentalism	Banerjee (2001)
Participant observations, informal discussions, documents, interview	Environmental issues management	Bansal (2003)
Media account (Newspaper)	Corporate environmental legitimacy	Bansal and Clelland (2004)
Corporate annual report and interview	Sustainable development	Bansal (2005)
Corporate document	Sustainability practice	Sharma and Henriques (2005)
U.S. Toxics Release Inventory (TRI) and KLD/MSCI	Environmental management	Sharfman and Fernando (2008)
Newspaper	Environmental initiatives	Gilley, Worrell, Davidson, and El-Jelly (2000)
Survey data developed by the Organization for Economic Cooperation and Development (OECD)	Environmental practice	Darnall, Henriques, and Sadorsky (2010)
Specific KLD	Environmental performance	De Villiers, Naiker, and van Staden (2011)

performance, environmental practice, environmental management, environmental strategy, and environmental legitimacy. These studies rely heavily on toxic releases data, survey data, and qualitative data. While there is no mistaking the differences between these environmental measures and responsibility measures, responsibility researchers would see these items as one component of CSR. The blurring, however, is most evident in Bansal's (2005) study, which offers a comprehensive measure of corporate sustainable development and starts to converge with the approach taken by responsibility researchers.

The overlap is also evidenced by the language used by responsibility and sustainability researchers. Flammer (2013), who is speaking primarily to a responsibility audience, conceptualizes environment management as "environmental CSR,"—that is, *environmental* corporate *social* responsibility. Further, Flammer (2013) measures the construct by the strengths and weaknesses of environmental management from press coverage on eco-harmful and eco-friendly events, which converges with the measure of environmental management used by Bansal and Clelland (2004).

No doubt the challenges in discriminating between responsibility and sustainability are magnified by the relatively few seemingly legitimate data sources. Researchers justify their measures by historical precedence, which has thrust KLD/MSCI to the forefront, in spite of its limitations. Given the few efforts to evaluate the convergent and discriminant validity of responsibility and sustainability measures, it is not surprising that the comprehensive measures of the constructs are similar to each other and that the more narrow measures of sustainability as environmental management are seen as merely a dimension of responsibility.

PART 2: THE DISTINCTIVENESS OF RESPONSIBILITY AND SUSTAINABILITY

In everyday language, few people consider *responsibility* and *sustainability* to be synonyms. The *Oxford English Dictionary* includes the following in its definition of *responsibility*:

> Capabilities of fulfilling an obligation or duty; the quality of being reliable or trustworthy . . . The state or fact of being accountable; liability, accountability *for* something . . . The fact of having a duty to do something.

These definitions of responsibility have a distinctly normative slant with strong ethical undertones, expressing obligations, claims, and duties to someone or something.

The *Oxford English Dictionary* defines *sustainability* quite differently:

> The quality of being sustainable by argument; the capacity to be upheld or defended as valid, correct, or true. . . The quality of being sustainable at a certain rate or level. . . The property of being environmentally sustainable.

These definitions for sustainability speak to qualities, capacities, and levels, signaling measurements, systems, and science. Given that *responsibility* and *sustainability* hold such different meanings, it is curious that the words and fields of responsibility and sustainability in business have become so entangled.

Responsibility and sustainability emerged from different paradigms and converged only in the last two decades. Early responsibility commentators were grounded in ethics and welfare economics, whereas sustainability researchers were grounded in systems science. In this section, we first discuss some fundamental differences between ethics and science generally, which will allow us to illustrate the distinctiveness of responsibility and sustainability, and how they can complement each other.

Ethics and Science

Both ethics and science aim to answer *why*; however, they take different ontological and epistemological positions and build different systems of knowledge. Ethicists and theologians "make the world *existentially* intelligible" (Stenmark, 1997: 494), which can justify the purpose for actions and beings. Scientists, on the other hand, "make the world *technologically* and *predictively* intelligible" (Stenmark, 1997: 494) so that they can examine the mechanisms behind empirical phenomena in an effort to predict and control. In other words, ethics presumes that "there are meanings to the world" (Rolston, 1987: 22), whereas science presumes that "there are causes to the world" (Rolston, 1987: 22).

To illustrate, Immanuel Kant argued *why* rational beings should not lie from an ethical perspective, whereas Isaac Newton took a scientific perspective when inquiring *why* apples always fall down. They both wanted to know *why*, but Kant's statement explored normative reasons for the moral superiority of the statement "don't lie" compared with "lie," whereas Newton needed no moral justification for why apples must fall. Instead, Newton observed apples falling and offered an analytical, replicable reason for this phenomenon. In short, ethicists aim to justify moral *value* in human life, whereas scientists aim to uncover *facts* related to empirical phenomena.

The relationship between *value* and *fact* is key. In social sciences, for example, the notion of value has played a critical role in helping to judge right from wrong, just from unjust, and good from bad (Hosmer, 1994), and in doing so offers "guiding principles in people's lives" (Schwartz & Bardi, 2001: 269). On the other hand, fact in social sciences offers "empirically verifiable *statement[s]* about phenomena" (Parsons, 1949: 41; emphasis in original).

Values and facts are highly entangled in business activity, yet they tend to evolve separately due to their different roles in creating knowledge. Zald (1993: 523–524) describes the two intellectual frameworks in organization studies: an *engineering model* where "organizations have problems, whereupon they turn to experts supposedly in command of esoteric problem solving technologies"; and an *enlightenment model* that "was developed by humanistically oriented sociologists who were appalled by rationalistic,

technocratic, and wrenching solutions offered to mitigate the negative side effects of the industrial revolution." The engineering model relies on factual data and statistical technique, whereas the enlightenment model concerns critical thought, calling for normative ethical debate. These two enterprises have been historically dichotomized in the intellectual community, forming distinct academic cultures that are often irreconcilable (e.g., Snow, 1959).

The role of ethics and science has also been separated in discussing the relationship between business and society.[5] Business ethicists provide a knowledge system that evaluates humanistic values in management, but cannot model changes in productivity, for example. Scientists, on the other hand, can model changes in productivity based on facts and simulations, but they cannot explain why high productivity should be the ultimate goal, especially vis-à-vis other goals. Scientists aim to discover the *causes* for productivity; ethicists give *meanings* to productivity. Thus, ethics and science pursue different scholarly inquiries for their own purposes. Scientists try to strip away values and establish axiomatic relationships among elements of their target phenomena. Ethicists, on the other hand, shun data and call for strict categorical imperatives (Kant, Wood, & Schneewind, 1785/2002), moral sentiment (Sen, 1997), human intuition (Haidt, 2001; Huemer, 2005), thought experiments (Rawls, 2009), and even religious appeals (Melé, 2012; Weber, 2002).

Just as ethics and science differ in their understandings of the world, so too do their language structure and logic. Ethicists discuss value by 1) *reasoning* certain values from the metaphysical world, 2) *formulating* an ethical principle to ensure the most desired value, and 3) *justifying* why an individual, organization, or much larger community must then follow that ethical principle. Hence, their arguments are written as *should* statements, offering justifications for why it must be so (Donaldson, 1994, 2015; Trevino & Weaver, 1994). Peers judge the quality of ethicists' statements by the logic of their justifications and their ability to validate the legitimacy of the ethical principles (Trevino & Weaver, 1994).

[5] See *Business Ethics Quarterly* [1994, 4(2)] an entire issue that is dedicated to addressing relevant topics, including fact/value (Frederick, 1994b), normative/empirical distinction (Weaver & Trevino, 1994; Werhane, 1994), prescription/description (Donaldson, 1994), and normative philosophy and empirical social science (Trevino & Weaver, 1994; Victor & Stephens, 1994).

On the other hand, scientists assume facts are "real" and extend knowledge by 1) *discovering* empirical facts, 2) *describing* relationships among elements of discovered facts, and 3) *explaining* the mechanisms behind those relationships. Hence, their arguments are often expressed by using the words *is* and *do*, implying that the world actually exists and works accordingly (Donaldson, 1994, 2015; Trevino & Weaver, 1994). Ultimately, the empirical accuracy of the mechanisms validates the quality of the claims by the academic community (Trevino & Weaver, 1994).

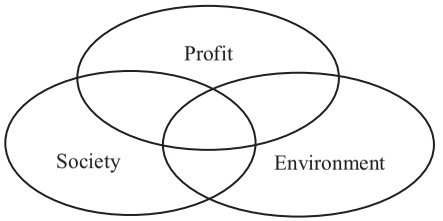
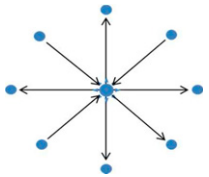
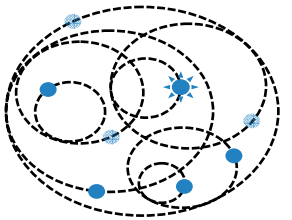
Table 5 illustrates the distinctiveness in responsibility—rooted in ethics—and sustainability—grounded in science. Responsibility researchers aim to understand "what is the moral responsibility of managers and firms to society and environment?" and through this understanding, help prescribe action. Sustainability researchers, on the other hand, ask "What are the connections and interdependencies of economics, society, and environment?" in order to explain how the system can be sustained over time. While a responsibility approach investigates the relationship between managers/firms and society, sustainability researchers do not assume a focal actor.

