Corporate sustainability: an integrative definition and framework to evaluate corporate practice and guide academic research

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ARTICLE INFO

Article history:
Received 25 March 2013
Received in revised form 18 January 2014
Accepted 10 February 2014
Available online 24 February 2014

Keywords:
Corporate sustainability
Corporate social responsibility
Environmental management
Corporate citizenship
Sustainable development

ABSTRACT

The issues surrounding the concept of corporate sustainability are complex and far-reaching. We undertake a focused review of the sustainability literature that integrates a variety of perspectives. Based on this review, we elaborate an illustrative corporate sustainability framework consisting of elements that are easily understandable and interpretable with respect to tangible corporate sustainability activities and actions. Using this framework we develop a concrete, comprehensive and multidimensional definition of corporate sustainability. Some implications of the sustainability framework for practitioners include the effects of incorporating sustainability into corporate strategy and external communications to corporate stakeholders; the consequences of including an organization’s supply chain in sustainability efforts; an illustration of the potential synergy between innovation and sustainability; the consequences of incorporating economic, ecological-environmental, and equity-social concerns in strategic decisions and design processes; and the ramifications of serving as an industry thought leader in shaping sustainability regulatory policies. The framework proposed here can assist in the evaluation of sustainability activities, as well as serve as a guide for an organization that aspires to increase the level and sophistication of its sustainability activities. An important next step for academic sustainability research is to empirically validate the framework proposed here using a variety of methodologies.

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1. Introduction

The issues surrounding the concept of corporate sustainability are complex and far-reaching. This complexity necessitates an approach that seeks to integrate the various viewpoints surrounding corporate sustainability into an inclusive definition and explanatory framework (Christen and Schmidt, 2012). Thus, the primary objective of this research is to integrate a variety of diverse perspectives on corporate sustainability in order to develop a concrete, multidimensional and comprehensive definition of corporate sustainability. We believe that our efforts will serve to deliver progress toward what Dyllick and Hockerts (2002) called a “systematic theory of corporate sustainability” (139), which, based on Dyllick and Hockerts’ requirements, provides a natural case and a societal case, as well as a business case for corporate sustainability. The definition and theory development in this manuscript will be expressed through the elaboration and explanation of a comprehensive framework that incorporates a variety of perspectives. Our definition and framework differ from some recent efforts (Robert, 2000; Robert et al., 2002; Christen and Schmidt, 2012) in that we seek to develop an illustrative framework and concrete definition consisting of elements that are easily understandable and interpretable with respect to actual corporate sustainability activities and actions. We believe the efforts detailed herein represent a substantial effort toward increasing our understanding of corporate sustainability. We acknowledge that these efforts, are, by nature, exploratory, and look forward to validating them empirically in future research.

In recent years, the concepts of corporate social responsibility (CSR), corporate social performance (CSP), environmental management (EM) and corporate sustainability (CS) have received increasing amounts of attention from both academics and practitioners (Saltzman et al., 2005; Berns et al., 2009; Hopkins, 2009). In 1987, the World Commission on Environment and Development (WCED) discussed the general concept of sustainability as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”
(Development, World Commission on Environment and Development 1987, Chapter 2). The discussions in the WCED report focused on resource-efficiency and sustainability, that is an organization’s interaction with the natural environment (Marshall and Brown, 2003; Gibson, 2006). Both prior to and since the WCED’s examination of sustainability, the concepts of CSR (corporate social responsibility), CSP (corporate social performance), EM (environmental management), and CS (corporate sustainability) have been broadened and refocused multiple times as researchers and corporations seek to better understand the academic and practical implications of these concepts.

In the next section we provide a focused review of corporate sustainability literature that integrates a variety of perspectives from both academic and industry sources. Our objective in this review is not to discuss an exhaustive list of publications on the subject of corporate sustainability. Rather, the focus of the review will be to integrate a variety of diverse perspectives on corporate sustainability in order to promote a deeper and more comprehensive understanding of this complex subject. Based on the insights generated from our integrative review, in the third section of the paper we develop an integrative and comprehensive framework to guide future academic research and to evaluate corporate sustainability initiatives. This section also provides examples of corporate sustainability practices that illustrate the integrative nature of the framework as well as its relevance and utility. The fourth section offers a brief summary of our conclusions. The fifth and final section offers suggestions for future academic research directions suggested by the sustainability framework, beginning with the vital first step of providing empirical validation.

