Chapter 10

Achieving greener growth: A business perspective for proactive commitment (Preprint version)

Fabien Martinez, Diego Alfonso Vazquez Brust, Ken Peattie and Keivan Zokaei

Abstract

This chapter examines the strategic integration of Environmental and Social Responsibility (ESR) into business operations. We contend that the enhancement of corporate productivity can be achieved via the symbiotic pursuit of green values and lean production practices. A framework is presented – drawing on the contingency theory (Burns & Stalker, 1961; Donaldson, 2008) – to suggest basic requirements for successful symbiotic ‘green and lean’ relationships. The model proposes that a sustainable corporate action plan, enabling a strategic orientation of lean and green decision-making, draws upon five interrelated dynamic contingencies: corporate values, consumption, business benefits, legislation, and technology.

The theoretical propositions are illustrated and extended using the case study of Adnams Brewery (Southwold, UK) – a company that has come to symbolise the benefits of adopting strong eco-friendly values to ‘green’ the business and its products. Drawing on in-site visits, interviews with Andy Wood (Managing Director) and analysis of corporate reports, the case corroborates the idea of a symbiotic relationship of lean and green. Adnams case ratifies the importance of integrating responses to the five dynamic contingencies as companies seek to combine business performance with good corporate citizenship. Strongly driven by technological excellence and ‘eco-friendly’ organisational values instilled by top managers and inciting employees’ commitment, Adnams is an instructive epitome of syncretism of ESR with economic performance; in particular, the company is effectively exploiting marketing opportunities – “strong brand and growing reputation” – and enhancing productivity.

Keywords: contingency theory, corporate values, environmental and social responsibility, lean and green.

10.1. INTRODUCTION

One of nature’s most critical cycles, Hawken et al. (2002) note, is the continual exchange of carbon dioxide (CO₂) and oxygen among plants and animals. CO₂ is building up in the atmosphere, due in part to combustion of fossil fuels, and the capacity of the natural system to recycle CO₂ has been exceeded (Hawken, et al., 2002). Collective human activity and industrial growth have been called into question by environmentalists and others concerned about the profligate nature of industrial processes translating into the rapacious use of resources and the disintegration of culture and environment (Cohen & Winn, 2007; McDonough & Braungart, 2002; Tate, Ellram, & Kirchhoff, 2010). The anthropogenic flows of material and energy strongly alter the eco-system (S.-O. Holm & Englund, 2009).

Hawken et al. (2002) warn that industry ingests energy, metals and minerals, water, and forest, fisheries, and farm products. It excretes liquids and solid waste – variously degradable or persistent toxic pollutants – and exhales gases, which are a form of molecular garbage (Hawken, et al., 2002). The often invisible, ‘taken for granted’ material flows and inherent waste are manifested in everyday

Citation : Martinez, F., Vazquez-Brust, D., Peattie, K., Zokaei, K. 2012. Achieving greener growth: a business perspective for proactive commitment. In D. Vazquez-Brust & J. Sarkis (Eds.), *Green Growth: Managing the transition to a Sustainable Economy* (Vol. 1, pp. 191-212). Dordrecht, Heidelberg, New York, London: Springer.

industrial or consumption activities; in particular, manufacturing processes represent by far the greatest source of environmental degradation (Hawken, et al., 2002).

In this context, corporate social and environmental issues are becoming increasingly visible and scrutinised. That is, stakeholders are more diligent in seeking to understand how corporate strategies integrate social and environmental improvement into strategic agendas and without compromising economic performance (Zadek, 2004). In responding to stakeholders' pressures, Drucker (1974) explained that managers must seek to convert society's needs into opportunities for profitable business. He further tones down the 'tokenistic' function or aspirations of businesses by contending that *"it is not enough for the business to provide just any economic goods and services; it must provide better and more economic ones. It is not necessary for a business to grow bigger; but it is necessary that it constantly grows better"* (Drucker, 1954, p. 34).

In fact, 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). The aim of this article is to discuss the strategic integration of Environmental Social Responsibility (henceforth, ESR) activities and impact on economic performance. We essentially address two research questions: how firms can simultaneously commit to ESR and enhance economic performance? What are the main contingencies facilitating or hampering the process? We present empirical evidence on how Adnams Brewery (Southwold, UK) implemented ESR strategies with corporate values and technological excellence as key drivers. The research combines secondary data (corporate reports) and primary data (face-to-face qualitative interviews with Adnams' MD and discussions with employees) to illustrate/extend the theoretical propositions.

10.2. THEORETICAL FRAMEWORK

In the following, we build on the literature addressing the topics of ESR and Corporate Social Responsibility (CSR) to comprehend the challenges facing businesses on how to address social and environmental issues without compromising financial stability – i.e. reducing production cost, exploiting marketing opportunities. This leads on to reflect on the compatibility between lean and green. Four stages of 'maturity' are identified: trade-off, ambidexterity, synergy and symbiosis. We conclude the theoretical framework by proposing a sustainable action plan embracing five dynamic contingencies – i.e. consumption, business benefits, technology, legislation and corporate values. Responding effectively to these contingencies is argued to be essential to the pursuit of symbiotic compatibility between *lean and green*.