It is the origins of the fields of responsibility and sustainability that expose their respective distinctions. While the concepts have blurred in recent years with the convergence toward strategic management, their origins were unique. In the next two subsections, we describe the evolution of responsibility and sustainability research, which illustrates their distinctive roots in ethics and science, respectively.

The Ethical Roots of Responsibility: The Moral Obligations of Business and Managers

The exact origins of corporate responsibility are difficult to locate, as discussions of the corporate role in society began soon after the 1929 collapse of financial markets. Scholars started discussing democratic governance structures and managers' role in society (e.g., Barnard, 1938; Berle & Means, 1932; Drucker, 1954). Even labor unions, governments, and corporate elites were voicing the need for corporations to act responsibly (Kaplan, 2015). Cracks in laissez-faire corporate capitalism had exposed the need to advocate for business to be responsible. Scholars who had lived through the world wars and the economic volatility of the Great Depression began questioning the extent of business power (Brammer et al., 2012).

TABLE 5
Existing Research Approach and Future Research Direction in the Field of Business and Society

	Blurring Responsibility and Sustainability	Distinctiveness of Responsibility: Ethics	Distinctiveness of Sustainability: Science
Conceptual roots	Strategic management	Normative theory of CSR	Systems perspective on business sustainability
Theoretical home	Economics, management, organization theories	Moral theory, welfare economics, theology	Ecology, development economics
Research question	1) How can social and environmental strategy increase profits? 2) Why do firms engage in social and environment practices?	What is the moral responsibility of managers and firms to society and environment?	What are the connections and interdependencies of economics, society, and environment?
Research purpose	Describing, explaining, predicting	(Ethical) Justifying, prescribing	Describing, explaining
Research assumption	Profits, social value and environment can be aligned (converged) through corporate strategy.	Corporate profits are to serve society.	Systems are interconnected, so one system cannot be manipulated without impacts on the others.
Relevant literature	Shared value, triple bottom line	Stewardship, normative stakeholder theory	Paradox, systems theory
Conceptual graphic			
Description of the graphic	Firms are seen as distinct objects that aim to secure sustained high profits. In doing so, firms must aim to manage not only their own operations to make a profit but also its relationship to the social environments (e.g., stakeholders, communities) and natural environments.	Firms are often seen as a hub of stakeholder relationships. Corporate relationships are often assumed to be dyadic with specific, defined stakeholders, such as employees, customers, suppliers, industry association, or nongovernmental organizations. Some stakeholders influence corporate behavior; others are influenced by the corporate behavior.	The system is nested, hierarchical, and complex, and firms are not a center of all relationships. Corporate relationships are nonlinear, interdependent and often invisible. Actors from a long distance can influence and be influenced by corporate behavior through cyclical and dynamic mechanisms.

Bowen (1953) is often credited for anchoring the contemporary responsibility movement through his landmark book, *Social Responsibilities of the Businessmen*, one of a six-part series commissioned by the Federal Council of the Churches of Christ in America to address Christian ethics and economic life. As an American welfare economist, his work was dedicated to finding an alternative way to fill the gaps in unbridled laissez-faire economics without introducing socialist coordinated economics. Bowen analyzed how social responsibility was defined by Protestant ethics, institutionalized by the American business world, and perceived by businessmen. He considered social responsibility as a means for enhancing social welfare, which was a middle ground between the two extremes of socialism and the free market system (Acquier, Gond, & Pasquero, 2011). Bowen (1953: 6) claimed that corporate responsibility represents

> Obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values to our society . . . As servants of society, they must not disregard socially accepted values or place their own values above those of society.

Bowen (1953) captured a growing emergence of the concept of CSR and explained why managers should be responsible to broader stakeholders, not only shareholders and business partners (Acquier et al., 2011). Numerous other commentators were also voicing their concerns about the unbridled reign of corporate capitalism, some advocating for managers to engage voluntarily in socially responsible behaviors and others for contractually binding corporations to consider society's interests (Brammer et al., 2012). Other early commentators echoed these views, claiming that "social responsibility . . . refers to a *person's obligation* to consider the effects of his decisions and actions on the whole social system" (Davis & Blomstrom, 1966: 12; emphasis in original). Hasnas (1998: 20), a legal scholar and business ethicist, noted that "social responsibility is often employed as a synonym for a business's or business person's ethical obligation."

Early approaches to responsibility took a strong normative stance toward business activity, using such language as *obligations*, *must not*, *socially accepted values*, and *desirable*. These words were infused with value judgments, such as right versus wrong and just versus unjust (Hosmer, 1994; Swanson, 1995; Trevino & Weaver, 1994). Commentators used arguments grounded in ethics and welfare economics to describe and defend corporate responsibility in society. To early proponents, managers had a moral duty to respond actively to social issues, which could be an alternative way to increase social welfare. For these reasons, Bowen (1953) claimed that social responsibilities of managers were synonymous with *public responsibility*, *social obligation*, and *business morality*.

Neo-classical economists gained traction at the end of the 20th century, admonishing normative reasoning and managerial agency, pushing corporate responsibility to the fringes of business studies. These economists questioned managers' moral obligations to society, arguing that a normative position could not be defended on logic and reason. By grounding their arguments not on individual morality but on rationality, self-interest, and utility, neo-classical economists persuaded a large research community that wealth is created most efficiently for society when managers are left with the job of maximizing profits and governments are tasked with protecting society from managerial excess. Friedman (1962: 133), a strong proponent of neo-classical economics, asserted in his book *Capitalism and Freedom*,

> There is one and only one social responsibility of business—to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud.

Friedman (1970) argued further that if managers took a moral position guided by social responsibility, corporations would become political institutions that would even undermine elected democratic systems.

Responsibility scholars countered, arguing that the separation of economics from normative ethics was false. Freeman (1995: 37), a strong proponent of corporate responsibility, described this characterization between business and ethics as

> business which includes self-interest, rationality, stockholders, finance and economics, empirical science, and being hard-headed and tough-minded. Ethics is identified with altruism, feelings, stakeholders (other than stockholders), philosophy and religion, conceptual thinking, and being woolly-headed and soft-hearted.

He argued that this polarized characterization is often taken for granted, but both business and economics are imbued with moral content (Freeman, 1995; Freeman, Wicks, & Parmar, 2004). While ethicists were arguing that managers had a moral responsibility to society, economists were arguing that self-interest was the engine for growth. Through the

pursuit of profits, entrepreneuers and managers would create business opportunities and stimulate innovations, which would advance societal welfare (Eells, 1960; Zenisek, 1979). Although economists often perceive their field of study as value-neutral, empirical, and descriptive, it too is based on a set of assumptions that are value-laden, normative, and prescriptive.

The language of early responsibility contributors, in articles that targeted academic journals or practitioners journals, defined manager's roles in firm-stakeholders relationships by using such words as *morality*, *obligation*, and *social duty* (Bowen, 1953; Carroll, 1999; Drucker, 1954). The ethical arguments, verbal persuasion, and even religious appeals applied by early corporate responsibility commentators occupied an important place in business studies and surfaced important considerations that could not be discussed through rationality and empirics. Responsibility commentators emphasized the relationship between firms and society, which was grounded on managerial actions. These researchers assumed that managers had agency, and their decisions and values shaped how and for whom firms created and distributed value, including issues such as labor standards, product quality, human rights, and community welfare (Bowen, 1953; Davis & Blomstrom, 1966; Frederick, 1960; Heald, 1957, 1970; Selekman, 1959; Walton, 1967). A group of contemporary scholars are taking such an approach. Drawing upon critical theory, some scholars are arguing that corporate responsibility is defined by narrow business interests and can contribute to the exploitation of indigenous people (Banerjee, 2008) and to modern slavery (Crane, 2013).

The Scientific Roots of Business Sustainability: Managing Systems for Sustainable Development

Since the late 1960s, civil society actors have sounded the alarm regarding the harmful impacts of limitless economic growth on ecological diversity and resource scarcity. Although numerous initiatives tackled these issues, including the International Biological Program (1963), the Club of Rome (1968), and the UN Human Environmental Conference (1972), the watershed event that popularized the term *sustainable development* was the World Commission on Environment and Development's (WCED) report titled *Our Common Future* in 1987 (WCED, 1987).

The WCED argued that economic development was necessary for improving human life and prosperity, but was taxing natural systems. The erosion of natural systems would ultimately undermine future economic and social development. The WCED coined the term *sustainable development* to refer to development that "meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987: 43). The WCED argued that economic development must operate within the constraints of natural resource systems, if *all* systems are to be sustained.