2. A focused review of corporate sustainability literature

Lo (2010) discusses the terms corporate social responsibility (CSR) and corporate sustainability (CS), maintaining that both are “voluntary business activities” (312) and that CSR is subsumed under CS, providing a transitional stage that a firm undergoes on its way to implementing CS. In addition, Montiel’s (2008) literature review provides an interesting perspective on the trends in academic research regarding CSR (corporate social responsibility), CSP (corporate social performance), EM (environmental management) and CS (corporate sustainability) between 1970 and 2005. His analysis includes articles appearing in academic management journals and clearly demonstrates that the original emphasis in this literature was on CSR. This emphasis shifted somewhat around 1990 to include several related topics, such as corporate social performance (CSP) (which included a firm’s interaction with the social environment in which it was embedded); corporate sustainability (CS); and environmental management (EM). The review demonstrates a consistent increase in the number of articles on these related topics (CSR, CSP, EM, and CS) over the period of time analyzed (1970–2005). In addition, Montiel suggests that, despite the plethora of terms used in the academic management manuscripts he analyzed, there is an overall similarity among the terms in that “…all of them rely on the…vision of [corporate sustainability] CS” (257). Based on the synopsis of the various terms surrounding the issue of corporate sustainability in Montiel’s review (e.g., CSR, CSP, EM, CS), this paper’s title and discussion uses the term Corporate Sustainability (CS). We use this term because we believe it embraces the idea that an organization, in order to remain fundamentally sustainable in the long term, must consider all of the contexts in which it is embedded: economic, social and environmental.

In another viewpoint on the issue of the interaction between a corporation and its environment is also addressed by Elkington’s triple bottom line approach to CS — social sustainability, environmental sustainability and economic sustainability. Essentially, the triple bottom line approach advocates that the long term success of a corporation and its environment requires emphasis on all three dimensions of sustainability — economic, environmental (natural environment), and social (social environment), rather than a single, short term, emphasis on economic sustainability. Furthermore, Elkington maintains that the three dimensions of sustainability are interrelated and impact each other by varied and numerous means. Thus, a corporation cannot completely separate its economic sustainability from social and environmental sustainability (Elkington, 1998, 2004). In addition, Elkington (1998) emphasizes the importance, indeed, the necessity, of cooperation and partnerships among industry, governments, and non-governmental organizations in the implementation of the triple bottom line approach. The triple bottom line approach to sustainability has received criticism for being difficult to implement. However, the concept has a significant degree of recognition in the corporate context, despite the fact that, in practice, it has generated mixed results. However, many companies, particularly in North America, continue to believe that the more they focus on social and environmental sustainability, economic sustainability will suffer because of the costs incurred (Gray, 2006; Carter and Rogers, 2007 Nidumolu et al., 2009).

In an important extension to the interaction among the triple bottom line dimensions, Lozano (2008) proposes a Two Tiered Sustainability Equilibria (TTSE). The TTSE incorporates the interaction, not only among the triple bottom line dimensions, but also the dynamics of these dimensions over time. By introducing a temporal dimension, the TTSE effectively incorporates the tension, not only among economic, social, and environmental concerns, but across short and long term perspectives. A slightly different perspective with respect to viewing corporate sustainability efforts over time is offered by Baumgartner and Ebner (2010), who develop sustainability profiles based on the level of maturity (i.e., sophistication), ranging from level 1 (rudimentary) through level 4 (significant, integrated efforts toward sustainability). The addition of the concept of maturity or sophistication by Baumgartner and Ebner provides the possibility of developing a rubric that might enable organizations to track their progress with respect to sustainability efforts and activities.

Still another viewpoint on the triple bottom line is provided by Figge and Hahn (2005), who view Elkington’s three dimensions as forms of economic capital. Figge and Hahn maintain that, although financial markets tend to focus only on economic capital, in reality, organizations require multiple forms of capital. Furthermore, if multiple forms of capital are considered, the relationship of an organization to the sustainable value it creates becomes clearer. However, Figge and Hahn do not provide any guidance with regard to changing financial markets’ single dimensional (i.e., economic) focus on sustainability.

