CRRC 2011
University of Leeds

INTEGRATING GREEN INTO BUSINESS STRATEGY AND OPERATIONS: A MULTI-FACETED APPROACH

Fabien Martinez Barcelo
BRASS Institute (Cardiff University)

Abstract

This paper investigates businesses' approaches to Environmental and Social Responsibility (ESR) with an emphasis on green issues. The argument seeks to address the lack of clarification about the end goals of 'green work' – which is understood to be a void in the literature by, inter alia, Devinney (2009); Margolis, Elfenbein and Walsh (2007); and Robèrt et al. (2002). The study draws theoretical propositions to frame the multi-faceted impact of *green*; it suggests the existence of four stages of compatibility between business performance and environmental responsibility labelled as trade-off, ambidexterity, synergy, and symbiosis.

The conceptual argument is extended using the case of a Brewery in the UK. The analysis frames the four stages into a multi-level responsiveness model and emphasises the central role of business leaders. Evidence indicates that, in aspiring to a symbiosis between *green* and business performance, the firm's leaders are proactive in enhancing business capabilities to inform synergies, accommodate to ambidexterities and mitigate trade-offs in operations.

Key words: corporate environmental responsibility, business efficiency and effectiveness, societal responsiveness, green performance.

INTRODUCTION

In a context of climate change and financial crisis, businesses are confronted with the increasing pressure to excel across three domains of responsibility: economic health, social equity and environmental resilience (Visser, 2010). In particular, collective human activity and industrial growth have been called into question by environmentalists and others concerned about the profligate nature of industrial processes reified into the rapacious use of resources and the disintegration of culture and environment (Cohen & Winn, 2007; McDonough & Braungart, 2002; Tate, Ellram, & Kirchoff, 2010). Heikkurinen (2010) warns that all industries are becoming more vulnerable, and, over time, no industry will have immunity from societal concerns. In fact, stakeholders are increasingly diligent in seeking to understand how corporate strategies integrate social and environmental improvement into economic goals (Zadek, 2004).

While a decade ago business leaders – sceptical about the financial viability of sustainability – tended to pay lip service to societal challenges, they are now inclined to recognise the significance of their impact on society for their competitive advantage (e.g. Duarte, 2010; Porter & Kramer, 2006, 2011; Waldman & Siegel, 2008). If businesses misjudge the salience of adopting environmentally and socially responsible practices, they may loss sales and one of their most important assets, that is their reputation (Cruz, 2009). Robèrt et al. (2002); Margolis, Elfenbein and Walsh (2007); and Devinney (2009) yet stigmatise the lack of knowledge and clarification regarding the ultimate objectives and scenarios of 'green work' as a significant barrier to sustainable performance and a research gap to be explored. On a similar vein, Henriques and Richardson (2005); and Porter and Kramer (2006) deplore the lack of reliable or widely accepted accounting standards or metrics to account for or measure the environmental accounting – or the broader economic impact – of corporations. A number of authors have examined ESR integration processes, often (exclusively) extending upon the win-win paradigm (e.g., Porter & Kramer, 2002, 2006, 2011) or addressing the question of trade-offs in corporate sustainability (e.g., Hahn, Figge, Pinkse, & Preuss, 2010; Margolis & Elfenbein, 2008) yet failing to assemble the two and consider more holistic strategies for corporate sustainability.

By contrast and as commended by Devinney (2009); Carroll and Shabana (2010); and Hahn et al. (2010), this paper broadens the reflection to a multi-faceted approach to ESR that accounts for different stages of compatibility between green and business performance at strategic and operational levels. The assumption, shared by Carroll and Shabana (2010), is that a broad view of the business case for ESR may allow the firm to capture and benefit from ESR opportunities. This study thus aims to assess corporate environmental performance against business performance with two core objectives:

(i) Enhance awareness on how Environmental and Social Responsibility (ESR) can be integrated into the business strategy – principally drawing upon Porter and Kramer (2006, 2011).

(ii) Build upon existing knowledge in the field of corporate responsibility and strategic management to propose ESR performance targets or scenarios – aligning thereby with Ansoff's aspirations to produce future-oriented, real time integrative management via forecasting and scenarios (Martinet, 2010).

The case study of a UK Brewery is attached. It provides empirical evidence to illustrate and develop the conceptual argument. The results indicate that, by aspiring to a symbiosis between green and business performance, the company is invested with the capability to

explore and exploit synergies, accommodate to ambidexterities and mitigate trade-offs throughout the entire company. This leads to frame ESR integration as a maturation process activated by/consisting of a multi-level responsiveness model.

THEORETICAL FRAMEWORK

The conceptual argument begins with an analysis of the 'How' of ESR integration. Corporate capabilities and environmental pressures may be understood using Porter's value chain and competitive forces (Porter, 1985; Porter & Kramer, 2006). The 'Where' of ESR integration is then discussed; in doing so, four stages of compatibility between green and business performance are proposed: trade-off, ambidexterity, synergy and symbiosis.

The 'How' of ESR Integration

Porter and Kramer (2006) bind primary and secondary business activities to a range of particular impacts. By adapting the tools used to analyse competitive position and strategy development (Porter, 1985), Porter and Kramer (2006, 2011) seek to inform opportunities to create shared value – i.e. value (or benefit) to both society and business. While the lean and green approach mainly focuses on improving supply chain performance, with customers' satisfaction as key driver (Simons & Mason, 2003) – Porter and Kramer (2006, p. 84) extend the reflection to integrate the impact of all business operations on society – i.e. *"inside-out practices"* – and the influence of external social and environmental conditions on businesses – i.e., *"outside–in practices"*.

The inside-out perspective – sketched in **Figure 1** – predicts how activities in the value chain reinforce improvements in the social/environmental dimensions of context (Porter & Kramer, 2006). A value chain analysis is proposed to create an inventory of problems and opportunities – mostly operational issues – that need to be investigated, prioritised and addressed in order to clear away as many negative value-chain social and environmental impacts as possible (Porter & Kramer, 2006). In doing so, company activities will prove to offer opportunities for environmental and strategic distinction (Porter & Kramer, 2006).

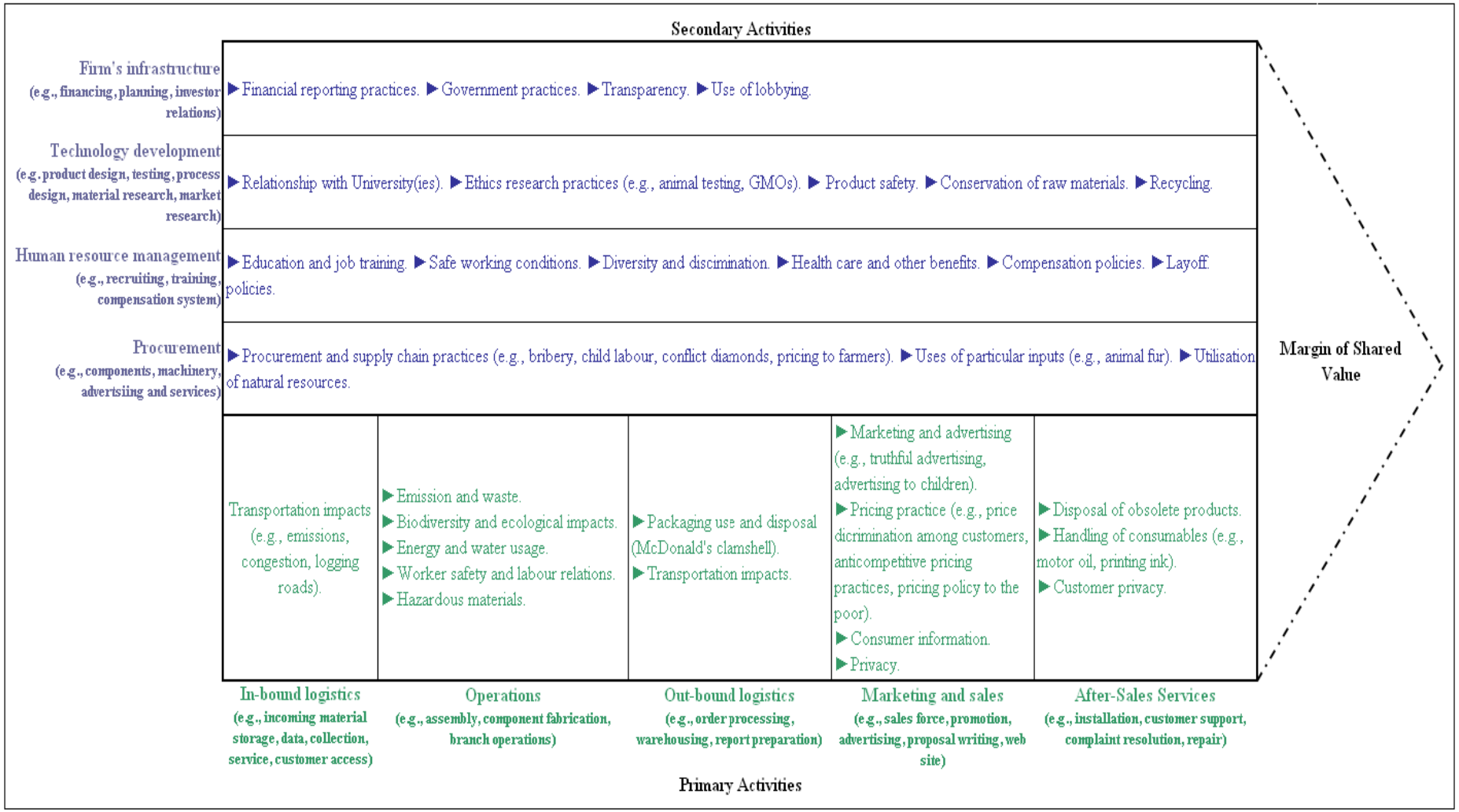
Comparably, lean thinking seeks to identify critical areas of improvement, and, ultimately, bring about such improvements (Hicks, 2007). The demarcation between lean thinking and Porter's value chain is that, while lean focuses on supply chain performance and value from the perspective of the end customer (Womack & Jones, 1996), the value chain framework is extended by Porter and Kramer (2006) to a strategic tool informing opportunities for shared value creation, that is value for companies and society/environment. The association between lean and green, as discussed by, e.g., King and Lenox (2001a, 2001b); and Simons and Mason (2003), nonetheless holds valuable implications for ESR performance at operational level.

Feeding back to the argument of Porter and Kramer (2006), inside-out linkages may range from hiring and layoff policies to greenhouse gas emissions, as the partial list of examples illustrated in **Figure 1** demonstrates. In this paper, the application is on environmental (or green) issues and – in the wake of, inter alia, Robèrt (2000, 2002), Hawken et al. (2002), Hart (1997); Waddock and Graves (1997); Siegle (2009); and McCrea (2010) – how management choices throughout the value chain may create contingencies of compatibility or incompatibility between pro-environmental activities and business performance.