The WCED report took a systems perspective to development. It viewed the world as a complex system with six interlocking challenges: 1) population, 2) food security, 3) ecosystems, 4) energy, 5) industry, and 6) urban issues (WCED, 1987, Part 2). These challenges could be solved only by systematic collective endeavors (WCED, 1987, Part 3). The collapse of natural systems would erode the sustainability of organizational systems, as all physical

TABLE 6
Systems Science and Nonsystems Science

	Systems Science	Nonsystems Science
Worldview	Holism	Reductivism
Mechanism of science	Understanding interconnectivity	Revealing causality
	Quantum physics	Newtonian physics
	Complex adaptive systems	Darwinian paradigm
Evolutionary process	Adaptive self-organization	Natural selection
	Systems survival	Species survival
	Growth through repetitive feedback	Growth through geometrical expansion
Assumption	Nonlinearity	Linearity
	Complexity	Simplicity
	Nondeterminism	Determinism
	Multiequilibrium	Equilibrium
	instability	Stability
	Interdependence	Independence
	Autopoiesis	Exogenesis

resources are ultimately drawn from the earth. Furthermore, poor social conditions, such as high income inequality or poor access to food, education, and health services, could catalyze organizational dissent. Thus, scholars assumed that corporate actions were inherently connected to the social and natural systems.

We summarize the differences between systems science to nonsystems science in Table 6 and describe some of the differences here. Systems theory is rooted in the sciences, including theoretical physics (Bak, Tang, & Wiesenfeld, 1988), genetics (Holland, 1992), chemistry (Nicolis & Prigogine, 1977; Prigogine, 1984), biology (Kauffman, 1993), and ecology (Holling, 1973, 1986). Systems scholars assume that smaller systems are nested in larger, hierarchical systems (Kauffman, 1993). The smaller subsystems interlock in a complex structure, which exhibits behaviors of a seemingly unified whole. However, the behavior of the whole system cannot be understood by merely deconstructing the system into its individual constituent parts. In other words, a system defies reductivism (Dent, 1999; Holling, 2001; Kast & Rosenzweig, 1972). The connections among the constituent parts give the system as much character and function as do the parts themselves, yet the numerous interconnections make most systems too complex to model. Large disruptions to a system can sometimes be absorbed by a system resulting in no changes to a system, yet small disruptions can catalyze significant systems changes through positive feedback loops (Meadows & Wright, 2008; Repenning & Sterman, 2002; Senge, 2006; Sterman, 1994).

Systems theory shifts focus from the characteristics of elements to the dynamics of connectivity (Kauffman, 1993). This logic is more closely aligned with quantum, rather than Classical Newtonian physics. Newtonian physics views the world as a machine where discrete entities independently and linearly influence other entities over bounded time-space scales. Quantum physics, however, perceive physical entities, such as electrons, as traveling on trajectories that are stochastically determined and impossible to predict (Feynman, Leighton, & Sands, 2011). Even the relationship between the observers and the observed can influence the causal mechanisms in quantum physics (Jalabert, Baranger, & Stone, 1990; Meadows & Wright, 2008: 168).

Systems theory also challenges the Darwinian paradigm in which the strongest survives through a process of natural selection. Systems biology questions this fitness logic, favoring a logic in which the interlocks among species create environmental niches that form complex adaptive systems (Kauffman, 1993). Ecological systems "are organized such that the different species "support" each other in a way which cannot be understood by studying the individual constituents in isolation" (Bak, Tang, & Wiesenfeld, 1988: 38). Symbiosis replaces competition and systems survival replaces species survival. Systems tend to self-organized around multiple equilibria (Bak et al., 1988; Kauffman, 1993). Order, structure, and patterns arise spontaneously from the internal dynamics in the system, which systems scholars call "homeostasis," "autopoiesis," or "self-organization" (Nicolis & Prigogine, 1977; Kauffman, 1993). While a nonsystems approach tends to attribute the source of changes to exogenous influences, a systems perspective focuses on internal dynamics.

Although systems theory has not been strongly anchored in management studies, management scholars have applied a systems lens to investigate general systems theory (Boulding, 1956; Kast & Rosenzweig, 1972; Von Bertalanffy, 1972), systems dynamics (Lyneis & Sterman, 2016; Repenning & Sterman, 2002; Sterman, 2000, 2001), complex adaptive systems (Amaral & Uzzi, 2007; Levinthal, 1997; Plowman, Baker, Beck, Kulkarni, Solansky, & Travis, 2007; Sterman, 1994), chaos theory (Glieck, 1987), and actor-network theory (Newton, 2002). These studies extend systems theory in two primary ways.

First, scholars conceptualized a firm as a complex system (e.g., Senge, 2006). These studies focused on the processes through which firms coordinate internal complexity. Many of these studies extended or challenged traditional management theory, including the resource-based view and the behavioral theory of the firm (Colbert, 2004; Senge, 2006; Siggelkow, 2002; Sterman, 2000). Second, scholars focused more on relationships of organizational systems with other macrosystems, extending their field of view beyond the organization's internal complexity. This strand of research has a long tradition, but has been largely quiet in organization studies in the last few decades. In fact, early management scholars recognized a central assumption of systems thinking (e.g., Barnard, 1938). Drucker (1954: 81) proposed that "society is not just the environment of the enterprise. Even the most private of private enterprises is an organ of society and serves a social function."

Borrowing explicitly on the concept of sustainable development, as conceived by the WCED (1987), sustainability scholars were oriented to the potential failure of macrosystems but directed their attention to the organizational level of analysis (Bansal, 2005). In focusing on the organization, some of the original

ideas of the WCED were pushed to the background. Although the original conceptualization of sustainable development spoke to the interconnectedness of ecological, societal, political, and economic subsystems, early business sustainability scholars took a distinctly *ecological/environmental* slant because the impact of business activities on the natural environment was so significant that it was impeding social welfare. Many early sustainability researchers were drawn to the newly formed Organizations and Natural Environment (ONE) special interest group of the Academy of Management. Starik and Rands (1995: 909) added the word *ecological* to *sustainability*, defining *ecological sustainability* as

> The ability of one or more entities, either individually or collectively, to exist and flourish (either unchanged or in evolved forms) for lengthy time-frames, in such a manner that the existence and flourishing of other collectivities of entities is permitted at related levels and in related systems.

Shrivastava (1995b: 938) used the concept ecologically sustainable development to refer to "an approach to economic development that reconceptualizes society–nature relations and identifies corporate implication." New terms were coined, such as natural capitalism (Lovins, Lovins, & Hawken, 2007), environmental management (Christmann, 2000; Hoffman, 1999), and green management (Bansal & Roth, 2000; Hart & Ahuja, 1996).

The first major academic milestone for sustainability research within the field of business was the 1995 special issue of the *Academy of Management Review*. Contributors took two different perspectives in this special issue. The first group of authors in the *Academy of Management Review* special issue framed sustainability as a mainstream management issue, applying existing management theories and concepts (e.g., cost efficiency, competitiveness, and profit maximization), which we discussed in Part 1 of this manuscript.

The second group was critical of mainstream research and spoke to sustainability's distinctiveness. Most of these contributors to the special issue argued that contemporary management scholarship could not fully address the risks associated with wealth creation and distribution, such as pollution, product harm, and public safety, and was too focused on a single level of analysis, instead of basing their analysis on the system and interactions across levels (Shrivastava, 1995a; Starik & Rands, 1995). Gladwin et al. (1995: 874) were pointed in their criticism of the current *technocentric paradigm* that separated "humanity from nature and truth from morality." They offered a new paradigm, sustaincentrism, which dialectically synthesized the techno-mechanical worldview (i.e., the thesis) with extreme naturalism (i.e., the antithesis). In a similar vein, Purser et al. (1995) highlighted the anthropocentrism of the existing paradigm and advocated for a more ecocentric paradigm that entrenched the human–ecology relationship. These contributors made explicit the assumptions held under the current paradigm and argued that the existing approach to business would ultimately lead to the collapse of existing systems and that management scholars needed new tools of analysis. Although these early interlocutors took normative positions, they grounded their logic and analysis on systems thinking. This body of work has remained relatively dormant for the past 25 years, but the seeds that were planted have started to germinate (e.g., Bansal & DesJardine, 2014; Ehrenfeld, 2008, 2011; Hahn & Figge, 2011; Hahn, Pinkse, Preuss, & Figge, 2015b).

These researchers argued that the triple bottom line approach to sustainability is a compositional fallacy (i.e., the parts do not necessarily comprise the whole) and may not contribute to sustainability. Because the three types of performance are not assumed to be related, the tensions and trade-offs among these elements are not considered. Firms will pursue social and environmental performance only if doing so will not compromise their financial performance (Milne & Gray, 2013; Slawinski & Bansal, 2015). Furthermore, this perspective separates the firm from its environment, as opposed to treating the firm as a system nested in other systems. A causal, predictable approach to identifying the consequences from a set of antecedent conditions is inconsistent with a systems perspective.