According to Porter and Kramer (2006) the lack of success that some corporations experience with respect to social and environmental sustainability efforts is primarily due to their failure to link business strategy to sustainability initiatives. Porter and Kramer maintain that firms must “perceive social responsibility as building shared value rather than as damage control or as a PR campaign” (92). Strategic disconnects with respect to sustainability efforts lead to fragmentation in corporations’ sustainability efforts that consequently fail to address the triple bottom line dimensions of sustainability and result in frustration. Porter and Kramer’s analysis adds an essential element to the sustainability discussion, given the notable difficulty organizations encounter when trying to undertake sustainability efforts. Hallstedt et al. (2010), Lauring and Thomsen (2009), Michelon et al. (2013), and Linnenluecke and Griffiths (2010) provide
additional insights on the issue of linking business strategy with sustainability efforts, as well as organizational communications activities. Hallstedt et al. (2010) suggests that to be effective sustainability must be integrated into organizational goals, internal incentives and evaluation systems, and organizational decision support systems. Similarly, Lauring and Thomsen (2009) found that unless sustainability is incorporated into the day to day practices of an organization through an ongoing dialogue, through both internal and external communication efforts, strategic initiatives are likely to fail. Michelson et al. (2013) found CS initiatives have a more positive effect on company performance if they are linked to organizational strategy. In their analysis of the relationship between organizational culture and corporate sustainability, Linnenluecke and Griffiths (2010) maintained that cultural change efforts and communications, such as publication of corporate sustainability reports and inclusion of sustainability related concepts in employee training and/or employee evaluation systems can encourage shifts in organizational values and beliefs related to sustainability. Indeed, according to Stokes (2010) firms whose sustainability efforts are truly strategic in nature tend to report highly detailed information on their sustainability activities. For example, CEO letters from publicly traded companies tend to reflect strategic attempts to engage in an organization and serve as a way to communicate a firm’s sustainability stance and activities to a variety of organizational stakeholders, both within and external to the organization (Blomgren et al., 2010). Of course, from the perspective of legitimacy theory, corporate communications and reporting of sustainability activities can certainly be motivated, at least in part, by the fact that, during the last several decades, such reporting has become more and more socially acceptable, indeed expected (O’Donovan, 2002). In a somewhat similar perspective, political cost theory suggests that organizations engage in communications regarding sustainability activities in order to minimize adverse political costs and consequences (Gamerschlag et al., 2011). Finally, social contract theory posits that organizations have a responsibility to accept social and judicial norms (Lozano, 2012).

Heikkurinen and Bonnedahl (2013) discuss motivations for sustainability activities and reporting, arguing that corporate responsibility and sustainability should be viewed from what they term a sustainable development orientation (SDO). According to Heikkurinen and Bonnedahl, a sustainable development orientation places responsibility for CS squarely on the organization, rather than responsibility emanating from external pressures, e.g., customers (market orientation) or stakeholders (stakeholder orientation). Thus, a sustainable development orientation argues that organizations, not customers or stakeholders, have a responsibility for undertaking strategic responsibility for CS.

However, in a somewhat contrary view to that of Heikkurinen and Bonnedahl, Seuring and Müller maintain that in many cases corporate sustainability initiatives are initially motivated as a result of external pressures from governmental agencies (e.g., regulatory pressures), customers and stakeholders. As a result of these pressures, corporations may initiate attempts to influence their suppliers to adopt sustainable practices. This scenario suggests that supply chain management can be an important context for sustainability efforts (2008). Similarly, Stokes maintains that well over half of the sustainability challenges faced globally can be resolved by simply creating efficiencies in how energy is consumed. One of the most important avenues to creating these efficiencies is through what Stokes terms sustainable supply chain transformation. Stokes’ sustainable supply chain transformation argues for a strategic approach to sustainability, the importance of innovation to sustainability efforts, and the significance of extending sustainability efforts across supply chains (Stokes, 2010). Vachon and Klassen (2008) also examined sustainability efforts across supply chains and found that the benefits of collaborative sustainability efforts between manufacturers and upstream suppliers were greater than the benefits of collaborative sustainability efforts between manufacturers and downstream customers.