FIGURE 1

Looking Inside Out: Mapping the Social Impact of the Value Chain

Source: adapted from Porter (1985); and Porter and Kramer (2006).

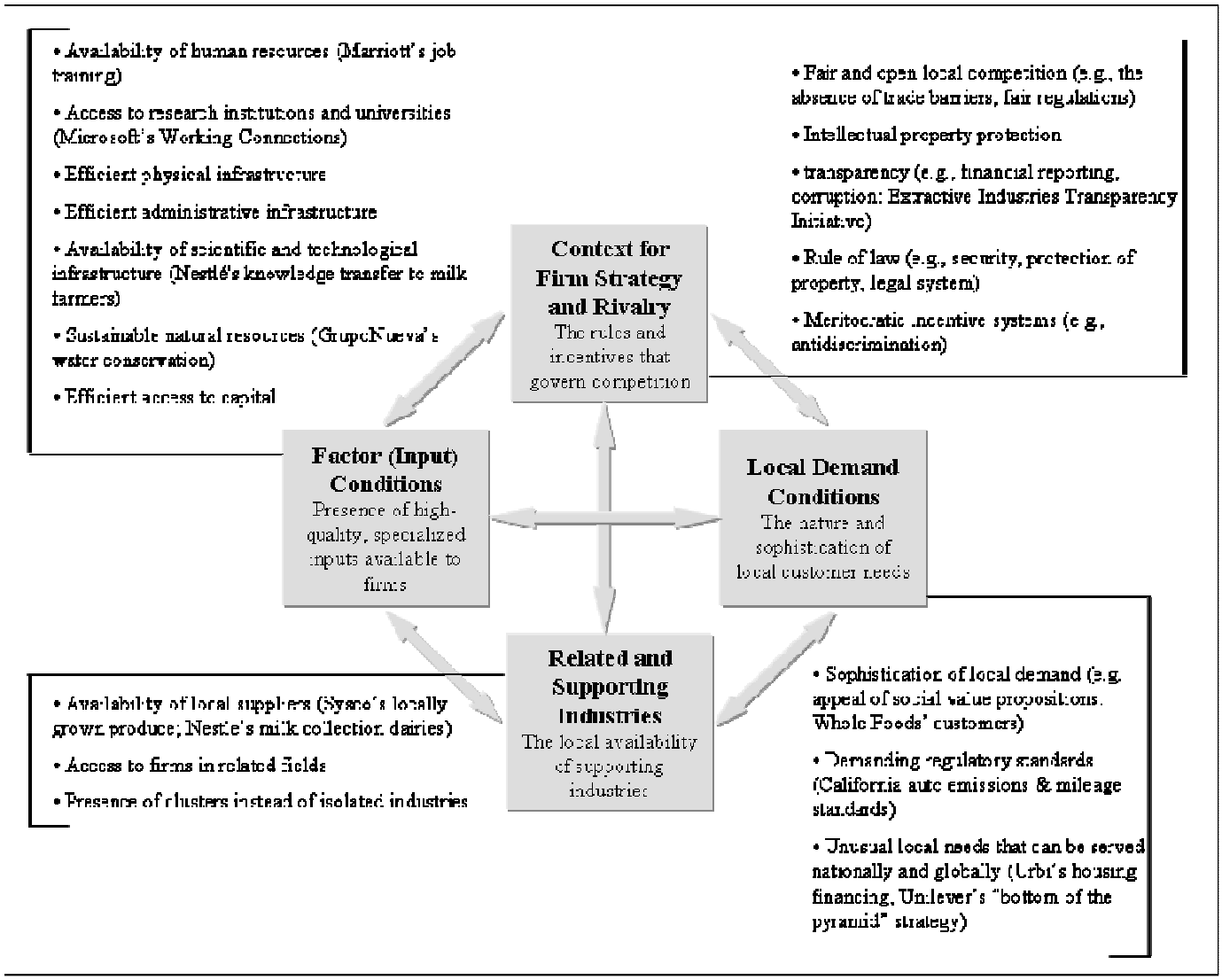


Reflecting on outside-in practices, on the other hand, may inform opportunities to reduce constraints on company's chain activities. It heeds to the competitive/industrial context, regulations and demand conditions which importance, according to Porter and Kramer (2006), must be clearly understood by operating managers. Such factors as transportation infrastructure and enforced regulatory policy can affect a firm's ability to improve productivity and execute strategy (Porter & Kramer, 2006). The diamond framework in **Figure 2** illustrates how the (macro) conditions at a company's locations affect its ability to compete (Porter, 1990, p. 127), and, possibly, its ability to develop and sustain pro-environmental operations.

FIGURE 2

Looking Outside In: Social Influences on Competitiveness

Source. Porter (1990, p. 127)



Drawing upon Porter's inside-out and outside in perspectives, three dimensions of influence over business performance and impact on the environment can be captured: human factors (at micro level), operating factors (at meso level) and physical factors (at macro level). The dynamics between these factors arguably determine a firm's ability to effectively combine ESR with business performance. Human factors are internal – e.g. workers, entrepreneurs,

professional managers and engineers – or external to the firm – e.g. politicians and bureaucrats (Cho, 1994). Cho (1994) argues that human factors manage and utilise the physical factors; including, e.g., endowed resources, the business environment, related and supporting industries and domestic demand. Porter's value chain further frames the idea that business agents – i.e. management choices, human factors internal to the firm – control the operating factors related to what Porter (1985; 2006) articulates as a firm's primary activities (**Figure 1**).

While the work of Porter and Kramer (2006) contributes to illuminate the way in which ESR can be 'profitably' integrated by raising awareness on the impacts of businesses' internal processes and external influences on strategy development, they remain relatively implicit in defining the relationship between businesses and the environment. That is, their argument points to the tendency of businesses to be mired in perceiving negative correlations or the *"friction"* between business performance and ESR (Porter & Kramer, 2006, p. 84). By further adhering to the view that there are opportunities for businesses to benefit from ESR initiatives and build interdependent correlations (by identifying the *"points of intersection"*), Porter and Kramer (2006, p. 84) implicitly acknowledge the existence of different levels of ESR integration.

Yet, the question remains as to where businesses are and where they should aspire to be. Inspiring pro-environmental changes in strategy development may be facilitated if scenarios of ESR integration are made clearer. An objective of this paper is to fill this void by investigating and reflecting on the link between the 'How' of ESR integration – i.e. lean and green, pro-environmental inside-out and outside-in activities – and the 'Where' of ESR integration. The aim is to propose a more observable connection between environmental objectives and business performance. In fact, the choice of a strategy to optimise ESR and business performance may be facilitated if scenarios/objectives of ESR integration are nailed down and the degree of influence of ESR issues on strategic goals is understood.

This paper hence goes on to integrate past research investigating the link between ESR/CSR and business economic performance. The approach leads to propose a taxonomy consisting of ESR performance targets, all of which are framed in a hierarchy of compatibility between green work and economic objectives. The degree of compatibility determines the importance of ESR in determining the firm's strategic agenda.

The 'Where' of ESR Integration: A Multi-Faceted Approach

In reflecting on corporate strategy towards social/environmental responsiveness, Carroll (1979), followed by Wartick and Cochran (1985), introduced the terms reactive, defensive, accommodative and proactive. The works of Clarkson (1991, 1995) consolidate this approach by demonstrating that it defines successfully the level of responsibility accepted for managing stakeholders. Branco and Rodrigues (2007) precise that Carroll's concept relates exclusively to corporate social responsiveness; it thus performs as *"the action phase of management responding in the social sphere"* and is a complement to social responsibility (Carroll, 1979, p. 502). The 'Four Stages of Green and EFF^2' introduced in this paper forms a separate dimension of ESR which promotes responsibility and stimulates responsiveness by bringing forward specific ESR integration/performance targets. The aim of these stages is to fill the knowledge gap, notably identified by Devinney (2009); Margolis et al. (2007); and Robèrt et al. (2002), consisting of a lack of clarification (or transparency) about the ultimate objectives of 'green work'.

Prior to discussing each stage according to their position in a hierarchy of compatibility, the variables within the conceptual framework are defined.

Green and EFF²

The word 'green' recently emerged in the management literature to symbolise a company's pro-environmental reputation or performance (inter alia, Ambec & Lanoie, 2008; Boiral, 2009; Florida, 1996; Gustashaw & Hall, 2008; Hart, 1997; King & Lenox, 2001a, 2001b; McCrea, 2010; Molina-Azorín, Claver-Cortés, López-Gamero, & Tarí, 2009; Porter & van der Linde, 1995a; Rothenberg, Pil, & Maxwell, 2001; Schendler, 2009; Siegel, 2009; Simons & Mason, 2003; Wehrmeyer, Leitner, & Woodman, 2009; Winston, 2009). In this study, the utilisation of 'green' is assumed to reflect an aspiration to eliminate waste and, more broadly, mitigate companies' harmful impact on the environment. This can relate to, e.g., greenhouse gas (CO_2) emissions, degraded water, resource depletion, impact on biodiversity, etc.

EFF^2 is the chosen acronym for operational and economic efficiency and effectiveness; that is, the capability to meet objectives (or putative business aspirations) of growth, productivity increase and profitability. Porter's value chain (**Figure 1**) and the lean and green framework – as discussed by, inter alia, King and Lenox (2001b); and Simons and Mason (2003) – both integrate efficiency (time compression, cost reduction) and effectiveness (shared value enhancement) as critical performance indicators for companies. The concept has originally been developed in the works of such early strategy authors as Drucker (1954), Lewin (1951), Reddin (1970) and Ackoff (1988)