Some sustainability articles have taken issue with the reductivist, linear thinking that is associated with logics that elevate economic growth and profit maximization (e.g., Banerjee, 2001, 2011; Byrch, Milne, Morgan, & Kearins, 2015; Gray & Milne, 2015). Based on such critical thought, Banerjee (2011) argued that the current strategic paradigm in sustainability hampers discussions of capitalism's assault on the natural environment and indigenous communities, such as the excessive and abusive power held by multinationals and other corporations. Ehrenfeld (2011: 618) pointed out that "sustainability is more than merely a larger and more complicated version of greening, and to address it with the same strategic framework and same practices will not be effective." He argued that

"sustainability exists in a new paradigm, where the fundamental beliefs that underlie the place, role, and practices of business are no longer capable of producing what is wanted without unintended consequences that more than negate the positive outcomes" (Ehrenfeld, 2011: 618). Sustainability scholars challenge the assumption of growth, highlighting instead the natural limits to economic growth. These scholars took issue with the hegemony of financial performance, and asked scholars to consider the role in the broader systems in which organizations are nested.

ADVANCING RESEARCH THAT EMBRACES THE DISTINCTIVENESS OF RESPONSIBILITY AND SUSTAINABILITY

Responsibility Based on Ethical Principles

In recent years, articles appearing in high-quality management journals have called for normative arguments and explored managers' moral responsibility (e.g., Ferraro et al., 2005; Freeman et al., 2004; Ghoshal, 2005; Ghoshal & Moran, 1996; Margolis & Walsh, 2003; Swanson, 1995, 1999; Wicks & Freeman, 1998). Ferraro et al. (2005: 15) proposed that the "choice of management practices may be explained not just by their efficacy but also by their perceived consistency with the prevailing normative order." Thus, scholars have expressed some appetite to explore managers' moral belief systems and ethical values, which are argued to determine managers' approach to social issues.

Responsibility researchers and stakeholder theorists are also speaking out against the amoral stand of shareholder-dominant principles, which "fosters a worldview where managers do not see themselves as moral agents responsible to a wide array of groups for their actions" (Freeman et al., 2004: 367). Even stakeholder theory, which assumes a descriptive and instrumental stance, is also seen as normative. For example, Donaldson and Preston (1995: 87–88) in their analysis of stakeholder theory argued that "the ultimate justification for the stakeholder theory is to be found in its normative base" and thus "*should* acknowledge the validity of diverse stakeholder interests and *should* attempt to respond to them within a mutually supportive framework, because that is a moral requirement for the legitimacy of the management function" (emphasis in original).

Margolis and Walsh (2003: 284) called for "a normative theory of the firm." They argued that researchers should "identify and probe the set of objectives, duties, and concerns that arise when business organizations confront the question of whether to help redress human misery" (Margolis & Walsh, 2003: 292). A higher degree of managerial morality is considered an ultimate solution to mitigate social misery that often comes from corporate amorality (Donaldson & Walsh, 2015; Margolis & Walsh, 2003; Wicks & Freeman, 1998). The following questions are some examples that provide directions toward more normative moral inquiry in businesses and organizations.

What is the purpose of business? Donaldson and Walsh (2015: 181) opened their article with a compelling question. "Law is to justice, as medicine is to health, as business is to___?" In other words, what is the purpose of business? The authors argued that "since business works both in society and for society (Walsh, Meyer, & Schoonhoven, 2006), the theory must include both empirical and normative elements" (Donaldson & Walsh, 2015: 182).

Responsibility researchers often rail against the hegemony of shareholder returns, within legal mandates, as the normative purpose of business. While science-based researchers can describe what is happening and propose actions for change, ethics-based analysis occupies the unique and important position that builds a set of internally consistent statements that help managers define the purpose of business. Such analysis is important to help managers determine who a business serves—the owners, managers, or other stakeholders. Without ethical analysis, researchers cannot explore how the purpose of business can be assessed and will default to a shareholder perspective (Freeman et al., 2004). Although many managers are motivated to organize for reasons beyond profits, business researchers have difficulty reconciling the different points of view. Hosmer (1994: 18) argues that "ethical analysis . . . is the only means available to resolve conflicts in values, goals, and "projects," and consequently essential in the process of corporate strategy."

How should business pursue this purpose? Not only does ethics-based analysis compel proponents to consider what it is that business should be pursuing, it also provides the mechanisms to judge how business should pursue this purpose. If social justice is to be an ultimate goal, scholars need to ask themselves through what means. Can people mislead or manipulate people, organizations, or markets in order to achieve their goals? In other words, do the ends justify the means? By answering these questions, we gain insight into those mechanisms for outcomes

that are perceived to be acceptable—and those that are not.

How do we choose? In his presidential address, DesJardins (2016), the President of the Society for Business Ethics for 2014/2015, asked some tricky questions that are best left in the hands of the ethicists, such as whether a conservationist sustainability agenda implies the protection of animal rights or biodiversity over human rights. These questions beg answers that require important trade-offs to which sustainability scholars are ill-equipped to address: for example, preserving "biodiversity might conflict with a specific goal to increase crop production by introducing a monocultural agriculture, especially one using nonnative or genetically modified plants or animals" (DesJardins, 2016: 128). While sustainability scholars may be able to explore systems disruptions, they lack the tools to explore even the simplest of equifinal trade-offs.

The conversations about managers' or corporations' ethical obligations to society have laid in the domain of ethics journals and only recently touched management journals. Much more work is needed. For example, researchers need to discuss the types of values that managers hold, and how they guide corporate relationships with society. Is there consensus on these values? If not, then how can we know what is responsible or not? What guidance can we give future leaders? And, should managers respond to their context, even if such values are inconsistent with those of society, or are there universal values that are context free? These are only some of the questions that responsibility researchers could, and arguably should, be tackling in their efforts to inform the discussion of business and society.

Sustainability Based on Systems Science

Although systems theory and the literature on business sustainability have evolved independently of each other, there are significant research opportunities bridging the two (e.g., Meadows & Wright, 2008; Senge, Smith, Kruschwitz, Laur, & Schley, 2008). In this section, we introduce several concepts and suggest some possible applications. This section is not intended to be comprehensive, but offers scholars a window into the opportunities for research that might advance insights into the relationship between business and society.

What is sustainability across different levels of analysis? Systems science explicitly considers dynamics at different levels of analysis or hierarchies of systems. Macrosystems are not merely aggregations of microsystems, but can sometimes exhibit unique properties. For example, in an ecological system, predators and preys are negatively correlated—the more predators, the fewer prey, and *vice versa*. However, at a macroanalysis, predators and prey may be positively correlated, as they are both related to the resources of the larger system (Bansal, Kim, & Wood, in press). Similarly, sustainability at the organizational level of analysis is not the same as sustainability at the macrolevel of analysis. For example, at the organizational level, every organization has a net negative impact on the natural environment; however, at the macrolevel, one organization's resources can be feedstock for another, leading to a net neutral impact. Future researchers, therefore, need to consider not only within-level analysis, but also cross-level analysis. Industrial symbiosis, the circular economy, and cradle-to-cradle product streams offer opportunities for future research (Bansal & McKnight, 2009; Chertow, 2007; Paquin & Howard-Grenville, 2012).

How can systems remain stable, while permitting change? Systems thinking requires researchers to consider interconnections among elements of the systems and the relationships among stocks, flows, and feedback loops. Feedback loops can regulate stocks by maintaining balance (negative feedback) or amplifying change (positive feedback) (Meadows & Wright, 2008; Sterman, 2000). Using dynamic systems methods and causal loop diagrams, Lyneis and Sterman (2016) showed how the Massachusetts Institute of Technology's win–win energy strategy failed because the university did not consider the stocks, flows, and feedback loops over short *and* long time frames.

These feedbacks raise questions of how systems can retain balance, while at the same time adapting to changes in the environment. Order, structure, and pattern arise spontaneously from internal dynamics in the system, which systems scholars call homeostasis, autopoiesis, self-organization, and resilience (Folke, Carpenter, Elmqvist, Gunderson, Holling, & Walker, 2002; Kauffman, 1993; Prigogine, 1984). The question of resilience, both in organizations and the macrosystems, becomes salient to organizations and the systems in which they are embedded (Ortiz-de-Mandojana & Bansal, 2016; Van Der Vegt, Essens, Wahlström, & George, 2015). What matters to systems resilience is "not [a strategy] maximizing either efficiency or a particular reward [i.e., achieving a single global equilibrium], but one which allows persistence by maintaining flexibility above all else [i.e., balancing flexibly

back and forth among multiple equilibria]" (Holling, 1973: 18).

What triggers systems disruptions? When a disruption does occur, the possibility of catastrophic risks emerges as the system moves from one regime to another. Many disruptions are latent in nested systems, so these catastrophic changes can be triggered unexpectedly and the outcomes can be unpredictable. For example, the 2008 financial crisis was catalyzed by overleveraged financial systems. The failure of Lehman Brothers sparked the catastrophic collapse of financial markets worldwide (Andrew, 2008; de la Merced & Sorkin, 2010). In systems science, some of Lehman Brothers' decisions can be described as driving factors (Meadows & Wright, 2008), initial conditions (Plowman et al., 2007), or critical mass thresholds (Dent, 1999) that transform the whole system. The focus, then, is on identifying the factors, even a small set of events, interactions, or corporate decisions, that can help avoid significant disruptions.