Another perspective on firms’ interactions with their environment is provided by Hart’s natural resource based view of the firm (NRBV). In proposing the NRBV, Hart argues that the original resource based view of the firm (RBV) neglected to include the connection between a firm and the natural environment. The original RBV maintains that a firm’s capacity to achieve a competitive advantage depends on the resources available to the firm, as well as the firm’s internal capabilities (Hart, 1995, 1997; Hart and Dowell, 2010). In his proposed NRBV Hart maintained that “it is likely that strategy and competitive advantage in the coming years will be rooted in capabilities that facilitate environmentally sustainable economic activity — a natural resource based view of the firm” (Hart, 1995, 1997). Hart and Dowell (2010) review and discuss the NRBV in light of developments in CS since Hart’s original proposal of the NRBV. Hart’s NRBV is based on three capabilities that affect a firm’s ability to achieve a strategic competitive advantage: pollution prevention, product stewardship and sustainable development. These three capabilities are based on dissimilar resources, and affected by varying environmental forces, and enable firms to develop distinctive competitive advantages. For example, pollution prevention can enable a firm to reduce compliance costs and/or increase operational efficiency. Product stewardship argues for incorporating environmental concerns so that product development and production are mindful of environmental and social issues encompassing the entire product life cycle, from research and development to disposal, i.e., cradle to grave. Finally, sustainable development, as envisioned by the NRBV, focuses on both sustainability of the environment (e.g., minimizing environmental damage) as well as social concerns, such as the economic effects of a firm’s manufacturing activities in developing countries. The NRBV plainly delineates the relationship between a firm’s financial performance (through its ability to secure a competitive advantage) and the conditional nature of the environmental resources and capabilities it employs. For example, Hart and Dowell argue that a firm that is mindful of the potentially scarce nature of environmental resources will be motivated to develop additional capabilities and engage in a variety of innovative practices (2010).

A similar argument is made by other proponents of CS practices, who maintain that adopting a sustainability perspective can actually serve as the impetus for improving operational efficiency thus increasing the potential for long-term profitability (Oliva and Kallenberg, 2003; Rothenberg, 2007). In a related argument, Schaltegger and Synnestvedt (2002) maintain that as organizations develop environmentally friendly technologies the marginal costs of environmental protection can, over time, actually be reduced. In addition, improving operational efficiency, along with other sustainability initiatives, can give rise to innovations that inspire new business opportunities (Hart, 1997; Hansen et al., 2009).

Beltz (2003) defined innovation as the introduction of a new or improved products and processes. Innovation has been historically coincided with mega trends, e.g., total quality management or information technology (Beltz, 2003). Demands of these mega trends tend to drive innovation. According to Porter and Kramer and Hansen et al., sustainability is a mega trend that is driving sustainability oriented innovation as the means to accomplish sustainability initiatives (Porter and Kramer, 2006; Hansen et al., 2009).

Hansen et al. (2009) further examine sustainability and innovation, providing a thorough and wide ranging discussion of the interrelationship of innovation and sustainability (2009). They note that numerous studies have demonstrated that innovation is a
significant contributor to corporate success, e.g., through new product development efforts (Lynn and Reilly, 2002; Totterdell et al., 2002; Radnor and Noke, 2006). Furthermore, Hansen et al. (2009) argue that the interrelationships between innovation and sustainability are vital, both in terms of competitive advantage, as well as a means to “... maintain or increase the overall capital stock (economic, environmental, social) of a company” (Hansen et al., 2009, 686). In fact, Hansen et al. introduce an idea they term sustainability oriented innovation, which they define as innovation that has “a positive overall net effect on [an organization’s] capital stock” (Hansen et al., 2009, 687). Sustainability oriented innovation embraces considerations such as the physical product life cycle and the inclusion of a variety of stakeholders in the innovation process (e.g., suppliers and customers). Thus an organization that undertakes sustainability oriented innovation would involve not only multiple units in their own organization, but also, suppliers and customers, i.e., their supply chain. Furthermore, their sustainability oriented innovation efforts would consider the entire physical product life cycle, that is, not only the sourcing of manufacturing inputs, but in addition, the design, production, packaging, distribution, use, maintenance, reuse, recycling, and disposal of a product, i.e., from cradle to grave (Hansen et al., 2009). This viewpoint is reinforced by Von Brommel’s (2011) research, which demonstrated the significant effect that innovation has on sustainability efforts. Von Brommel examined sustainability initiatives in industrial supply networks and concluded that whether or not supply chain sustainability efforts and strategies are successful depends on the “innovation power” (895) of the primary or focal manufacturer in the supply network.