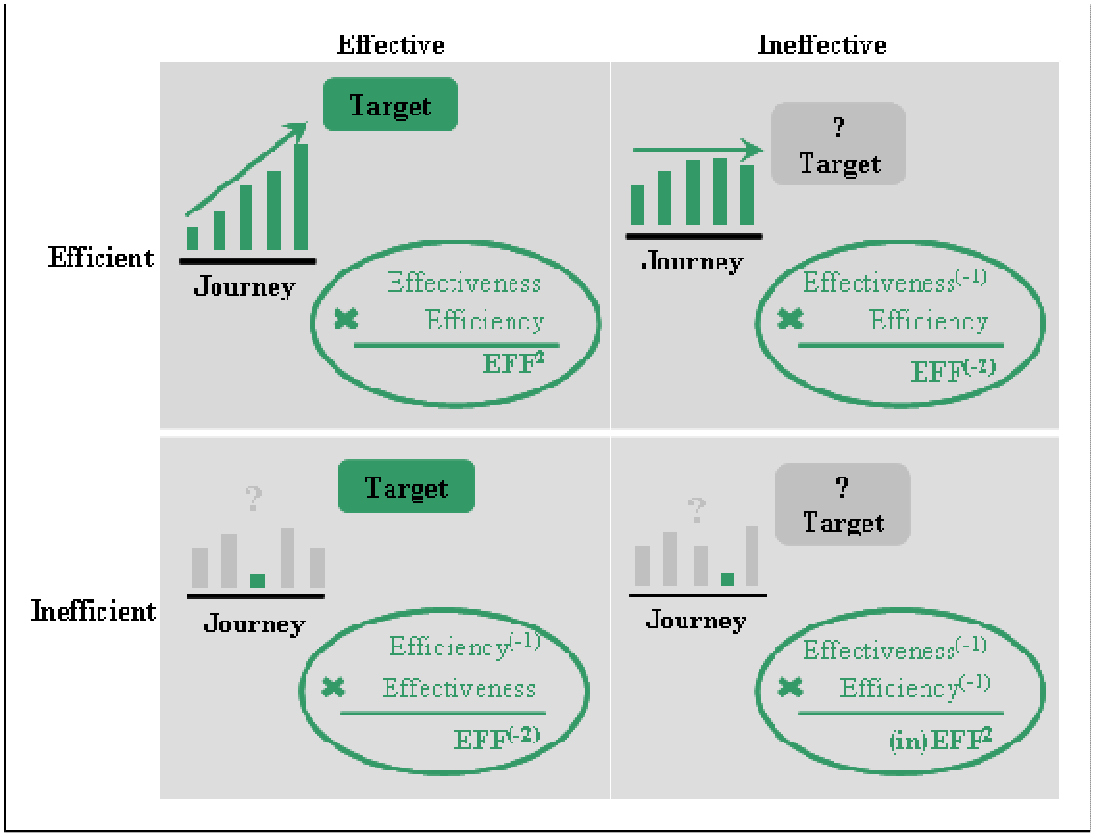
Efficiency – defined by Reddin (1970) as the ratio of output to input – is concerned with doing things right; effectiveness with doing the right thing (Drucker, 1954). EFF^2 is determined relative to one of more targets or output requirements (Ackoff, 1988; Reddin, 1970). While the value of these targets is not relevant to the determination of efficiency, it is relevant to the determination of effectiveness (Ackoff, 1988).
In **Figure 3**, an 'efficiency versus effectiveness' matrix is proposed with efficiency determined by the journey – i.e. time and innovation (as the evolution of knowledge and product/service quality within a company) – and effectiveness determined by the nature of the target. The matrix incorporates different scenarios abbreviated as EFF^2, $EFF^{(-2)}$ and $(in)EFF^2$.
In line with the concept introduced by Drucker (1954), the determination of efficiency and effectiveness is understood to be linked to the firm's capacity to build awareness, become clear about the target – e.g. profit, customer satisfaction or societal/environmental responsibility – and what implications this holds for business efficiency as the journey to achieving the target. With this insight, business operations, units or divisions may then be 'designed' effectively.

In their extended version of the value chain, Porter and Kramer (2006) commend the target to be the creation of shared value and the journey to represent value chain processes designed to reinforce improvements in the social/environmental dimensions of context. A similar shift occurred in lean thinking insofar as lean is now frequently associated with green (inter alia, Gustashaw & Hall, 2008; King & Lenox, 2001a, 2001b; Simons & Mason, 2003; Wehrmeyer, et al., 2009). Therefore, the focus of lean seems to have shifted from 'producing value to businesses and customers' to 'producing value to businesses and society/environment' with green performance as the new 'motto'.

FIGURE 3

The Efficiency Vs. Effectiveness Matrix

Source: author's own construction



As a response to the call for clarification/objectification of ESR integration, this paper goes on to elaborate on the association between green and EFF^2. Reflecting on this association leads to frame the influence of green on both the effectiveness and efficiency of business systems into four stages: trade-off, ambidexterity, synergy and symbiosis.

Trade-off

Trade-off exists when EFF^2 and green initiatives become mutually inhibitive instead of reinforcing one another. It is a stage of relative incompatibility between green and EFF^2 which, in line with Hahn et al. (2010), contests the assumption that economic, environmental and social aspects are mutually reinforcing. Boyle, Higgins and Rhee (1997); and Wright and Ferris (1997) can be cited among the studies which report a negative relationship between corporate social or environmental and financial performance of a firm. Hahn et al. (2010) remark that trade-offs between business economic and environmental performance have not been extensively examined in the management literature. Deeper understanding of trade-offs – via conceptual and empirical explorations – is commended by Margolis and Walsh (2003) in order to clarify the relationship between economic and non-economic aspects of corporate activities.

Hahn et al. (2010) are convinced that trade-offs and conflicts in corporate sustainability are the rule rather than the exception. They thus assume that trade-offs are to be accepted as the 'normative' premise upon which substantial sustainability or ESR benefits may flourish

(Hahn, et al., 2010). Porter and van der Linde (1995b) contest this rationale arguing that framing environmental improvement as involving a systematic trade-off between social or green and private benefits is incorrect. They contrast the view of Hahn et al. (2010) arguing that the idea of a programmatic struggle between ecology and the economy emanates from a static view of environmental contingencies in which technology, products, processes and customer needs are fixed entities (Porter & van der Linde, 1995b). However, green/EFF^2 performance rests not on optimising within fixed constraints but on the capacity to shift the constraints through innovation and improvement (Porter & van der Linde, 1995b). This leads to relax the case for trade-offs as the normative approach and implies that a broader scope of analysis accounting for innovation and improvement capabilities may be required. In fact, a proposition of this paper is that business operations may be assigned ESR integration scenarios wherein green and EFF^2 are compatible.

The following discussion hence enlarges the scope of analysis to embed three additional ESR integration scenarios: ambidexterity, synergy and symbiosis.

Ambidexterity

Ambidexterity, as a firm's approach to ESR discussed by, inter alia, Kollman and Stockman (2008); and Vazquez et al. (2009), refers to the state of being equally adept in the advancement of economic and environmental performance. It can be defined as the META relation of EFF² and green – i.e. one complements and/or adds to the other without significant correlation. The idea of ambidexterity – inspired by O'Reilly and Tushman (2008) – challenges the assumptions that green and EFF^2 are either mutually reinforcing or inhibitive (trade-off). It suggests that, under certain specified circumstances, it may be possible for organisations to pursue both green and economic performance with no significant relationship between them. This pattern applies, for instance, to the impact of green on sales. That is, Valor (2008), later echoed by Carroll and Shabana (2010), argues that consumers are not able to buy responsibly because it is a time consuming activity, economically disadvantageous, and stressful. This argument suggests that effective consumption is not boosted by ESR credentials. In fact, a number of studies have found a relatively minor correlation between corporate social and environmental performance and the financial performance of a firm (inter alia, Aupperle, Carroll, & Hatfield, 1985; Guerard, 1997; Ullman, 1985; Waddock & Graves, 1997), therefore crediting the idea of ambidexterity.

Gustashaw and Hall (2008) suggest that an environmental explanation has to be separated from financial motives, not so much in micro level detail, but rather in concept. They argue that environment and industry operate for entirely different motives (Gustashaw & Hall, 2008). The authors thus support the thesis of O'Reilly and Tushman (2008) in that companies are to use ambidextrous strategies to perform the dual roles of economic and environmental responsibilities and to integrate them well. This may consist of establishing separate environmental/sustainability structural sub-units and building adapted competencies, systems, incentives, processes and cultures for ESR integration. A separate business unit, run by a Chief Sustainability Officer (CSO), may bridge departmental rivalries and view sustainability as integral to the business principles of the organisation (McNulty & Davis, 2010).

However, McNulty and Davis (2010, p. 137) warn that pursuing ambidexterity between green and EFF^2 by *"adding another layer of bureaucracy in the form of a CSO is not the answer"*. This may generate organisational silos and internal boundaries within which knowledge, expertise and resources are confined, thereof hardly transferable across the company (Gulati,

2007). To transcend these barriers and embark on *"silo-busting"* (Elkington, 2004, p. 14; Gulati, 2007), ESR integration should instead be the job of CEOs. McNulty and Davis (2010) enumerate four reasons to explain why CEOs are competent. First, CEOs have more influence within the company to champion and effect positive change. Second, they would better mobilise suppliers, reassure customers. The third reason is that CEOs are ultimately more accountable to the board of directors, shareholders, government policy makers and NGOs. They would finally have better insight into the relationship between sustainability and corporate strategy and vision.

In sum, while ambidextrous strategies, such as the decision to hire a CSO, may be envisaged to demonstrate awareness to ESR matters; they may however reduce the scope of business opportunities for achieving growth and gaining competitive advantage (McNulty & Davis, 2010). Companies are hence to reflect on more advanced ESR integration targets.

Synergy

Synergy implies a catalytic effect between green and EFF^2 in a mutually beneficial relationship. It can be defined as the PRO relation between EFF^2 and green. The notion of synergy, applied as a stage of compatibility between green and EFF^2, is acknowledged by, inter alia, Orlitzky, Schmidt and Rynes (2003); Dowel, Hart and Yeung (2000); Hillman and Keim (2001); Vershoor and Murphy (2002); Salama (2005); Carroll and Shabana (2010); and Kurucz, Colbert and Wheeler (2008).

Kapoor and Sandhu's (2010) documentary analysis of 93 companies operating in India support the case of synergistic compatibility between CSR and corporate financial performance. In particular, they report a significant positive impact of CSR on corporate profitability and insignificant positive impact on corporate growth. Similarly, an exhaustive literature review of quantitative studies that have examined the green management-financial performance link carried out by Molina-Azorín, Claver-Cortés, López-Gamero and Tarí (2009) shows a predominance of cases where a positive impact of environment on financial performance is obtained. In fact, ESR commitment is explained to enhance firm performance and competitiveness in a number of conceptual and empirical studies (Ambec & Lanoie, 2008; Hart, 1995; King & Lenox, 2001a, 2002; McCrea, 2010; Melnyk, Sroufe, & Calantone, 2003; Porter & van der Linde, 1995a, 1995b; Trung & Kumar, 2005).

King and Lenox (2001b) suggest that the link between EFF^2 and green may be informational or financial. That is, lean production practices are likely to inform opportunities for profitable pollution reduction via the development of improvement capabilities (Womack, Jones, & Roos, 1990) and enhancement of employees' awareness of change in the production process (McDuffie, 1995, 1997). Lean production can in effect lower the costs of exploiting these opportunities, thus providing an impetus to invest in environmental management practices. Another pathway to ESR integration can be identified as the possibility of a synergistic implementation of EFF^2 and green enabled through informational and financial channels.