Exploring Complementarities between Responsibility and Sustainability without Compromising Clarity

Putnam (2002) argued that the dichotomy between value and fact is overplayed. There are no facts without value-based assumptions. Sustainability scholars value intergenerational equity—that the needs of future generations should not be compromised to meet the needs of present generations (Bansal & DesJardine, 2014; DesJardins, 2016; Roome, 2011). They also assume the current climate system is preferred over a new system induced by anthropogenic emissions, and that the current financial system should remain stable.

Not only do all facts involve values but values are often constrained by the realm of the possible or, at least, the probable. Responsibility scholars often constrain their normative positions to those that are deemed feasible. By gaining greater clarity about each field's distinctiveness, insights from each system of knowledge related to either sustainability or responsibility can enrich the other. We are arguing against responsibility integrating, mingling, or combining with sustainability, but rather for one field to draw insights from the other to further illuminate the interface between business and society.

Practical syllogism (Mothersill, 1962), for example, provides a philosophical technique that allows researchers to collate ethics with science. Schreck, Aaken, and Donaldson (2013) showed how normative CSR research can use positive economics through the process of deduction. The first premise requires the normative justification of organizational goals through responsibility-related principles. The second premise requires empirical science to posit factual conditions to achieve those principles. Thus, "the key role of positive approaches emerges, which is to explain consistently why, when, and how companies engage in CSR activities" (Schreck et al., 2013: 306), which is missing in the first premise. From the two statements, an actor can deduce desirable and feasible actions.

In the case of responsibility, researchers can describe desirable business actions in society, but lack the tools to explain why, when, and how systems change. Sustainability researchers can assist responsibility researchers in analyzing the origins of transformation and show interconnected changing processes in complex phenomenon. Sustainability researchers could help responsibility researchers understand why some organizations are persistently responsible or irresponsible, and introduce the mechanisms that can shift organizational systems. Further, sustainability researchers can outline the factual and empirical conditions to achieve a morally desirable and empirically feasible system.

In the case of sustainability, researchers can identify the systems that can be sustained over time, but lack the tools to assess the desirability of different systems. Responsibility research offers normative directions and meanings for different systems and systems change. Sustainability *describes* and potentially *predicts* different systems and systems changes; responsibility *prescribes* the preferred systems. Sustainability helps extend a generalized understanding of the complex relationships among economics, society, and environment, yet it cannot morally judge the systems change. For this normative assessment, responsibility researchers offer the requisite tools.

Firms can take a legitimate action, given that they acknowledge the principle that is worth pursuing and the strategy that can be actually implemented following the principle. Indeed, the mechanism between the normative principle of "ought" and the empirical principle of "is" guides what organizations "can" do. As a result, responsibility and sustainability can inform each other, while maintaining their own uniqueness.

Transcending the Distinctions between Responsibility and Sustainability

In the previous subsection, we showed how responsibility and sustainability researchers can sharpen their language and tools to better reflect their

normative orientation and systems approach. However, an alternative path is for researchers to transcend these distinctions by focusing on the relationship between business and society.

Focusing on the tensions between business and society. A paradox perspective focuses on neither normative arguments nor empirical analysis but the inherent tensions and trade-offs in reconciling business with society. While the business case for business in society has assumed the existence of the proverbial win–win, a paradox perspective argues that "contradictory yet interrelated elements [can] exist simultaneously and persist over time" (Smith & Lewis, 2011: 382). Paradox, originally conceived in Taoism, Eastern philosophy, and Greek philosophy, aims to explain the structure of the world (Chen, 2008; Smith & Lewis, 2011; Zhang, Waldman, Han, & Li, 2015). Ancient Taoists argued that sustaining a system requires two opposite extremes that must not be integrated or completely isolated (see Kaltenmark, 1969). For instance, the earth needs both dark (*Yin*) and light (*Yang*). However, dark cannot coexist with light in the same space; each needs to exist. An organism cannot know dark, without experiencing light, and *vice versa*. In managerial settings, a paradox perspective suggests that some tensions are better to keep. Such a lens has been applied to the synergies in organizing as hybrids (Ashforth & Reingen, 2014; Battilana & Dorado, 2010), partnering across sectors (Sharma & Bansal, in press), fostering creative managerial system (Khanna, Song, & Lee, 2011), and developing holistic leadership (Zhang et al., 2015).

Two articles published in the *Academy of Management Annals* in 2016 further elaborated the concept of paradox to describe organizational tensions, contradictions, and dualities. Based on the past 25 years of paradox study, Schad, Lewis, Raisch, and Smith (2016) showed that paradox can be a meta-theory, in that the concept is useful in dealing with a wide range of organizational phenomena on tensions across multilevels, contexts, theories, and methods. On the other hand, Putnam, Fairhurst, and Banghart (2016) sharpened the concept and suggested that organization scholars need to turn some attention to 1) various time frames embedded in organizational tensions, 2) the role of individual emotionality in processing tensions, and 3) the particular interrelationship between order and disorder in organizations. The two groups of authors showed that paradox offers significant insight to organizational scholars because tensions are omnipresent in organizational phenomena.

Paradox relates to both responsibility and sustainability literatures and the intersecting space between them since economic development and societal values were often assumed to be in tension. Margolis and Walsh (2003: 280) noted that "social and economic *tension* should serve as a starting point for new theory and research" (emphasis added). Such paradoxes are manifested in the tensions among the values, goals, logics, identities, and processes of business and society (Battilana & Dorado, 2010; Battilana & Lee, 2014; Hahn et al., 2014; Jay, 2013; Smith, Gonin, & Besharov, 2013). Similarly, researchers have surfaced the tensions within the systems associated with sustainable development, such as those between the short and long term, among different levels of analysis, between win–wins and trade-offs, and among economic, social, and environmental systems (Hahn et al., 2015b; Slawinski & Bansal, 2015; Van Der Byl & Slawinski, 2015). Although these researchers may identify closer to responsibility or sustainability, they are motivated more by the phenomena than the label.

Focusing on the intersection between business and society. Another approach that transcends the distinctions between responsibility and sustainability may lie in unexplored territory—perspectives and philosophies that see business and society as deeply related. For example, we are exploring the insights yielded by Buddhist philosophy. Buddhism challenges the egocentric, reductive, and mechanical worldview prevalent in modern science without taking a normative stance (Macy, 1991). Systems science and Buddhist philosophy argue that the association of parts is not necessarily linear and causal: mutual causality is postulated, and time and space scales take on new meaning (Macy, 1991). The philosophy of systems thinking can be summarized as "you cannot do just one thing" or "everything is connected to everything else" (Sterman, 2001: 9–10). Although this wisdom appears simple, it provides both sustainability and responsibility scholars a theoretical compass to guide "what to know" and "how to know." Whiteman and Cooper (2000) embody this approach through the concept of ecological embeddedness, which is "the degree to which a manager is rooted in the land—that is, the extent to which the manager is on the land and learns from the land in an experiential way" (2000: 1267), and ecological sensemaking, "the process used to make sense of material landscapes and ecological processes" (Whiteman & Cooper, 2011: 889) to direct attention to environmental issues. Both concepts point to a false separation of business and society. By removing the separation, the distinction between responsibility and sustainability become moot.

CONCLUSIONS

In this paper, we have synthesized prior research and argued that corporate responsibility and sustainability research emerged from different paradigms. Responsibility research started with a normative orientation that applied the language and reasoning of ethics and normative welfare economics in an industrial era in which scholars and social activists questioned unconstrained laissez-faire capitalism (Bowen, 1953; Davis & Blomstrom, 1966; Frederick, 1960; Heald, 1957, 1970; Selekman, 1959; Walton, 1967). Sustainability research was a reaction to the disruptions created by the economic development of natural resource systems, which was undermining the very purpose of economic development (Gladwin et al., 1995; Roome, 1992; Shrivastava, 1995a, 1995b; Starik & Rands, 1995; WCED, 1987). Each field has different origins—responsibility in normative economics and ethics, and sustainability in systems science. Yet, responsibility and sustainability research has converged to the same place, using similar definitions, ontological assumptions, nomological networks, and measurement, so that their distinctiveness has been lost.

Researchers who study the intersection of business and society often struggle with their choice of constructs and literatures. Some researchers choose to be completely inclusive in their constructs, so that the construct becomes "an umbrella term overlapping with some, and being synonymous with other conceptions of business-society relations" (Matten & Moon, 2008: 405). Others coin their own terms. Ortiz-de-Madojana and Bansal (2016) coined *social and environmental practices* (SEPs) to permit the study of these societal-level practices that apply a systems perspective, but without normative baggage.