McDonough and Braungart (2002) take the concepts of product stewardship, sustainability oriented innovation, sustainable development strategy, and the triple bottom line approach even further by suggesting that, instead of clinging to the “design assumptions of the Industrial Revolution,” i.e., cradle to grave, we, instead, embrace a “cradle to cradle” approach (McDonough and Braungart, 2002, 28). McDonough and Braungart maintain that products should be designed with no waste, that is, in such a way that during a product’s life cycle the product actually enriches the natural environment and the social environment. In addition, at the end of its life cycle, the product provides superior raw materials for new products. In order to visualize and reconcile the issues that inevitably arise when an organization considers sustainability, they suggest a fractal tile, consisting of self-similar portions representing ecology, equity, and economy. The cradle to cradle approach advocates consideration of these three concerns, not simply as a triple bottom line, i.e., after the fact, but as a “triple top line,” i.e., as an integral part of an organization’s strategy and design processes (McDonough and Braungart, 2002, 153). A similar concept is discussed by Kainuma and Tawara (2006), who suggest the ability of “re-use and recycling throughout the life cycle of products” (Kainuma and Tawara, 2006, 98) and an evaluation of supply chains that focuses on environmental performance.

McDonough and Braungart and Kainuma and Tawara’s approaches are simply examples of a zero waste approach to sustainability. In some ways, a zero waste approach may be viewed as a preventative, rather than an incremental approach to sustainability. A zero waste approach aims for a circular, rather than a linear production approach, and involves precycling. “... Actions taken now to prepare for current resources to become future resources, rather than wastes” (Greyson, 2007, 1384). These zero waste approaches are, in many ways, the most sophisticated approaches to sustainability efforts.

Among the sustainability perspectives discussed above, we believe that the NRBV, Elkington’s triple bottom line, and the zero-waste perspective are among the most significant and constructive. Thus, in the next section, we employ these to serve as the pillars of a comprehensive definition and illustrative framework for corporate sustainability.

### 3. Corporate sustainability framework

Based on the discussion and integration of the sustainability literature discussed above, we propose a multidimensional definition of corporate sustainability illustrated by a framework (Fig. 1) that incorporates the diverse and concrete issues of corporate sustainability. The dimensions of this framework are: (1) business level application & communication of sustainability activities/performance; (2) scope of organizational focus; (3) sustainability oriented innovation; (4) economic/ecological-environmental/equity-social emphasis; and (5) compliance stance. In addition, we suggest that there are four levels of sophistication. The acknowledgment of varying levels of sophistication into the framework is designed to incorporate the interaction both among the five dimensions of sustainability in our CS definition, as well as the dynamics of the interaction of these dimensions over time, as suggested by Lozano’s TTSE (2008) and Baumgartner and Ebner’s (2010) levels of maturity (e.g., level 1, signifying no or only rudimentary efforts with regard to sustainability through level 4, signifying significant, integrated efforts toward sustainability).

This multidimensional definition and the framework implied by it provide an inclusive platform that encourages and provides the guidance for both practitioners and academics to develop greater insights into corporate sustainability practices and corporate sustainability performance. As we mentioned in the introduction, we acknowledge the exploratory nature of our efforts to formulate a concrete definition and illustrative framework for corporate sustainability and look forward to empirically validating our proposed framework in future research.

In the discussion below, we consider each of the five dimensions of the comprehensive sustainability framework in turn, providing selected examples of corporate sustainability practices. These examples are chosen to demonstrate the integration and interrelationship among the framework’s dimensions, as well as to illustrate some variation with respect to the degree of sophistication.

#### 3.1. Business level application & communication of sustainability activities/performance

CS cannot be successful unless it is part of an overall strategic effort (Porter and Kramer, 2006) that is mindful of the impact of resource availability on developing the capabilities necessary for a competitive advantage (Hart and Dowell, 2010). And unless a firm’s sustainability efforts are strategic in nature there is likely to be little or no effort at cultural change with regard to sustainability or communication thin an organization or externally to organizational stakeholders (Porter and Kramer, 2006; Linnenluecke and Griffiths, 2010; Stokes, 2010). Thus, the strategic nature of an organization’s sustainability efforts are inextricably intertwined with corporate communication efforts, both within and beyond the organization. Successfully incorporating sustainability into corporate strategy results in a “Truly Responsible Enterprise” (Toth, 2007).