Symbiosis

According to King and Lenox (2001b), some advocates of a 'lean is green' relationship suggest an inevitable – or symbiotic – association of lean with green. For example, Schaltegger and Figge (2000) explain that the economic efficiency of pollution prevention measures can generally be judged by a cost-effectiveness analysis, comparing the costs per

unit of pollution prevented – thus evaluating the external cost of pollution and environmental degradation (Siegel, 2009). In fact, preventing pollution may enable the firm to save control costs, input and energy consumption as well as to reuse producing and delivering goods while simultaneously reducing the ecological impact and use of resources (Molina-Azorín, et al., 2009; Porter & van der Linde, 1995a, 1995b).

As suggested by Porter and van der Linde (1995a), pollution generated by firms can be associated with a propensity to provoke an $EFF^{(-2)}$ effect whereby operational effectiveness or efficiency are compromised (refer to **Figure 3**). The negative power simply implies an inversion of effect on EFF^2 with pollution as the 'inverting' variable. To annihilate the effect of this inverting variable, companies must shift from pollution control – i.e. identification, processing, and disposal of discharges or waste – to prevention or source reduction – a concept embraced by more advanced companies via the adoption of material substitution methods and closed-loop processes to limit pollution before it occurs (Porter & van der Linde, 1995a).

While operational performance and lean thinking may help to build strong green/EFF^2 compatibilities (**Figure 4** includes lean and green as an overarching concept within the Four Stages framework), symbiotic relationships may also emerge from the way companies respond to a variety of broader pressures and/or strategic challenges, such as those associated with the evolution of regulations and market fluctuations – which feeds back to Porter and Kramer's (2006) outside-in perspective (**Figure 2**). As far as regulations are concerned, the emergence of market failure and related social cost[1] can justify government intervention. At the symbiosis level, companies may choose to anticipate or go beyond environmental regulations to provide ESR (Aguilera, Rupp, Williams, & Ganapathi, 2007; Reinhardt & Stavins, 2010; Siegel, 2009). An incentive to be proactive in the implementation of ESR – e.g. self-regulate – may be the prevention of a consumer boycott by an NGO (Baron & Diermeier, 2007). Reinhardt and Stavins (2010) recall that ESR should be viewed as a complement to, rather than a substitute for, increasingly effective government interventions. In sum, a motto for the achievement of symbiosis may be to gain expertise in preventing pollution, anticipating and going beyond the stringency of the regulatory environment in which the firm operates.

The works of, inter alia, Branzei, Vertinsky and Zietsma (2000); Sully de Luque et al. (2008); and Waldman and Siegel (2008) shed light on the role of strategic leadership in building strong stakeholder values and inspiring high concerns for environmental issues. In venturing toward symbiotic compatibilities, meeting environmental targets becomes part of the firm's performance review. Wehrmeyer et al. (2009) identify a majority of managers who are 'Business Greens'(36% : result of a UK-wide survey of 1,500 managers). This defines managers who seek to integrate sustainability into their business processes on the basis of the benefits to the business. Strategic CSR/ESR, Porter and Kramer (2006, 2011) maintain, unlocks shared value by investing in social or environmental aspects of context that strengthen the company. A relationship of interdependency is thus understood to be formed between the success of the company and the welfare of the community/environment. As shown in **Figure 4**, symbiosis feeds into the formula, adapted from Reddin (1970), which

[1] Examples of such external costs include pollution and environmental degradation, such as global warming, acid rain, and deforestation. To a typical lumber producer or a farmer, the forest has only an economic value. However, from a societal perspective, forests also have recreational, existence, and biodiversity value (e.g., witness the ongoing controversy surrounding the preservation of the rainforest in South America).

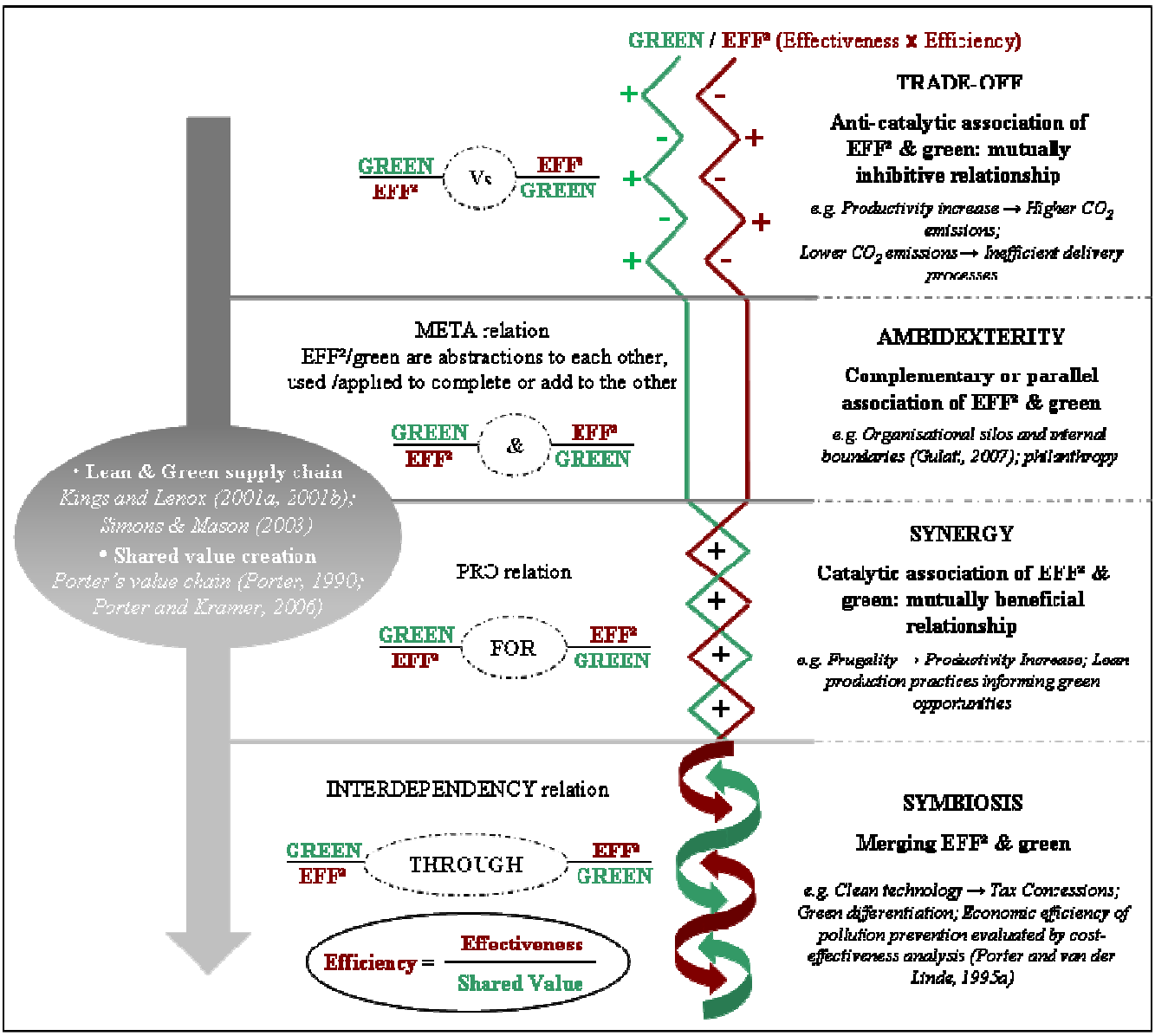
contends that efficiency is the ratio of effectiveness to shared value; that is, in mathematical terms, efficiency = effectiveness/shared value.

To sum up, trade-off, ambidexterity, synergy and symbiosis represent 'generic' targets in reference to which a firm can aspire to evaluate whether its activities reflect a positive (symbiosis and synergy), negative (trade-off) or neutral (ambidexterity) relationship between business economic and operational performance and green management. According to Rothenberg et al. (2001), theories that suggest a simple *win-win* relationship do not accurately reflect the complexities related to the association of economic/operational performance with green. In fact, an assumption in this paper is that the green/EFF² targets may be reflected simultaneously within a firm, yet in different forms depending on the way its functions and divisions influence ESR strategies and operations – as explained by Porter and Kramer (2006) and shown in **Figures 1 & 4**. The level of performance, framed in **Figure 4**, arguably depends on the importance granted to ESR by strategic leaders within the company (Branzei, et al., 2000; Sully de Luque, et al., 2008; Waldman & Siegel, 2008).

FIGURE 4

Framing Corporate Environmental Performance
The Four Stages of GREEN/EFF²: Trade-off, Ambicexterity, Synergy & Symbiosis

Source: Author's own construction



The empirical research attached below uses the case study of a UK brewery to provide an illustration of the conceptual argument – a way of confirming or disconfirming the above assumptions and propositions in practice. The four stages framework is applied to analyse the firm's approach to ESR integration challenges (**Figure 4**).

METHODOLOGY

The research was designed to develop the theoretical lenses on the 'How' and 'Where' of ESR integration. A critical realist epistemological stance was adopted for this study. That is, it was assumed that, whilst there is a reality – environmental degradation, impact of industry, business economic imperatives – that can be experienced and observed, this reality is shaped by a complex web of causal powers and unobservable entities (Bergin, Wellls, & Owen, 2008; Proctor, 1998). It is suggested that the underlying forces and the social structures that

are giving rise to the problems have to be understood to make clear sense out of the 'How' and 'Where' of ESR. The empirical enquiry was hence designed to allow wide expression of social actors to develop the conceptual framework and construct warrantable knowledge (Mason, 2002; Sayer, 2000) about ESR integration processes. A single case study strategy of inquiry was chosen with *"multiple sources of evidence"* (Yin, 1984, p. 23).

Six 'in-depth' semi-structured interviews were conducted with managers in different functions of a UK Brewery: CEO, Head of Marketing, Operations Director, Head Brewer, Sales Director, and Retail Director. Open-ended questions were used because, as opposed to the quantitative fixed-choice interview or questionnaire, they enable interviewees to talk extensively about their experiences (Silverman, 2006). Direct observations, company documents, e-mails and informal interviews were used to triangulate the findings.

'Structural narrative analysis' was the technique used to analyse the data. Embedded within a hermeneutic tradition of inquiry (Lawler, 2008), narrative analysis focuses on the ways in which people understand and make sense of their lives and use stories to interpret the world (Lawler, 2002). The structuralist approach, according to Silverman (2006), amounts to associate elements (i.e. interview excerpts) with a function and a replacement; this process contextualises the implication of the element into the analytical argument. A close reading of interview transcripts led to code excerpts onto a theme list – replacement location – derived from the conceptual framework (Miles & Huberman, 1994; Willms et al., 1990).