Researchers find themselves having to choose between the responsibility or sustainability communities, or joining both. Responsibility researchers join the Social Issues in Management (SIM) division of the Academy of Management, whereas sustainability researchers join the ONE division, and many researchers join both. This overlap results in either fractured or repeated conversations, which hamper the development of the field. This cacophony creates confusion.

We have intentionally avoided defining *corporate responsibility* and *sustainability*, recognizing that the process of creating distinctiveness must emerge from each of the communities. However, we ask researchers to use greater reflexivity in choosing their labels. The chosen labels need to be defined well and need to reflect the phenomena. We take the position that, rather than assuming that both constructs are the same, the research community needs to sharpen and amplify the differences between responsibility and sustainability by drawing on the paradigmatic origins. In doing so, each community can deepen its own insight and collaborate to generate more creative and complementary insights; not simply echoing work conducted in the other's chambers.

We have shown in this paper the many opportunities to discriminate between responsibility and sustainability, and to deepen the insights by drawing from their very roots. The normative insights of early responsibility researchers and the systems thinking of early sustainability researchers could hold the keys to unlocking mindmelds and generating analytical tools that facilitate human flourishing (Ehrenfeld, 2008). Responsibility and sustainability researchers can proselytize the types of organizational behaviors they desire by returning to the conceptual space they largely vacated—specifically, normative approaches to business and society, and systems approaches to organizations nested within other systems.

Albert Einstein illustrated the difference between science and religion in his address to the Princeton Theological Seminary on May 19, 1939:

> For science can only ascertain what is, but not what should be, and outside of its domain value judgments of all kinds remain necessary. Religion, on the other hand, deals only with evaluations of human thought and action: it cannot justifiably speak of facts and relationships between facts.

Einstein (1939, 1941) viewed religion and science as distinctive intellectual endeavors: religion for "what should be" and science for "what is." He does not suggest that these two approaches to knowledge are incommensurable or should act as two solitudes. Rather, each approach can inform the other and the phenomena by clarifying the boundaries. Ethics provides the compass, and science provides the engine.

We do not dissuade researchers from pursuing research into the business case—that is, win–wins for business and society—or on the top management team or institutional explanations for responsibility and sustainability. Rather, we argue that the failure to reflect deeply on the choice of construct, as reflected in its origins, has potentially created blind spots for avenues for potential research. When business and society issues are framed with existing theories, then the issues are treated as just any business issue or societal context. The unique insights that are at the interface of business and society, such as the moral questions and systems issues, need more attention.

Further, the convergence to the business case risks are propagating the very behaviors that responsibility and sustainability researchers are trying to deter. Ferraro et al. (2005) argued that theories become self-fulfilling prophecies. In this case, then, managers will act responsibly only if their practices are aligned with organizations' strategic interests or are expected to generate profits. A natural consequence is that each organization will pursue unconstrained economic growth, disrupting natural and social systems. By deepening normative prescriptions and systems perspectives, managers and organizations are offered alternative ways of seeing and knowing their relationships with society, and can potentially unlock new solutions to escalating problems.

Paradigmatic and construct clarity requires a discipline that can help to create theoretical and methodological plurality (Kuhn, 1962/2012; Pfeffer, 1993; Suddaby, 2010). New insights can be drawn from philosophical reasoning (e.g., Donaldson, 2012), configurational analysis (e.g., Siggelkow, 2002), systems analysis (e.g., Lyneis & Sterman, 2016), nonpositive qualitative data analysis (e.g., Whiteman & Cooper, 2000), and critical theory (e.g., Adler, Forbes, & Willmott, 2007; Banerjee, 2008). New theoretical dimensions can be revealed, such as the scale of time and space in self-organizing processes (e.g., Bansal & DesJardine, 2014; Bansal & Knox-Hayes, 2013) or the mindfulness of Buddhist monks (Weick & Putnam, 2006). Researchers should also be reflexive about their beliefs in a normative value system or in positive scientific fact, whether our experiences are real or constructed.

Rather than rushing to the same conceptual landscape, business and society researchers can help illuminate new research frontiers that are often outside the field of view of strictly strategic mandates. Responsibility and sustainability researchers should not feel straitjacketed into current management approaches, but show the visual acuity and scholarly courage to expose new forms of knowledge at the frontiers of and bridges between normative and systems logic. To support those principles, an optimistic picture for the future may need both strong moral principles and empirical underpinnings (Schreck et al., 2013).

Management scholars have long studied societal problems, including income inequity, illiteracy, and climate change, and have argued that firms have a role in society (Bansal, 2002; Crane, 2013; Hart & Milstein, 2003; Margolis & Walsh, 2003). These significant issues call for the attention of business scholars. Through this review, we ask scholars of business and society to use the labels of *responsibility* and *sustainability* that reflect the paradigmatic roots of their scholarly endeavors, and even more so, apply new and diverse tools that will help organizations solve some of their and society's most pressing problems.

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APPENDIX A
Definitions of Responsibility and Related Concepts

Reference	Definition
Donaldson and Preston (1995)	Descriptive stakeholder theory: "The theory is used to describe, and sometimes to explain, specific corporate characteristics and behaviors" (p. 70). Instrumental stakeholder theory: "The theory, in conjunction with descriptive/empirical data where available, is used to identify the connections, or lack of connections, between stakeholder management and the achievement of traditional corporate objectives (e.g., profitability, growth)" (p. 71). Normative stakeholder theory: "The theory is used to interpret the function of the corporation, including the identification of moral or philosophical guidelines for the operation and management of firms" (p. 71).
Swanson (1995)	Swanson suggests "the reoriented CSP [corporate social performance] model," which consists of the micro- and macroprinciples of CSR, corporate culture and social impacts (see Figure 1: 58).
Clarkson (1995)	In Clarkson's stakeholder framework, he suggests some of typical corporate and stakeholder issues (see Table 1: 101–102).
Swanson (1999)	Swanson compares the "value neglect CSP model" and the "value attunement CSP model" (see Figures 2 and 3: 513–515).
McWilliams and Siegel (2001)	"We define CSR as actions that appear to further some social good, beyond the interests of the firm and that which is required by law. This definition underscores that, to us, CSR means going beyond obeying the law. Thus, a company that avoids discriminating against women and minorities is not engaging in a socially responsible act; it is merely abiding by the law" (p. 117).
Hillman and Keim (2001)	"CSP is generally conceived as a broad construct comprised of *stakeholder management* and *social issue management* (Clarkson, 1995; Swanson, 1995; Wood, 1991)" (p. 126; emphasis added).
Schuler and Cording (2006)	"We define CSP as a voluntary business action that produces social (third-party) effects" (p. 540).
Brammer and Pavelin (2006)	"Demonstrating a high degree of social responsibility may therefore require a diverse range of activities (including engagement in philanthropic activities, reduction of environmental impacts, and the introduction of practices that empower employees)" (p. 436).
Doh and Guay (2006)	"Corporate social responsibility (CSR)—actions taken by the firm intended to further social goods beyond the direct interests of the firm and that which is required by law (McWilliams and Siegel, 2001)" (p. 47).
Windsor (2006)	"Corporate social responsibility (CSR) is, regardless of specific labelling, any concept concerning how managers should handle public policy and social issues" (p. 93).
Lockett, Moon, and Visser (2006)	"We categorize the CSR papers into four groups according to the dominant CSR theme of the papers reflected in keywords in their titles and abstracts: social, environmental, ethics and stakeholders" (p. 116).
Waldman, Siegel, and Javidan (2006)	"We define CSR as actions on the part of the firm that appear to advance, or acquiesce in the promotion of some social good, beyond the immediate interests of the firm and its shareholders and beyond that which is required by law" (p. 1703).
Crouch (2006)	"CSR is essentially 'corporate externality recognition'" (p. 1534).
Campbell (2007)	"I view firms as acting in socially responsible ways if they do two things. First, they must not knowingly do anything that could harm their stakeholders—notably, their investors, employees, customers, suppliers, or the local community within which they operate. Second, if firms do cause harm to their stakeholders, they must then rectify it whenever the harm is discovered and brought to their attention. Rectification could be done voluntarily or in response to some sort of encouragement, such as moral suasion, normative pressure, legal threats, regulatory rulings, court orders, and the like. This is a definition that sets a minimum behavioral standard with respect to the corporation's relationship to its stakeholders, below which corporate behavior becomes socially irresponsible" (p. 951).
Barnett (2007)	"There are two characteristics that distinguish acts of CSR from other corporate investments: social welfare orientation and stakeholder relationship orientation" (p. 798).
Aguilera, Rupp, Williams, and Ganapathi (2007)	"The definition of CSR that we are using refers to 'the firm's considerations of, and response to, issues beyond the narrow economic, technical, and legal requirements of the firm to accomplish social [and environmental] benefits along with the traditional economic gains which the firm seeks' (Davis, 1973: 312)" (pp. 836–837).
Mackey, Mackey, and Barney (2007)	"As long as a firm's actions are consistent with this general definition of social responsibility—that is, as long as they are voluntary and designed to improve social or environmental condition—they are considered socially responsible for the purposes of the model developed here" (p. 818).