At the most unsophisticated level, firms will have no or only ill-defined efforts toward CS and will make no efforts at either internal or external communication of sustainability activities and performance, since there is nothing to report. As an organization’s culture becomes more sophisticated with respect to CS, the emphasis will shift from tactical to strategic, and finally to the most sophisticated level of an intrinsically sustainable organization that recognizes the potential impact of scarce natural resources on a firm’s strategic capabilities and the importance of a zero-waste approach to the
way they do business. Accompanying these efforts, corporate communication activities become more apparent, with the most sophisticated organizations communicating (both internally and externally) highly detailed information on CS activities and performance. For example, Patagonia, founded in 1970, is an outdoor clothing and equipment company that, from the beginning has demonstrated a relatively sophisticated approach to sustainability that is very much a strategic, organization-wide effort that resonates throughout their corporate communications efforts. Years before any of their competitors (in 1994), Patagonia began using only organic cotton in their apparel manufacturing. Of course, this necessitated a broadening of the scope of their organizational focus with respect to sustainability upstream toward their suppliers. Patagonia’s corporate communications are imbued with their corporate sustainability approach and contain detailed information about a variety of their sustainability activities. For example, their website includes The Footprint Chronicles, a feature that allows customers “to track the impact of a specific Patagonia product from design through delivery” (Patagonia, 2012). This kind of external communication activity requires extensive internal and external communications (e.g., with suppliers, as well as channel partners, such as retailers), indicative of an organization-wide focus and emphasis.

3.2. Scope of organizational focus

Based on Stokes (2010) and Hansen et al. (2009), in order for CS efforts to be successful and meaningful, organizations must reach out to both suppliers and customers, i.e., the organization’s supply chain. The least sophisticated organizations will exhibit no interaction with their supply chains in terms of sustainability efforts. As organizational efforts toward sustainability become more sophisticated, an organization’s information and resource sharing with supply chain partners increases. Finally, the most sophisticated organizations will engage in significant information, resource sharing and optimization efforts as they seek to integrate sustainability activities throughout their supply chains.

In an effort to reach out across the supply chain to motivate sustainability activities, Merck requires all suppliers to conform to their Merck Social Charter and Supplier Code of Conduct. The Social Charter mandates that Merck suppliers will provide, for example, safe labor conditions and fair wages; while the Supplier Code of Conduct seeks to prevent bribery and discrimination within the context of Merck’s global supply chain activities (Closs et al., 2011). In addition to demonstrating the scope of Merck’s organizational focus with respect to sustainability, this illustration is a clear example of Merck’s equity/social emphasis in their sustainability efforts. In another example, Wal-Mart is in the process of developing a Sustainability Index. The index is expected to be based on surveys, then, later ratings, of their suppliers’ sustainability practices with regard to energy and raw materials usage, as well as carbon emissions (Stokes et al., 2009).

The supply wide efforts of both Merck and Wal-Mart necessitate a high level of corporate communications, both internally and externally, with supply chain partners. And, unless an organization’s business level application of sustainability activities is strategic in nature, it is not likely to be capable of including supply chain partners in sustainability efforts.

3.3. Sustainability oriented innovation

Organizations that are relatively unsophisticated with respect to sustainability typically have little or no awareness of the relationship between innovation and sustainability. As organizations become more sophisticated with respect to CS, they gradually develop some awareness of the synergy between innovation and sustainability and begin to integrate innovation and sustainability efforts, embracing sustainable design and product stewardship (Hansen et al., 2009; Hart and Dowell, 2010). Organizations with a high degree of sophistication tend to involve multiple stakeholders.
in their sustainability and innovation efforts. These organizations embrace a zero-waste approach to sustainability, engaging in true sustainability oriented innovation that includes multiple stakeholders.