A deductive approach is applied to the selection of themes for analysis. This implies that categorical schemes are drawn upon the theoretical framework. The chosen categories relate to the way the company deals with the emergence of trade-offs, ambidexterities, synergies and symbiosis between green and EFF^2. The data provides a means for developing and revising the conceptual propositions (Berg, 2009). Analytical induction was adopted as a method that explicitly accommodates existing theory (Bansal & Roth, 2000; Busch, 2011) – in contrast to the grounded theory developed by Glaser and Strauss (1967) – while iteratively integrating empirical data intending to challenge the conceptual propositions, in an effort to develop theory (Manning, 1982). Once a theoretical model that gives a precise account of how ideas generated through interviews are linked to each other started to take shape, negative cases (i.e. cases that don't fit the model) were investigated. Negative cases either disconfirmed parts of the emerging model or suggested new connections that needed to be made (Ryan & Bernard, 2000). Closure occurred when iterations between theories and data sets did not generate new themes or did not disconfirm the model any further (Ryan & Bernard, 2000).

EXTENDING THE THEORETICAL PROPOSITIONS

Prior to presenting the findings, the selection of a case study is discussed. Its relevance to develop the theoretical framework and gain further insights into ESR integration processes is justified.

The Case Study

BRECO (a pseudonym) is a well established company which primary activities are the production and sale of beers. The activities extend to the sale of kitchenware equipment and wine that it imports from Europe and the 'New World'. BRECO also runs bars, restaurants

and hotels in the UK. The company is generating a turnover of about £50 millions; that is £28 millions in brewing and brands, and the remaining £22 millions in retail.

Over the last decade, BRECO has shifted its strategy from a short term business vision – emphasising immediate economic performance – to a long term business orientation that considers the wider societal impact as a primary challenge. The strong environmental ethos of the company were reified into concrete measures through a number of investments in 'eco-friendly' technologies (e.g. brewing processes) and buildings (e.g. distribution depot). The Retail Director explains: *"A shop here is built absolutely with nothing else in mind other than the environment, from the wood that we use, from the heating works, from the way the whole structures have been created […] And then through the products, where possible, we look for local suppliers or suppliers with environmental credentials; whether they are Greenleaf on wine, whether the green comes with biodynamic wines. We will make sure that we have an element of care for the people that we trade with."* Green engagement at BRECO fosters employees' and suppliers' commitment; as such, it extends throughout the entire business and supply chain. Reinforced in terms of societal impact and economic performance, the company is considered as an epitome of advanced performer in the field of corporate environmental responsibility. As such, the case meets the criteria for en extreme or *"polar type"* (in the sense of high performing) case; that is one in which the process of theoretical interest is transparently observable and outstands from other cases (Eisenhardt, 1989, p. 537; Eisenhardt & Graebner, 2007, p. 27). Sigglekow (Sigglekow, 2007, p. 21) yet nuances the theoretical interest of a single case study: *"The specialness pays off if it permits particular insights that allow one to draw inferences about more normal firms."* Grounded in a real-life situation, the case of BRECO enables to effectively fill the knowledge gaps identified in this paper – i.e. lack of clarification about the end goals and scenarios of green performance. Hence, it provides an illustration of the construct of ESR integration which may inspire a way forward for other organisations willing to enhance their societal impact – aligning thereby with the expectations set by Sigglekow (2007), Eisenhardt (1989); and Eisenhardt and Graebner (2007) .

The results show how BRECO, invested with an aspiration to achieve a symbiosis between green and EFF[2], explores and exploits synergies, tolerates the occurrence of ambidexterities and mitigates trade-offs.

Results: A Multi-Level Responsiveness Model

As mentioned above, green is conceived by BRECO business leaders as an imperative for designing operations and strategies. The Head of Marketing comments: *"We are trying in the whole process to think about green credentials. So that includes: should we source foreign hops or foreign ingredients or should we source UK based stuff. Then as soon as you go into production, I mean we have our leather glass light bottles as well so they kind of come into the mix, we've been looking to source an environmentally friendly kind of stocks. Wherever we can, we try to build in green credentials or green opportunities."*

In the findings, a strong emphasis is placed on the role of strategic leadership in building strong stakeholder values and inspiring high concerns for environmental issues – a phenomenon highlighted in previous research by, inter alia, Branzei et al. (2000); Sully de Luque et al (2008); and Waldman and Siegel (2008). BRECO's CEO explains that *"transformational leadership is what we are looking for our leaders to be able to do, that is to create a vision for the future, be able to build trust in their followers. Things that you do around that are: building self-esteem, ensuring that the work place is a very honest and open place. In doing that, you can get people to follow you to a new place, creating a vision of*

what's on the other side of the change that you are making […] Leadership is also distributed; it doesn't all vest in one individual, actually it's a collective message." At BRECO, the role of leaders in pushing green-EFF^2 innovation is critical; in fact, they perform what Wehrmeyer, Leitner and Woodman (2009) refer to as a role of business greens. The findings indicate that BRECO managers bring environmental considerations into the mainstream of management activities, are openly satisfied with their environmental performance and have a clear understanding of their environmental impact (Wehrmeyer, et al., 2009). BRECO is an illustration the changing UK business cultures in light of the climate change challenge (Wehrmeyer, et al., 2009).

Consistent with Porter and Kramer (2006) and Cho (1994), the dynamics between human factors, physical factors and operating factors determine the ability of BRECO to effectively combine ESR with business performance. Managers and employees are committed to enhance green performance; in particular, they seek responsible usage and management of physical factors – e.g. raw materials, infrastructures and the wider business environment. BRECO business agents seek to optimise the compatibility green-EFF^2 of operating factors related to what Porter (1985, 1990), with Kramer (2006), articulates as a firm's primary activities. According to the Operations Director, BRECO does *"a green shopping list"* when deciding on the design of infrastructures and operations.

BRECO leaders are driving the entire business in progressing towards symbiotic relationships between green and EFF^2, especially by enhancing green performance wherever an opportunity emerges. This is referred to as the green-EFF^2 maturation process illustrated in **Figure 5**. This maturation process frames what Carroll (1979, p. 502) refers to as the *"action phase"* of corporate societal responsibility. The pursuit of green-EFF^2 maturation is particularly evidenced by the choice of the company to anticipate and go beyond environmental regulations to provide strong environmental responsiveness, as commended by Reinhardt and Stavins (2010); and Siegel (2009). BRECO's CEO comments: *"In the field of the environment, we think we're going further than we need to do. What we are waiting for is legislation to catch up and I think it is starting to catch up* […] *I think, as environmental legislation gets tightened down, if you can't comply, you're likely to have to pay for that. So ultimately there is an element of competitive advantage in this environment."*

The pro-environmental mind-set emerged in the early 2000s with the arrival of a new CEO. The Operations Director indicates: *"We used to have a very top down culture before 2000. Now, we have what we call an environmental champion in each part of* [BRECO] […] *we turned it into a company that was led by values. This was mostly the influence of* [the CEO] *who joined the board in the late 1990s."* His role in instigating ESR changes has been critical; particularly in exploring potential synergies between green and EFF^2. This converges with the argument of McNulty and Davis (2010) who contend that ESR integration is mostly the job of CEOs. His guiding values, insight into the relationship between sustainability and corporate strategy and visions created a business model that champions ESR changes, enables to mobilise employees and suppliers, and convinces shareholders – in line with McNulty and Davis (2010).

With a value-oriented business model, the company aspires to a symbiosis between green and EFF^2. This aspiration triggers a process of maturation at three levels: (i) exploration and exploitation of synergies; (ii) tolerance of ambidextrous relations; and (iii) actions upon trade-offs. As discussed above and illustrated in **Figure 5**, Human Factors (HF) are central to the process of green-EFF^2 maturation in that they determine the orientation of leading

(improvement ideas emerging from managers, staff and suppliers) and operating (or impact) projections within the 'maturation radar'. The contribution of this framework lies in an extension of the value chain analysis (Figure 1, Porter & Kramer, 2006) for creating shared value (Porter & Kramer, 2011) and optimising green-EFF^2 compatibility. In the following, the analysis elaborates on the maturation process at BRECO; in particular, it iterates between data and theory to discuss the multi-level responsiveness – i.e. inform synergies, accommodate to ambidexterities and mitigate trade-offs – of the company on ESR integration challenges.

FIGURE 5

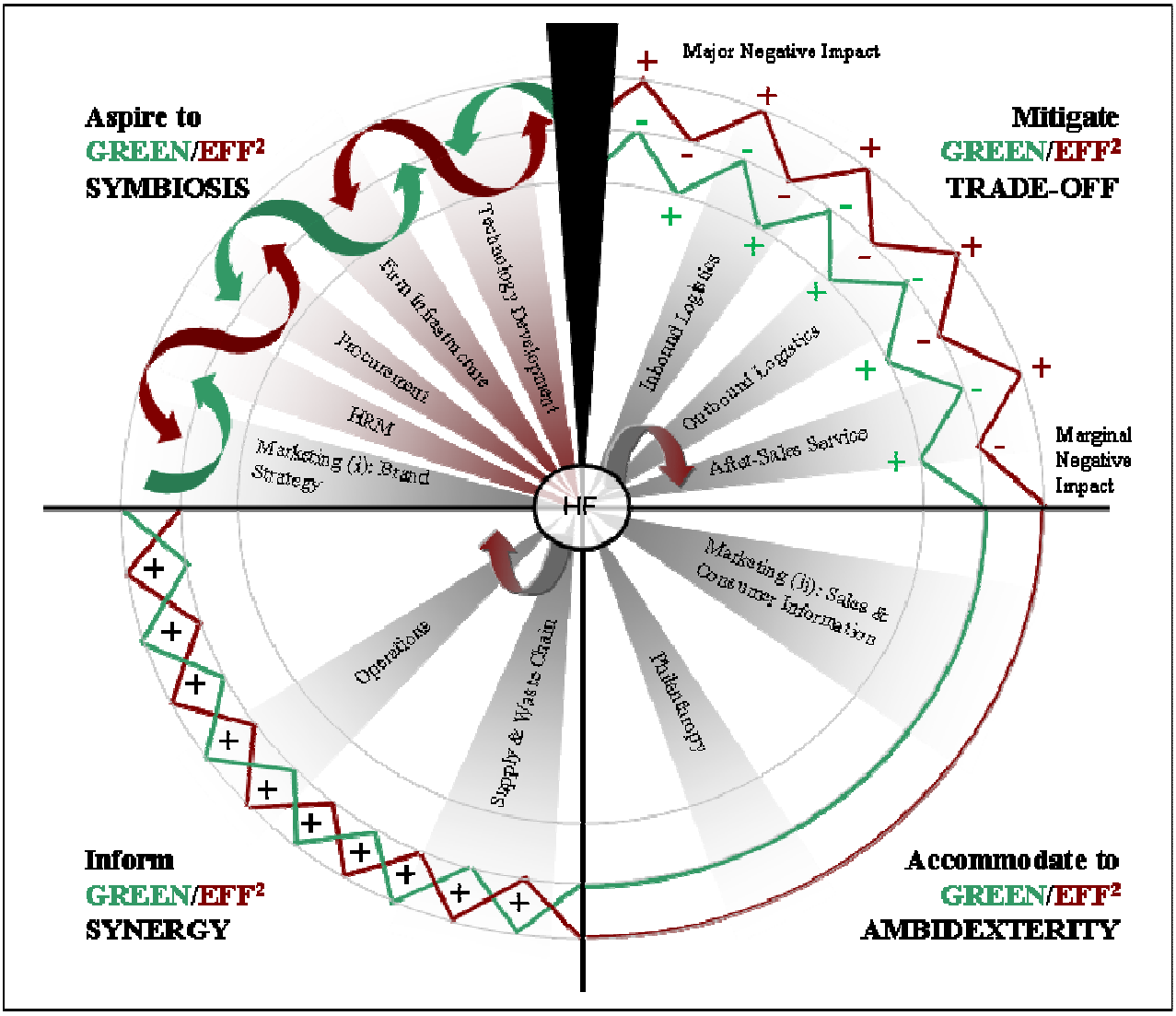
The Green & EFF^2 Maturation Process Applied to the Case of BRECO: A Multi-level Responsiveness Model…

…with: HF: Human Factors;

Leading Projections;

Operating or Impact Projections.