APPENDIX A
(Continued)

Reference	Definition
Marquis, Glynn, and Davis (2007)	"We define corporate social action as behaviors and practices that extend beyond immediate profit maximization goals and are intended to increase social benefits or mitigate social problems for constituencies external to the firm" (p. 926).
Matten and Moon (2008)	"The core of CSR is the idea that it reflects the social imperatives and the social consequences of business success" (p. 405).
Arya and Zhang (2009)	In their research context, "We define CSR initiatives as equity transfer transactions designed by white owned South African companies that put enterprise shares in the hands of new black owners to contribute to the correction of historic socio-economic imbalances in the economy" (p. 1090).
Brammer, Pavelin, and Porter (2009)	"We take social responsibility to mean the extent to which corporate decision-making is undertaken with a regard for social issues (Wood, 1991)" (p. 578).
Peloza (2009)	"A business organization's configuration of principles of social responsibility, processes of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm's societal relationships (Wood, 1991)" (p. 1519).
Janney and Gove (2011)	"We employ McWilliams and Siegel's (2001) definition of CSR as 'actions that appear to further some social good, beyond the interests of the firm and that which is required by law' (p. 117)" (p. 1564).
Wong, Ormiston, and Tetlock (2011)	"We define corporate social performance as a componential model incorporating principles of corporate social responsibility, processes of corporate social responsiveness, and outcomes of corporate behavior" (p. 1208).
Ramchander, Schwebach, and Staking (2012)	"CSR is a multidimensional construct that generally refers to voluntary actions taken by companies that go beyond what is mandated by law" (p. 303).
Wang and Bansal (2012)	"CSR refers to 'the firm's consideration of, and response to, issues beyond the narrow economic, technical, and legal requirements of the firm' (Davis, 1973: 312)" (p. 1136).
Tang, Hull, and Rothenberg (2012)	"*CSR engagement strategy* as the manner in which managers identify CSR-related activities, organize resources to conduct these activities, and use the knowledge acquired from these activities for commercial outputs" (p. 1275; emphasis original).
Haack, Schoeneborn, and Wickert (2012)	"By *CSR standardization* we refer to the institutionalization of a standard, i.e. the progressive cognitive validation of a CSR-related practice (Berger & Luckmann, 1967)" (p. 816; emphasis original).
Julian and Ofori-dankwa (2013)	"The GIPC defined what they termed 'corporate social responsibility' as 'programs, products or services' that 'demonstrate the company's leadership, sincerity and on-going commitment in incorporating ethical values, compliance with legal requirements and respect for individuals, communities and environment into their business processes' (Ghana Investment Promotion Centre Publication, 2005: 47)" (p. 1320).
Chin, Hambrick, and Treviño (2013)	"Defined as 'actions that appear to further some social good, beyond the interests of the firm and that which is required by law' (McWilliams and Siegel, 2001: 117)" (p. 202).
Cheng, Ioannou, and Serafeim (2014)	"The voluntary integration of social and environmental concerns in their companies' operations and in their interactions with stakeholders (European Commission, 2001)" (p. 1).
Bansal, Gao, and Qureshi (2014)	"Corporate social responsibility (CSR) includes commitments to both social and environmental practices" (p. 950).
Hond, Rehbein, Bakker, and Koojmans-van Lankveld (2014)	"We view CSR as an umbrella term that encompasses the policies, processes, and practices firms put in place to attend to societal demands and/or expectations of the firm" (p. 794).

APPENDIX B
Definitions of Sustainability and Related Concepts

Reference	Definition
Hart (1995)	"A conceptual framework of natural-resource-based view of the firm consists of three interconnected strategies: pollution prevention, product stewardship, and sustainability development" (p. 991). "A sustainable development strategy, however, also dictates that effort be made to sever the negative links between environment and economic activity in the developing countries of the South" (p. 996).
Purser, Park, and Montuori (1995)	"Ecocentric values are aligned with movements to preserve wilderness areas, protect the integrity of biotic communities, and restore ecosystems to a healthy state of equilibrium. The body of theory that characterizes ecocentric thought challenges the dominant social paradigm (Catton & Dunlap, 1980) and reductionistic approach to environmental problems, in that ecosystems in themselves are viewed as having inherent worth independent from our human value judgments (Leopold, 1970; Naess, 1973; Schweitzer, 1987; Taylor, 1986)" (p. 1069).
Shrivastava (1995a)	"Industrial ecosystems provide a vision of organizational populations and interorganizational relations that are compatible with bioregional natural systems. Ecocentric management, in contrast, seeks ecologically sustainable organizational designs and practices" (p. 127).
Shrivastava (1995b)	"ESD [Ecologically sustainable development] refers to people behind economic development who are conscious of limits of the natural environment to support growth. It is 'development that allows the present generation to meet our current needs, without compromising the ability of future generations to meet their needs'" (p. 938).
Starik and Rands (1995)	"Ecological sustainability is the ability of one or more entities, either individually or collectively, to exist and flourish (either unchanged or in evolved forms) for lengthy timeframes, in such a manner that the existence and flourishing of other collectivities of entities is permitted at related levels and in related systems" (p. 909).
Gladwin, Kennelly, and Krause (1995)	Sustaincentrism is an emergent synthesis of technocentrism and ecocentrism.
Jennings and Zandbergen (1995)	"The meaning or value of sustainability as a term comes from two main sources. First, human beings have a strong need to construct their relationship with the surrounding world in partially biological and ecological terms (Berger & Luckman, 1967; Kluckhon & Stadtbeck, 1961; Schein, 1987); therefore, concepts like 'sustainability,' which helps humans to bridge between the ecological and the social system, become meaningful or valued. Second, 'sustainability' is currently becoming associated, to varying degrees, with 'modernity' (Meyer & Scott, 1983)" (p. 1026).
Klassen, and McLaughlin (1996)	"Environmental management encompasses all efforts to minimize the negative environmental impact of the firm's products throughout their life cycle" (p. 1199).
Judge and Douglas (1998)	"Environmental performance was conceptualized as organization-wide commitment to environmental excellence relative to the rest of the industry in a variety of areas" (p. 251).
Bansal and Roth (2000)	"We define corporate ecological responsiveness as a set of corporate initiatives aimed at mitigating a firm's impact on the natural environment" (p. 717).
Egri and Herman (2000)	"We define environmental leadership as the ability to influence individuals and mobilize organizations to realize a vision of long-term ecological sustainability" (p. 572).
Ramus and Steger (2000)	"We defined an ecoinitiative as any action taken by an employee that she or he thought would improve the environmental performance of the company" (p. 606).
Sharma (2000)	"The environmental strategy of an organization here refers to 'a pattern in action over time' (Mintzberg, 1989: 27) intended to manage the interface between business and the natural environment" (p. 682).
Whiteman and Cooper (2000)	"We conceptualize ecological embeddedness as the degree to which a manager is rooted in the land-that is, the extent to which the manager is on the land and learns from the land in an experiential way" (p. 1267).
Gilley, Worrell, Davidson, and El-Jelly (2000)	"Corporate environmental initiatives were defined as any organizational effort designed to reduce the impact of the firm's goods/services or processes on the environment" (p. 1204).
Banerjee (2001)	"Environmental orientation refers to theoretical approaches to corporate environmentalism advocating the stakeholder notion of the firm. Theoretical arguments framing corporate environmentalism as competitive strategy are consistent with the environmental strategy focus theme. Environmental constituencies refer to managerial perceptions of pressures from internal and external groups" (pp. 493–494).
Russo (2003)	"An ecologically sustainable industry is a collection of organizations, with a commitment to economic and environmental goals, whose members can exist and fourish (either unchanged or in evolved forms) for lengthy time-frames, in such a manner that the existing and fourishing of other collectivities of entities is permitted at related levels and in related systems" (p. 319).
Bansal and Clelland (2004)	"We defined corporate environmental legitimacy as the generalized perception or assumption that a firm's corporate environmental performance is desirable, proper, or appropriate" (p. 94).

APPENDIX B
(Continued)

Reference	Definition
Bansal (2005)	Three conditions are required to achieve sustainable development: 1) environmental integrity, 2) economic prosperity, and 3) social equity.
Sharma and Henriques (2005)	"The concept of the 'triple bottom line,' which involves the reconciliation of the economic, social, and environmental performance of an organization (Elkington, 1998), has begun to resonate with many corporate leaders whose job it is to assess the impact of the external environment on their organizations" (p. 159).
Darnall, Henriques, and Sadorsky (2010)	"Proactive environmental practices are intangible managerial innovations and routines that require organizational commitments towards improving the natural environment and which are not required by law (Hart, 2005)" (p. 1072).
Valente (2012)	"The third is a *sustaincentric orientation,* which reflected a firm-wide adoption of sustaincentric principles where the integrity of multiple social and ecological systems is embedded equitably and interdependently in the overarching purpose and core operations of the firm" (p. 568; emphasis original).
Reinecke, Manning, and von Hagen (2012)	"A sustainability standard can be defined as a set of 'voluntary predefined rules, procedures, and methods to systematically assess, measure, audit and/or communicate the social and environmental behavior and/or performance of firms'" (p. 793).
Whiteman, Walker, and Perego (2013)	"Resilience thinking applied to social-ecological systems entails coordinated action by a large numbers of actors, raising the problem of collective action" (p. 313).
Khavul and Bruton (2013)	"The definition of sustainability is 'meeting the needs of the present generation without compromising the ability of future generations to meet their needs' (WCED, 1987) (p. 43)" (p. 287).
Scherer, Palazzo, and Seidl (2013)	"Sustainable development rests on three principles: environmental integrity, social equity, and economic prosperity (Bansal, 2005; Marcus and Fremeth, 2009)" (p. 259).
Bansal, Gao, and Qureshi (2014)	"We investigate the extensiveness of the implementation of corporate social commitment (CSC) and corporate environmental commitment (CEC), broadly defined as corporate efforts to manage social issues and environmental issues, respectively" (p. 950).