Based on their own research Procter & Gamble discovered that using cold water to wash clothes could reduce annual electricity consumption by 80 billion kilowatt-hours. Thus they embarked on a sustainability oriented innovation project to develop a cold water detergent. Procter & Gamble launched Tide Coldwater in the US and Ariel Cool Clean in Europe in 2005. By 2008, 21% of British householders were using cold water detergent, up from 2% in 2002 (Nidumolu et al., 2009). These efforts, of necessity involved multiple supply chain partners, both Proctor & Gamble's suppliers, as well as resellers (e.g., wholesalers and retailers), as well as extensive internal and external communication efforts. Thus, this example illustrates sustainability oriented innovation, as well as scope of organizational focus and business level application & communication.

In an attempt to work toward a zero waste approach, Nike is seeking to reduce and, hopefully, eliminate the toxins required to tan leather for its athletic shoes. Eliminating these toxins means that after shoes have outlived their usefulness, they can be safely composted or used for other products such as outdoor (or indoor) sports surfaces. As with the Proctor & Gamble example above, Nike's efforts involved multiple members of their supply chain, as well as an organization wide, strategic effort and communications. Innovations inspired by Nike's efforts in this area could have wide ranging effects because toxins used in leather tanning are used in so many other products. e.g., automobiles, apparel (McDonough and Braungart, 2002).

3.4. Economic/ecological-environmental/equity-social emphasis

Based on Elkington’s triple bottom line concept, Hart and Dowell's NRBV, and the zero waste approach of Toth; McDonough and Braungart; and Kainuma and Tawara this dimension of our framework focuses on the degree to which an organization embraces all aspects of sustainability, economic, ecological-environmental, and equity-social (Elkington, 1998, 2004; Kainuma and Tawara, 2006; Hart and Dowell, 2010; McDonough and Braungart, 2002; Toth, 2007). This dimension also incorporates the idea that sophisticated organizations understand the link between increasingly scarce resources and their economic performance.

Organizations with the least degree of sophistication with respect to CS emphasize only economic sustainability. They are not concerned with ecological-environmental sustainability or equity-social sustainability, nor do they understand the links among the three sustainability dimensions. As organizations become more sophisticated, they increasingly understand the importance of ecological-environmental and equity-social sustainability, in addition to economic sustainability, and attempt to address these issues in some manner. The most sophisticated organizations embrace a triple top line approach in that they incorporate economic, ecological-environmental, and equity-social concerns from the beginning in their strategic decisions and design processes. For example, Interface, a carpet manufacturer operating globally, began to address corporate sustainability in 1994, initially focusing on ecological-environmental sustainability. Interface's ecological-environmental sustainability initiatives included developing and manufacturing a carpet from renewable resources and reducing backstitching to use less yarn in their manufacturing process. In 2000, Interface augmented its sustainability focus with the addition of equity-social sustainability, which included activities such as tree planting projects for local schools. Interface has initiated more than 400 sustainability related activities across its facilities (Stubbs and Cocklin, 2008). Interface could not have undertaken such significant initiatives without strategic business level focus on sustainability. In addition, of necessity, the development and manufacture of carpet from renewable resources required that Interface’s scope of organizational focus be supply chain wide.

3.5. Compliance stance

As organizations become more sophisticated, their CS activities shift from simply doing what they must to comply with regulations to participating in the development and evolution of sustainability regulations. More sophisticated organizations increasingly recognize that a proactive approach to sustainability can reduce costs associated with compliance as well as reducing liability costs. The most sophisticated organizations are industry thought leaders that encourage and participate in a zero waste approach to sustainability regulations (Stokes, 2010; Hart and Dowell, 2010). In addition, these organizations understand the importance of partnering with organizations within and beyond their industry, as well as government and non-governmental organizations to promote their compliance and sustainability efforts.

There is no doubt that compliance with environmental regulations can be difficult and complicated. However, from a competitive and strategic point of view it makes more sense for organizations to be proactive and sophisticated by complying with environmental regulations before they are forced to do so, or even better, participating in the development of those regulations. For example, US car manufacturers have been slow to comply with fuel consumption and emissions regulations. If they had been proactive and begun the activities necessary to comply with the California Resources Board's proposed fuel and emissions guidelines in 2002, they would be in a much better position to be competitive when these guidelines begin to be enforced in the US in 2016 (Nidumolu et al., 2009). Furthermore, as our sustainability framework illustrates, this lack of proactivity on the part of US car manufacturers is likely indicative of a narrow scope of organizational focus with little or no involvement of supply chain partners in sustainability initiatives. In addition, US car manufacturers have traditionally lacked a strategic business level application of sustainability initiatives as well as minimal internal and external sustainability communication efforts. Finally, it is clear that there is a lack of balance with regard to their economic/ecological-environmental/equity-social emphasis.