Source: author's own construction



Informing Synergies

Previous research from King and Lenox (2001a, 2001b) suggest that synergies between green and EFF^2 are financial or informational. Molina- Azorín et al. (2009) found a synergy between financial results and green. In fact, at BRECO, the implementation of green credentials has informed opportunities for cost reduction. To create favourable premises for profitable pollution reduction and develop improvement capabilities (Womack, et al., 1990), BRECO used various partnership routes. For instance, the company worked with a University to assess the supply and waste chain, with the National Hop Association of England to find an aphid-resistant hop that does not need oil-based insecticides or pesticides ad could be grown locally.

The company has thus developed a willingness to explore and understand the benefits of ESR; in particular, the CEO explains that BRECO anticipated the rise in the price of fossil fuels and the reinforcement of legislation around environmental issues: *"in our business case, we built in a view that fossil fuels would continue to rise in price and businesses that pollute are going to have to pay for that pollution. So the less we need to rely in fossil fuels and the less we pollute, the longer term view is that this business will be well placed for the future."* Therefore, the conviction that synergies had to be found and exploited grew. With an investment strategy oriented towards sustainable business and long-term benefits, the company was able to acquire state-of-the-art technologies. The energy efficient brewing system and eco-efficient distribution centre are evidence that BRECO is now exploiting positive synergies between green and EFF^2 to venture toward the symbiotic stage. These synergies are in fact systemised, embedded into technologies; green is hence generated mechanically through EFF^2. The CEO indicates: *"the technology in itself means that you lower emissions and I am pleased to say that in our annual report 2010, although our volumes fell, our overall carbon footprint continues to come down even though we open more shops."* Overall, synergies are found to emerge mostly in the form of green generating cost reductions, as discussed in previous research by Carroll and Shabana (2010); Siegel (2009); and Siegel and Vitaliano (2007).
The findings further iterate toward the important role of staff in exploring and driving ESR integration and informing innovation capabilities. BRECO's employees are not only aware of change in operational processes (McDuffie, 1995, 1997) but are proactive in fostering green-EFF^2 performance.

In sum, evidence shows that BRECO anticipated the fact that pollution can provoke an $EFF^{(-2)}$ effect whereby operational efficiency and effectiveness are compromised. Porter and van der Linde (1995a, 1995b) praise the benefits of pollution prevention on business performance. For example, the increasing price of fossil fuels envisioned by BRECO leaders provoked preventive actions in the form of investments on 'pro-environmental' technologies. Thanks to its eco-efficient facilities and pro-environmental mindset, BRECO is now able to save and control costs, input and energy consumption, as commended by Molina-Azorin et al. (2009).

ESR integration and inherent sources of synergies with EFF^2 can emerge throughout the entire supply chain. The findings indicate that environmental features are integrated into, e.g., raw materials used to produce and bottle beers, materials supplied for designing retail outlets and the profile of wine and food suppliers.
Infrastructures (e.g. brewery, distribution depot), procurement (assessment of supply and waste chain), technology development (e.g. energy efficiency) and human resources (team working structure, staff commitment) are designed to provide the most profitable synergies.

These synergies are explored at corporate board level with decisions on infrastructures, human resource management, procurement and technology development – i.e. secondary business activities (Porter, 1985) – oriented towards symbiosis, as illustrated in **Figure 5**. This phase of exploration led to the development of *"an informal team working structure, based around a strong set of organisational values"* (CEO) – particularly reified into the exploitation of eco-friendly distribution depot and energy efficient brewing system.

As depicted in **Figure 5**, the maturation process is most particularly effective in operations – e.g. hotel (blankets replacing heating), retail activities (design of shops), brewing process (aphid resistant hop, energy efficiency), distribution centre (eco-efficiency), supply and waste chain – where green-EFF^2 improvements or synergies have been inspired by internal – staff or business leaders – or external – e.g. University, National Hop Association – human factors (Cho, 1994). The application of the maturation process further extends to green-EFF^2 ambidextrous situations.

Accommodating to Ambidexterities

The argument leads to narrow the catalytic impact of green on business performance down to operational challenges. A marginal link between green and sales is found, which is consistent with the studies of, inter alia, Aupperle, Carroll, and Hartfield, (1985), Guerard, (1997), Ullman, (1985) and Waddock and Graves (1997). The Sales Director explains: *"Our green credentials are building our reputation but the impact on sales is difficult to capture."* While green initiatives are undertaken to address the wider impact of BRECO, they do not stimulate sales; this pattern is notably discussed by Kapoor and Sandhu (2010). Evidence heeds to a consumption dilemma faced by BRECO with information asymmetry as a major barrier – as noted in previous research from Cohen and Winn (2007). It shows that green credentials do not convince consumers and, as such, do not boost sales notwithstanding their integration into the brand strategy (as shown in **Figure 5**). The lack of response from consumers is noted by Valor (2008) and further echoed by Carroll and Shabana (2010). It contradicts the argument of Siegel (2009) that consumer choice of brand is based on superior environmental performance. In fact, the findings indicate that BRECO sales have increased in direct retail outlets. Thereof, BRECO proves to be equally adept in the advancement of sales and environmental performance, thereby aligning with the argument of Kollman and Stockman (2008); and Vazquez et al. (2009). In fact, *"environmental activities are not going to develop sales* […] *they are not our reason for being"* (Head of Marketing) yet *"are not unpopular"* (Operations Director).
As the CEO and Head of Marketing explain, green is not the core business, the *"reason for being"* of the company. Green, in sum, is not perceived to boost sales and contribute to economic growth; it is nevertheless an essential attribute for sustainable growth with major micro level challenges – as discussed by, e.g. Gustashaw and Hall (2008).

The findings further heed to philanthropic initiatives as another source of ambidexterity. According to BRECO's CEO, philanthropic activities emerged from the idea of *"demonstrating our sort of stakeholder engagement, our responsibility towards community, to use* [BRECO] *staff at the week end to clean the beach a couple of times a year before the tourists arrive and then clean up after they've gone at the end of the summer."* Although Porter and Kramer (2002) argue that philanthropy can boost competitiveness, and therefore be a source of green-EFF^2 synergy, employees' engagement in cleaning the coast is not found to create a synergy. While these activities enhance green, they are not perceived to hold an

immediate effect on business performance. They are therefore accepted as a form of philanthropy which is ambidextrous to EFF^2.

In sum, BRECO accommodates to ambidextrous relations between green and EFF^2, as shown in **Figure 5**, whether this leads to allow the practice of philanthropy or accustom to the mitigated response of consumers. To extend the analysis of ESR integration at BRECO, the approach of the company to trade-offs is now discussed.

Mitigating Trade-offs

The detrimental impact of transport on the environment is acknowledged, notably by the CEO, to be a "*constant trade-off*". This corroborates the argument of Hahn et al. (2010) who advocate the existence of a permanent trade-off between corporate sustainability and EFF^2. However, by contrast to those who perceive green as a transient strategy and are, thereof, reluctant to instigate green improvements (Hahn, et al., 2010; McCrea, 2010), the findings show a willingness from the company to act upon trade-offs with a strategic focus on continuous green innovation and improvement capabilities, in line with the view of Porter and van der Linde (1995b). That is, the negative impact of EFF^2 – e.g. inbound and outbound logistics, packaging and after-sales service – on green is to be reduced. Solutions are thus sought externally through the use of partnerships with environmental experts or cooperation with suppliers. As BRECO's Operations Director explains, efforts are made to minimise the impact of trade-offs: *"last year, we went into a partnership with a company called 'Bio Group'. The outcome is that, at the bottom of the site, we have done an anaerobic digestion plan, the first of this kind in the world that produces green gas […] which will be used to run our fleet of distribution vehicles in the near future."*

Besides, the CEO notes that the weight of glass used in some bottles is sought to be reduced in collaboration with glass-packaging supplier 'O-I'. This not only enhances green credentials on the supply side regarding the glass-blowing process – *"by far the biggest part of the carbon emitting process"* (CEO) – but also mitigates the impact of both logistics and products disposal on the environment – hereby acting upon the company's after-sales impact. Moreover, partnership with Bio Group enabled the installation of an anaerobic digestion plan that produces green gas, also called bio methane; in turn, this green gas is expected to be used to fuel the fleet of transport vehicles. This will further mitigate the impact of logistics on the environment and consolidate the maturation process by turning major negative compatibilities between green and EFF^2 into marginal ones, as illustrated in **Figure 5**.

Previous research (inter alia, Christmann, 2004; Hahn, et al., 2010; King & Lenox, 2000; Selsky & Parker, 2005) further heed to potential trade-offs and conflicts among companies within industry sectors and with other sector level. Proactive in dealing with regulations and operating above industry standards (Aguilera, et al., 2007; Carroll, 1979) – mostly thanks to advanced infrastructures and technologies – BRECO strives to outstand these potential trade-offs. The CEO confirms that the company is seeking to adopt more advanced solutions than those required by the law: *"the longer term plan was: we were prepared to go beyond that. We are not content with that* [referring to the pollution generated in logistics processes] *and therefore we want to move into the bio-methane powered vehicles as quickly as possible* […] *with our anaerobic digestion plan, we are going to move those vehicles to running on bio-methane so the environmental impacts will be lower."*
BRECO thus strives to reduce the impact of emerging trade-offs in operations and throughout the entire supply chain.

To recapitulate, the company's aspiration to symbiosis between green and EFF^2 is suggested to activate a maturation process sketched in **Figure 5**. Green-EFF^2 maturation translates into a capacity to explore and exploit synergies in operations and the supply chain; accommodate to ambidextrous effects; and mitigate trade-offs, especially in logistic operations and after-sales services. Human factors and managerial challenges are found to be central to the maturation process. They determine the orientation of leading projections; in turn, these leading projections, if oriented toward the 'symbiosis' quadrant of the maturation *radar* as in the case of BRECO, stimulate impact projections in the way depicted in **Figure 5**. This constitutes a multi-level responsiveness business approach to ESR.