APPENDIX C
Measurement for Responsibility

Reference	Construct	Data Source	Measurement Dimension
Agle, Mitchell, and Sonnenfeld (1999)	CSP	Aggregated KLD/MSCI	Employees, products, community, environment, women and minorities
Berman, Wicks, Kotha, and Jones (1999)	Stakeholder relationship	Aggregated KLD/MSCI	Employees, diversity, community, environment, product
Johnson and Greening (1999)	CSP	Specific KLD/MSCI	People dimension (community, employee, minority) Product dimension (product, environment)
McWilliams and Siegel (2000)	CSP	Domini Social Investment (DSI) 400 and KLD	Various criteria to be listed in DSI
Hillman and Keim (2001)	Stakeholder management	Aggregated KLD/MSCI	Employees, diversity, community, environment, product
Hillman and Keim (2001)	Social issue participation	Specific KLD/MSCI	Controversial industry
Brammer and Pavelin (2006)	Social performance	Ethical investment research services	Employment, environment, community
Deckop, Merriman, and Gupta (2006)	CSP	Aggregated KLD/MSCI	Governance, employees, community, environment, human rights, product
Arya and Zhang (2009)	CSR event (CSR adoption)	Business Map Foundation *BEE database*	Corporate announcement on CSR initiatives
Kacperczyk (2009)	Corporate attention to stakeholders	Aggregated KLD/MSCI	Community, minorities, employees, environment, customers

APPENDIX C
(Continued)

Reference	Construct	Data Source	Measurement Dimension
Godfrey, Merrill, and Hansen (2009)	CSR	Socrates social performance data	Community, governance, employees, environment, diversity, product
Muller and Kolk (2010)	CSP	Online survey	Environmental performance, community relations, labor relations
Janney and Gove (2011)	CSR Reputation	Aggregated KLD/MSCI	Governance, diversity, employees, community, environment, human rights, product
Chiu and Sharfman (2011)	CSP	Aggregated KLD/MSCI	Governance, diversity, employees, community, environment, human rights, product, fortune social score
Wong, Ormiston, and Tetlock (2011)	CSP	Aggregated KLD/MSCI	Governance, diversity, employees, community, environment, human rights, product
Tang, Hull, and Rothenberg (2012)	CSR Engagement	Aggregated KLD/MSCI	Governance, diversity, employees, community, environment, human rights, product
Surroca, Tribó, and Zahra (2012)	Corporate Social Irresponsibility (CSiR)	Sustainalytics	Community, customers, employees, suppliers, shareholders, environment, ethical stance
Helms, Oliver, and Webb (2012)	Settlement of new CSR	Online work site for ISO's standard development process	Adoption of ISO 26000 (Social Responsibility Guidance Standard: operations, customers, employees, community, environment)
Barnett and Salomon (2012)	CSP	Aggregated KLD/MSCI	Governance, diversity, employees, community, environment, human rights, product
Ramchander, Schwebach, and Staking (2012)	CSR	Domini Social Investment (DSI) 400 and KLD	Environment, product, governance, diversity, employees, product, environment
Chin, Hambrick, and Treviño (2013)	CSR	Aggregated KLD/MSCI	Product, employees, diversity, community, environment, human rights
Flammer (2013)	Environmental CSR	Specific KLD/MCSI	Environment
Julian and Ofori-dankwa (2013)	CSR	Ghana Club 100 selected by Ghana Investment Promotion Centre (GIPC)	Health, education, poverty alleviation, environment, minority, sports
Kang (2013)	CSP	Aggregated KLD/MSCI	Governance, diversity, employees, environment, human rights, product, community
Oikonomou, Brooks, and Pavelin (2014)	CSP	Aggregated KLD/MSCI	Community, diversity, employees, environment, product safety and quality
Cheng, Ioannou, and Serafeim (2014)	CSR performance	Thomson Reuters ASSET4	Social, environmental, corporate governance
Koh, Qian, and Wang (2014)	CSP	Aggregated KLD/MSCI	Community, diversity, employees, environment, product
Bansal, Gao, and Qureshi (2014)	CSC	Aggregated KLD/MSCI	Community, employee, women and minorities, diversity
Bansal, Gao, and Qureshi (2014)	CEC	Specific KLD/MSCI	Environment

APPENDIX D
Measurement for Sustainability and Environmental Management

Reference	Construct	Data Source	Measurement Dimension
Klassen and McLaughlin (1996)	Environmental performance	NEXIS database	Environment
Russo and Fouts (1997)	Environmental performance	Franklin Research Development Corporation	Various environmental dimensions (compliance records, expenditures, waste reduction, environmental protection organizations)
Judge and Douglas (1998)	Environmental performance	Survey response (World Environmental Directory's listing of corporate environmental officers)	Various environmental dimensions
Aragón-Correa (1998)	Approaches to the natural environment	Survey	Various environmental dimensions
Hoffman (1999)	Institutional evolution of environmentalism in United States	Westlaw environmental law database, industry trade journals	Various environmental dimensions
Sharma (2000)	Environmental strategy	Survey	Various environmental dimensions
Ramus and Steger (2000)	Environmental policy	Survey	Various environmental dimensions (13 environmental policies)
Bansal and Roth (2000)	Ecological responsiveness	Interview and survey	Various environmental dimensions
Flannery and May (2000)	Environmental decision-making and behavior	Interview and survey	Various environmental dimensions
Christmann (2000)	Best practices of environmental management	Survey	Various environmental dimensions (use of pollution prevention technologies, innovation for pollution prevention technologies, timing of environmental strategies)
Gilley, Worrell, Davidson, and El-Jelly (2000)	Environmental initiatives	Newspaper	Green management, waste reduction
King and Lenox (2000)	Environmental performance (pollution reduction)	U.S. Toxics Release Inventory (TRI)	Environment (toxic chemical)
Anderson and Bateman (2000)	Environmental champion	Survey	Various environmental dimensions
Banerjee (2001)	Corporate environmentalism	Interview	Various environmental dimensions
Buysse and Verbeke (2003)	Environmental strategy	Survey	Various environmental dimensions
Bansal (2003)	Environmental issues management	Participant observations, informal discussions, documents, interview	Environment
Christmann (2004)	Global environmental policy standardization	Survey	Various environmental dimensions
Bansal and Clelland (2004)	Corporate environmental legitimacy	Media account (newspaper)	Environment, toxic, superfund
Branzei, Ursacki-Bryant, Vertinsky, and Zhang (2004)	Ecological values and environmental performance	Survey	Various environmental dimensions
Bansal (2005)	Sustainable development	Corporate annual report and interview	Economics, environment, society
Sharma and Henriques (2005)	Sustainability practice	Corporate document	Eco-efficiency, pollution control, recirculation, eco-design, ecosystem stewardship, business

APPENDIX D
(Continued)

Reference	Construct	Data Source	Measurement Dimension
			redefinition, green management involvement
Russo and Harrison (2005)	Environmental practice	U.S. TRI	Environment (toxic chemical)
Kassinis and Vafeas (2006)	Environmental practice	U.S. TRI	Environment (toxic chemical)
Sharfman and Fernando (2008)	Environmental management	U.S. TRI and KLD/MSCI	Environment (toxic chemical), KLD environment dimension
Murillo-Luna, Garcés-Ayerbe, and Rivera-Torres (2008)	Environmental response pattern	Survey	Various environmental dimensions
Berrone and Gomez-Mejia (2009)	Environmental practice	U.S. TRI	Environment (toxic chemical)
Berrone, Cruz, Gomez-Mejia, and Larraza-Kintana (2010)	Environmental practice	U.S. TRI	Environment (toxic chemical)
Darnall, Henriques, & Sadorsky (2010)	Environmental practice	Survey data developed by the Organization for Economic Cooperation and Development (OECD)	Various environmental dimensions
De Villiers, Naiker, and van Staden (2011)	Environmental performance	Specific KLD	Environment
Berchicci, Dowell, and King (2012)	Environmental capability	U.S. TRI	Environment (toxic chemical)