In summary, a fully sustainable organization incorporates sustainability into its corporate strategy and communicates its sustainability mission both within and external to the organization. The focus of a sustainable organization is not only on its own organization, but also up and down its supply chain. A sustainable organization recognizes the inspiration that sustainability can impart to its innovation efforts. The relative emphasis for a sustainable organization is equally distributed across economic, ecological-environmental, and equity-social concerns. Emphasizing economic sustainability to the exclusion of ecological-environmental and equity-social sustainability does not constitute a genuinely, long-term sustainable organization. And a truly sustainable organization takes an active role in shaping sustainability regulations and proactively complying with existing regulations.

4. Conclusions

The corporate sustainability framework presented in this manuscript provide a concrete, multidimensional and comprehensive perspective with regard to corporate sustainability and contributes to the development of a systematic theory of corporate
sustainability. Our framework differs from some recent efforts because our objective and focus was not that of a meta-approach. Rather, we sought to develop a concrete definition and illustrative framework consisting of elements that are easily understandable and interpretable with respect to actual corporate sustainability activities and actions. The framework presented here highlights the linkage between business strategy, innovation, regulatory compliance and sustainability; incorporates the role of corporate communications with regard to sustainability; emphasizes the importance of reaching out to supply chain partners to achieve successful sustainability initiatives; and highlights the significance of balancing the three aspects of sustainability (economic; equity/social; and ecological/environmental).

The implications of the sustainability framework for practitioners include the effects of incorporating sustainability into corporate strategy and external communications to corporate stakeholders; the consequences of including an organization’s supply chain in sustainability efforts; an illustration of the potential synergy between innovation and sustainability; the consequences of incorporating economic, ecological-environmental, and equity-social concerns in strategic decisions and process designs; and the ramifications of serving as an industry thought leader in shaping to sustainability-regularly political. To summarize, the framework proposed here can also be used in the evaluation of sustainability activities, as well as serve as a guide for an organization that aspires to increase the level and sophistication of its sustainability activities.

The areas of academic exploration implied by the corporate sustainability framework should begin with empirical validation of the framework proposed here. Once validated and revised, the corporate sustainability definition and framework presented here could form the basis for an instrument for evaluating corporate sustainability practices, either at the individual firm level or, alternatively, at industry level.

Another important objective in formulating the multidimensional definition and framework depicted in Fig. 1 was to integrate relevant information into a comprehensive format that can be used to suggest future academic research in the area of corporate sustainability. The topic of corporate sustainability is a complex one and encompasses a variety of divergent aspects. As academic research moves forward in the area of sustainability, the framework is sufficiently complex to suggest sustainability issues that are currently under-investigated, as well as flexible enough to accommodate new research developments.

The first and most important step for future research with regard to our proposed framework will involve empirical validation of the proposed dimensions, as well as the proposed levels of sophistication. While several of the dimensions appear to be clearly delineated based on our literature review, we acknowledge the possibility, for example, that the dimension of compliance stance could conceivably be combined with the dimension of business level application & communications. We are currently at work on a research program that seeks to investigate the proposed framework and empirically validate the dimensions and levels of sophistication using a variety of methodologies.

Other areas of future research might include the investigation of relationships among the framework’s dimensions with respect to the sophistication exhibited by organizations? In other words, do organizations that are relatively sophisticated with respect to sustainability oriented innovation tend to also be sophisticated with respect to their ecological-environmental and or equity-social sustainability efforts? Are organizations that exhibit relatively un-sophisticated practices with respect to scope of organizational focus also relatively unsophisticated with respect to compliance stance? Do organizations exhibit patterns with respect to the extent they embrace some dimensions of the framework, while ignoring others?

Another possibility to consider is that the sustainability framework presented here could be used to develop a scale for evaluating corporate sustainability practices, for example, scales for comparing green supply chain management practices.

Finally, it might be interesting to use the sustainability framework to investigate whether the sustainability benefits of collaboration between upstream suppliers are similar to the benefits of sustainability collaboration efforts with downstream customers in supply chains. A broad evaluation of sustainability benefits might help better understand the benefits among all supply chain members.

References