CONCLUSION

Overall, this paper reflects on the end goals and scenarios enabling an effective integration of green initiatives into the business strategy. The conceptual framework proposes that, in the quest for enhanced business efficiency and effectiveness, the importance of green to the firm is multi-faceted – whether this translates into trade-off, ambidexterity, synergy or symbiosis (Four Stages framework, **Figure 4**). The assumption is that these facets of compatibility between green and EFF^2 can emerge simultaneously, yet in different forms, throughout the primary and secondary activities of a business. Assuming that the achievement of strong compatibilities between green and EFF^2 is a business aspiration, thus aligning with Ansoff's conception of 'Environment Serving Organizations' (Ansoff & Sullivan, 1993; Moussetis, 2011) and Porter and Kramer's (2011) notion of shared value creation, it is the choice of management boards to implement strategies towards the integration and development of knowledge that may be used to balance business performance against green impact.

The case study attached in this paper provides an illustration of how the 'Four Stages' rationale applies to a real-life situation. The results indicate that the company adopts a long-term, value-oriented perspective in decision-making and applies a transformational/distributed leadership model. Evidence offered in the case shows that these approaches to decision-making and leadership contribute to enhance the capacity of the firm to envision actions upon different scenarios of compatibility between green and EFF^2 throughout the business; whether this implies to inform synergies, accommodate to ambidexterities or mitigate trade-offs in operations.
In iterating between these findings and theory, the analysis leads to frame the construct of ESR integration into a multi-level responsiveness model sketched in **Figure 5**. The model particularly illuminates the central role of Human Factors (Cho, 1994). That is, the aspiration of BRECO's leaders to a symbiosis activates a maturation process investing the company with the capability to respond to a variety of impacts between green and EFF^2 throughout the entire business. More precisely, the maturation process is composed of leading and operating (or impact) projections; the interactions or dynamics between these projections ultimately determine the level of ESR integration performance of the firm.

Conceptual in scope, the approach is not understood to constitute a discovery of new elements in the field of ESR/CSR but rather the heightening of awareness – drawn upon existing knowledge – for experience on ESR integration. This experience may have been overlooked in past research, hence causing a latent lack of clarity and transparency. The Four Stages framework and its empirical application offered in this paper aim to provide management decision-makers, and others, with a better representation of reality through more accurate knowledge of *performance targets* and scenarios for a profitable integration of green practices

into business strategic agendas. The analysis of the case of BRECO serves as an illustration, a basis for broader reflection on the topic.

Finally, by heightening awareness and opening up the prospects for clearer communication of ESR performance targets, it is hoped that this paper can lead to a better understanding of the way green work appears to business managers and, through that insight, lead to improvement in practice. Further research, extending upon this multi-faceted approach to ESR integration and testing the empirical validity of the propositions, would potentially reveal and consolidate new insights regarding environmental programmes that could make important contributions not only to research but to the practice of ESR and its effects in fostering societal change.

References

Ackoff, R. L. (1988). A theory of practice in the social systems sciences. *Systems Research, 5*(3), 241-246.

Aguilera, R. V., Rupp, D. E., Williams, C. A., & Ganapathi, J. (2007). Putting the S back in Corporate Social Responsibility: a multilevel theory of social change in organizations. *Academy of Management Review, 32*(3), 836-863.

Ambec, S., & Lanoie, P. (2008). Does it pay to be green? A systematic overview. *Academy of Management Perspectives, 22*(4), 45-62.

Ansoff, H. I., & Sullivan, P. A. (1993). Empirical proof of a paradigmatic theory for strategic success behaviours of environment serving organizations. *International Review of Strategic Management, 4*, 173-203.

Aupperle, K. E., Carroll, A. B., & Hatfield, J. D. (1985). An empirical examination of the relationship between corporate social responsibility and profitability. *Academy of Management Journal, 28*(2), 446-463.

Bansal, P., & Roth, K. (2000). Why companies go green: A model of ecological responsiveness. *Academy of Management Journal, 43*(4), 717-736.

Baron, D., & Diermeier, D. (2007). Strategic activism and nonmarket strategy. *Journal of Economics and Management Strategy, 16*(3), 599-634.

Berg, B. L. (2009). *Qualitative Research Methods For the Social Sciences*. Boston: Allyn & Bacon.

Bergin, M., Wellls, J. S. G., & Owen, S. (2008). Critical Realism: a philosophical framework for the study of gender and mental health. *Nursing Philosophy, 9*(3), 169-179.

Boiral, O. (2009). Greening the Corporation Through Organisational Citizenship Behaviors. *Journal of Business Ethics, 87*(2), 221-236.

Boyle, E. J., Higgins, M. M., & Rhee, S. G. (1997). Stock market reaction to ethical initiatives of defense contractors: theory and evidence. *Critical Perspectives on Accounting 8*(6), 541-561.

Branco, M. C., & Rodrigues, L. L. (2007). Positioning stakeholder theory within the debate on corporate social responsibility. *Electronic Journal of Business Ethics and Organization Studies, 12*(1), 5-15.

Branzei, O., Vertinsky, I., & Zietsma, C. (2000). *From green-blindness to the pursuit of eco-sustainability: an empirical investigation of leader cognitions and corporate environmental choices.* Paper presented at the Academy of Management Annual Meeting, Toronto, ON.

Busch, T. (2011). Organizational adaptation to disruptions in the natural environment: The case of climate change. *Scandinavian Journal of Management*.

Carroll, A. B. (1979). A three dimensional conceptual model of corporate social performance. *Academy of Management Review, 4*(4), 497-505.

Carroll, A. B., & Shabana, K. M. (2010). The Business Case for Corporate Social Responsibility: A Review of Concepts, Research and Practice. *International Journal of Management Reviews, 12*(1), 85-105.

Cho, D.-S. (1994). A dynamic approach to international competitiveness: the case of Korea. *Journal of Far Eastern Business, 1*(1), 17-36.

Christmann, P. (2004). Multinational companies and the natural environment: determinants of global environmental policy standardization. *Academy of Management Journal, 47*(5), 747-760.

Clarkson, M. B. E. (1991). Defining, evaluating, and managing corporate social performance: The stakeholder management model. *Research in Corporate Social Performance and Policy, 12*, 331-358.

Clarkson, M. B. E. (1995). A stakeholder framework for analyzing and evaluating corporate social performance. *Academy of Management Review, 20*(1), 92-117.

Cohen, B., & Winn, M. I. (2007). Market imperfections, opportunity and sustainable entrepreneurship. *Journal of Business Venturing, 22*(1), 29-49.

Cruz, J. M. (2009). The impact of corporate social responsibility in supply chain management: Multicriteria decision-making approach. [doi: DOI: 10.1016/j.dss.2009.07.013]. *Decision Support Systems, 48*(1), 224-236.

Devinney, T. M. (2009). Is the socially responsible corporation a myth? The good, the bad, and the ugly of Corporate Social Responsibility. *Academy of Management Perspectives, 23*(2), 44-56.

Dowell, G., Hart, S., & Yeung, B. (2000). Do corporate global environmental standards create or destroy market value? *Management Science, 46*(8), 1059-1074.

Drucker, P. F. (1954). *The Practice of Management*. New York: Harper & Row Publishers, Inc.

Duarte, F. (2010). Working with Corporate Social Responsibility in Brazilian Companies: The Role of Managers' Values in the Maintenance of CSR Cultures. *Journal of Business Ethics, 96*(3), 355-368.

Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review, 14*(4), 532-550.

Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: opportunities and challenges. *Academy of Management Journal, 50*(1), 25-32.

Elkington, J. (2004). Enter the triple bottom line. In A. Henriques & J. Richardson (Eds.), *The triple bottom line: does it all add up? Assessing the sustainability of Business and CSR* (pp. 1-16). London: Earthscan.

Florida, R. (1996). Lean and Green: The Move to Environmentally Conscious Manufacturing. *California Management Review, 39*(1), 80-105.

Glaser, B., & Strauss, A. (1967). *The Discovery of Grounded Theory*. Hawthorne, NY: Aldine Publishing Company.

Guerard, J. B. J. (1997). Is there a cost to being socially responsible in investing? *Journal of Investing, 6*(2), 11-18.

Gulati, R. (2007). Silo busting: How to execute on the promise of customer focus. *Harvard Business Review, 85*(5), 98-108.

Gustashaw, D., & Hall, R. W. (2008). From Lean to Green: Interface, Inc. *Association for Manufacturing Excellence's Target Magazine, 24*(5), 6-14.

Hahn, T., Figge, F., Pinkse, J., & Preuss, L. (2010). Trade-Offs in Corporate Sustainability: You Can't Have Your Cake and Eat It. *Business Strategy and the Environment, 19*(4), 217-229.

Hart, S. L. (1995). A natural resource-based view of the firm. *Academy of Management Review, 20*(4), 874-907.

Hart, S. L. (1997). Beyong Greening: Strategies for a Sustainable World. *Harvard Business Review, 75*(1), 66.

Hawken, P., Lovins, A. B., & Lovins, L. H. (2002). *Natural Capitalism. The Next Industrial Revolution*. London: Earthscan Publications Ltd.

Heikkurinen, P. (2010). Image Differentiation with Corporate Environmental Responsibility. *Corporate Social Responsibility and Environmental Management, 17*(3), 142-152.

Henriques, A., & Richardson, J. (2005). *The Triple Bottom Line: does it all add up?* London: Earthscan.

Hicks, B. J. (2007). Lean information management: Understanding and eliminating waste. *International Journal of Information Management, 27*(4), 233-249.

Hillman, A., & Keim, G. (2001). Shareholder value, stakeholder management, and social issues: what's the bottom line? *Strategic Management Journal, 22*(2), 125-139.

Kapoor, S., & Sandhu, H. S. (2010). Does it Pay to be Socially Responsible? An Empirical Examination of Impact of Corporate Social Responsibility on Financial Performance. *Global Business Review, 11*(2), 185-208.

King, A. A., & Lenox, M. J. (2000). Industry self-regulation without sanctions: the chemical industry's Responsible Care Program. *Academy of Management Journal, 43*(4), 698-716.

King, A. A., & Lenox, M. J. (2001a). Does it really pay to be green? An empirical study of firm environmental and financial performance. *Journal of Industrial Ecology, 5*(1), 105-116.

King, A. A., & Lenox, M. J. (2001b). Lean and Green? An empirical examination of the relationship between lean production and environmental performance. *Production and Operations Management, 10*(3), 244-256.

King, A. A., & Lenox, M. J. (2002). Exploring the locus of profitable pollution reduction. *Management Science, 48*(2), 289-299.

Kollman, T., & Stockman, C. (2008). Corporate Entrepreneurship. In C. Wanker (Ed.), *21st Century Management: A Reference Handbook*. London: Sage.

Kurucz, E., Colbert, B., & Wheeler, D. (2008). The business case for corporate social responsibility. In A. Crane, A. McWilliams, D. Matten, J. Moon & D. Siegle (Eds.), *The Oxford Hanbook of Corporate Social Responsibility* (pp. 83-112). Oxford: Oxford University Press.

Lawler, S. (2002). Narrative in Social Research. In T. May (Ed.), *Qualitative Research in Action* (pp. 242-258). London: Sage.

Lawler, S. (2008). *Identity: Sociological Perspectives*. Cambridge: Polity Press.

Lewin, K. (1951). Behavior and Development as a Function of the Total Situation. In C. D. (Ed.), *Field Theory in Social Science*. New York: Harper & Brothers.

Manning, P. K. (1982). Analytic Induction. In P. K. Manning & R. B. Smith (Eds.), *A handbook of social science methods* (pp. 273-302). Cambridge, MA: Ballinger.

Margolis, J. D., & Elfenbein, H. A. (2008). Do well by doing good? Don't count on it. *Harvard Business Review, 86*(1), 19-20.

Margolis, J. D., Elfenbein, H. A., & Walsh, J. P. (2007). Does it pay to be good? A meta-analysis and redirection of research on the relationship between corporate social and financial performance. Unpublished Working Paper. Harvard Business School.

Margolis, J. D., & Walsh, J. P. (2003). Misery loves companies: rethinking social initiatives by business. *Administrative Science Quarterly, 48*(2), 268-305.

Martinet, A.-C. (2010). Strategic planning, strategic management, strategic foresight: The seminal work of H. Igor Ansoff. *Technological Forecasting & Social Change, 77*(9), 1485-1487.

Mason, J. (2002). *Qualitative Researching*. London: Sage.

McCrea, B. (2010). Why "Green" equals good business. *Supply Chain Management Review, 14*(2), S56-S60.
McDonough, W., & Braungart, M. (2002). *Cradle to Cradle: Remaking the Way We Make Things*. New York: North Point Press.
McDuffie, J. P. (1995). Human Resource Bundles and Manufacturing Performance. *Industrial Labor Relations Review, 48*(2), 197-223.
McDuffie, J. P. (1997). The Road to 'Root Cause': Shop-Floor Problem Solving at Three Auto Assembly Plants. *Management Science, 43*(4), 479-502.
McNulty, E. J., & Davis, R. (2010). Should the C-Suite have a "Green" Seat? *Harvard Business Review, 88*(12), 133-137.
Melnyk, S., Sroufe, R., & Calantone, R. (2003). Assessing the impact of environmental management systems on corporate and environmental performance. *Journal of Operations Management, 21*(3), 329-351.
Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks, CA: Sage.
Molina-Azorín, J. F., Claver-Cortés, E., López-Gamero, M. D., & Tarí, J. J. (2009). Green management and financial performance: a literature review. *Management Decision, 47*(7).
Moussetis, R. (2011). How Ansoff interfaces with both the planning and learning schools of thought in strategy. *Journal of Management History, 17*(1), 102-125.
O'Reilly, C. A., & Tushman, M. L. (2008). Ambidexterity as a dynamic capability: Resolving the innovator's dilemma. *Research in Organizational Behavior, 28*, 185-206.
Orlitzky, M., Schmidt, F. L., & Rynes, S. L. (2003). Corporate social and financial performance: a meta-analysis. *Organisation Studies, 24*(3), 403-441.
Porter, M. E. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance*. New York & London: Press Ganey Associates.
Porter, M. E. (1990). *The competitive Advantage of Nations*. London: Macmillan.
Porter, M. E., & Kramer, M. R. (2002). The competitive advantage of corporate philanthropy. *Harvard Business Review, 80*(12), 56-69.
Porter, M. E., & Kramer, M. R. (2006). Strategy and society: the link between competitive advantage and corporate social responsibility. *Harvard Business Review, 84*(12), 78-92.
Porter, M. E., & Kramer, M. R. (2011). Creating shared value: How to reinvent capitalism - and unleash a wave of innovation and growth. *Harvard Business Review, 89*(1/2), 62-77.
Porter, M. E., & van der Linde, C. (1995a). Green and competitive: ending the stalemate. *Harvard Business Review, 73*(5), 120-134.
Porter, M. E., & van der Linde, C. (1995b). Toward a new conception of the environment-competitiveness relationship. *Journal of Economic Perspectives, 9*(4), 97-118.
Proctor, J. D. (1998). The social construction of nature: relativist accusations, pragmatist and critical realist responses. *Annals of the Association of American Geographers, 88*(3), 352-376.
Reddin, W. J. (1970). *Managerial Effectiveness*. New York: McGraw Hill.
Reinhardt, F. L., & Stavins, R. N. (2010). Corporate social responsibility, business strategy, and the environment. *Oxford Review of Economic Policy, 26*(2), 164-181.
Robèrt, K.-H. (2000). Tools and concepts for sustainable development, how do they relate to a general framework for sustainable development, and to each other? *The Journal of Cleaner Production, 8*(3), 243-254.
Robèrt, K.-H. (2002). *The Natural Step story. Seeking a quiet revolution*. Gabriola Island, Canada: New Society Publishers.

Robèrt, K.-H., Schmidt-Bleck, B., Aloisi de Larderel, J., Basile, G., Jansen, J. L., Kuehr, R., et al. (2002). Strategic sustainable development - selection, design and synergies of applied tools. *Journal of Cleaner Production, 10*(3), 197-214.

Rothenberg, S., Pil, F. K., & Maxwell, J. (2001). Lean, green, and the quest for superior environmental performance. *Production and Operations Management, 10*(3), 228-243.

Ryan, G. W., & Bernard, H. R. (2000). Data management and analysis methods. In Y. S. Lincoln & N. K. Denzin (Eds.), *Hanbook of Qualitative Research* (2nd ed., pp. 769-801). Thousand Oaks, CA: Sage.

Salama, A. (2005). A note on the impact of environmental performance on financial perfromance. *Structural Change and Economic Dynamics, 16*(3), 413-421.

Sayer, R. A. (2000). *Realism and Social Science*. London: Sage.

Schaltegger, S., & Figge, F. (2000). Environmental Shareholder Value: Economic Success with Corporate Environmental Management. *Eco-Management and Auditing, 7*(1), 29-42.

Schendler, A. (2009). *Getting green done: hard truths from the front lines of the sustainability revolution*. New York: Public Affairs.

Selsky, J. W., & Parker, B. (2005). Cross-sector partnerships to address social issues: challenges to theory and practice. *Journal of Management, 31*(6), 849-873.

Siegel, D. S. (2009). Green management matters only if it yields more green: an economic/strategic perspective. *Academy of Management Perspectives, 23*(3), 5-16.

Siegel, D. S., & Vitaliano, D. F. (2007). An empirical analysis of the strategic use of corporate social responsibility. *Journal of Economics and Management Strategy, 16*(3), 773-792.

Sigglekow, N. (2007). Persuasion with case studies. *Academy of Management Journal, 50*(1), 20-24.

Silverman, D. (2006). *Interpreting Qualitative Data*. London, Throusand Oaks, New Delhi: Sage.

Simons, D., & Mason, R. (2003). Lean and green: 'doing more with less'. *International Commerce Review: ECR Journal, 3*(1), 84-91.

Sully de Luque, M., Washburn, N. T., Waldman, D. A., & House, R. J. (2008). Unrequired profit: how stakeholder and economic values relate to subordinates' perceptions of leadership and firm performance. *Administrative Science Quarterly, 53*(4), 626-654.

Tate, W. L., Ellram, L. M., & Kirchoff, J. F. (2010). Corporate Social Responsibility Reports: A Thematic Analysis Related to Supply Chain Management. *Journal of Supply Chain Management, 46*(1), 19-44.

Trung, D., & Kumar, S. (2005). Resource use and waste management in Vietnam hotel industry. *Journal of Cleaner Production, 13*(2), 109-116.

Ullman, A. A. (1985). Data in search of a theory: a critical examination of the relationships among the social disclosure, and economic performance of U.S. firms. *Acadmey of Management Review, 10*(3), 540-557.

Valor, C. (2008). Can consumers buy responsibly? Analysis and solutions for market failures. *Journal of Consumer Policy, 31*(3), 315-326.

Vazquez, D. A., Plaza Ubeda, J., & Natenzon, C. (2009). Environment and vulnerability: the necessity for adaptation and entrepreneurship and the key role of stakeholders. In J. Wanker & J. Stoner (Eds.), *Management Education for Global Sustainability* (Vol. 8). Charlotte, NC: IAP Verma.

Vershoor, C., & Murphy, E. (2002). The financial perfromance of large US firms and those with global prominence: how do the best corporate citizens rate? *Business and Society Review, 107*(3), 371-380.

Visser, W. (2010). The age of responsibility: CSR 2.0 and the new DNA of business. *Journal of Business Systems, Governance and Ethics, 5*(3).
Waddock, S. A., & Graves, S. (1997). The corporate social performance - financial performance link. *Strategic Management Journal, 18*(4), 303-319.
Waldman, D. A., & Siegel, D. S. (2008). Defining the socially responsibile leader. *The Leadership Quarterly, 19*(1), 117-131.
Wartick, S. L., & Cochran, P. L. (1985). The evolution of the corporate social performance model. *Academy of Management Review, 110*(2), 191-212.
Wehrmeyer, W., Leitner, A., & Woodman, P. (2009). *Lean and green: leadership for a low-carbon future*. London: Chartered Management Institute.
Willms, D. G., Best, J. A., Taylor, D. W., Gilbert, J. R., Wilson, D. M. C., A., L. E., et al. (1990). A systematic approach for using qualitative methods in primary prevention research. *Medical Anthropology Quarterly, 4*(4), 391-409.
Winston, A. S. (2009). *Green recovery: get lean, get smart, and emerge from the downturn on top*. Boston, Mass.: Harvard Business Press.
Womack, J. P., & Jones, D. T. (1996). *Lean Thinking Banish Waste and Create Wealth in Your Corporation*. New York: Simon and Schuster.
Womack, J. P., Jones, D. T., & Roos, D. (1990). *The Machine that Changed the World*. New York: Rawson Associates.
Wright, P., & Ferris, S. P. (1997). Agency conflict and corporate strategy: the effect of divestment on corporate value. *Strategic Management Journal, 18*(1), 77-83.
Yin, R. K. (1984). *Case study research: Design and methods*. Beverly Hills, CA: Sage Publishing.
Zadek, S. (2004). The Path to Corporate Responsibility. [Article]. *Harvard Business Review, 82*(12), 125-132.