10.2.1. Making a business case for ESR investment: entrepreneurship and ethical differentiation

There is a widely accepted view that CSR/ESR and goals of profit maximisation are compatible (inter alia, Orlitsky, Schmidt, & Rynes, 2003; Porter & Kramer, 2002; Siegel, 2009) but this argument has often been raised rather uncritically. There is another school of thought, principally influenced by the work of Milton Friedman, that the two objectives are fundamentally incompatible (e.g., Dienhart, 2008; Margolis & Elfenbein, 2008).

Devinney (2009) refutes the idea that corporations can be truly socially responsible because they have conflicting virtues and vices. The pursuit of immediate profits and pressures for productivity improvement in industrial operations are often incongruous to the engagement in purely philanthropic environmental or social activities. Yet, managers of publicly traded firms, Siegle (2009) explains, have a fiduciary responsibility to adopt 'green management' practices only if such actions complement the organisation's business and corporate-level strategies. The decision-making process regarding ESR initiatives is to be opportunistically and strategically oriented with a view to potentially generating tangible returns to the firm (Peloza, 2006; Siegel, 2009) and provoking a simultaneous

Citation : Martinez, F., Vazquez-Brust, D., Peattie, K., Zokaei, K. 2012. Achieving greener growth: a business perspective for proactive commitment. In D. Vazquez-Brust & J. Sarkis (Eds.), *Green Growth: Managing the transition to a Sustainable Economy* (Vol. 1, pp. 191-212). Dordrecht, Heidelberg, New York, London: Springer.

advancement of corporate and environmental goals (Siegel, 2009). We therefore suggest that the condition underpinning the moral 'tenability' of ESR is often the achievement of a syncretic equilibrium with shareholder interests and goals of growth and share price maximisation. ESR or CSR are viable only to the extent that corporations are convinced that there is some 'payoff' to the investment (Devinney, 2009). Devinney comments:

"...the holy grail of CSR [often used interchangeably with ESR] – 'doing well by doing good' – is an illusory goal that is noble in spirit but unachievable in practice...Corporations can be made more 'virtuous' on some dimensions, but this will invariably involve a price on other dimensions" (2009, pp. 45-46).

The term 'syncretic' is used to communicate the idea of an attempted reconciliation of divergent objectives (Kollman & Stockman, 2008). That is, business environmental initiatives can arguably alter part of the firm's (immediate) profitability, a trend long assumed by scholars as noted by King and Lenox (2001a); conversely, the quest for short term economic performance often discards 'peripheral', eco-friendly activities. Yet, businesses are confronted with the challenge discussed by Porter and Kramer (2002); and Kollman and Stockman (2008) of the simultaneous and 'ambidextrous' creation of value or economically productive uses of resources and the bold adoption and sustainability of environmentally and socially sensible actions. Managers seek to directly link enterprise sustainability to the creation of shareholder value (Hart & Milstein, 2003). The pursuit of syncretistic strategies is an alternative to bilateralism – whereby business goals of wealth creation are separated from or prevail against business ethics – which is argued to enhance both the firm's competitive position and its broader societal context (Porter & Kramer, 2002). In other words, the balancing of economic health, social equity and environmental resilience offers a long-term integrative perspective and provides opportunities for win-win solutions, the frequently proposed argument that pro-environmental business initiatives inevitably require a trade-off in economic profitability (Cohen & Winn, 2007; Winn & Kirchgeorg, 2005).

Entrepreneurship

Consistent with Siegel (2009), an economic analysis of ESR begins with the realisation that such activities have emerged in response to the perception or existence of a market failure; that is, instances where there is a divergence between the private and social costs of a firms' actions. The societal cost is defined as the private cost to the company plus an additional external cost generated by the production and delivery of a good or service that is not incurred by the producer, e.g. pollution and environmental degradation such as global warming, acid rain, and deforestation (Siegel, 2009). It follows that eco-efficient firms are to gain the competence to constantly spot excess, unwieldy outputs of industrial activities and develop alternative processes to trigger the reduction or removal of the external cost identified by Siegel (2009). This process requires to implement what Vazquez et al. (2009) refer to as practices of entrepreneurship whereby a firm manages to discover, evaluate and exploit the economic opportunities present in market imperfections hindering sustainable development. The scope of ESR extends beyond regulatory compliance to alleviate market failures and address the inherent social costs to further encompass activities or strategies aimed at simultaneously improving environmental and economic performance (Siegel, 2009). For instance, Siegel (2009) reports the efforts of Wal-Mart and British Petroleum (BP) to reduce pollution (partly through the reduction of greenhouse gas emissions) while enhancing their profitability. The achievement of the condition of syncretism of ESR with economic objectives is subject to the development of an industrial transformation enabling society to create a vital economy that uses radically less material and energy (Hawken, et al., 2002) and rewards green business entrepreneurship.

Ethical differentiation

The pursuit of a syncretic equilibrium can further translate into marketing opportunities and strategies of product differentiation that either signal superior quality (Siegel & Vitaliano, 2007) – as in the case of vertical differentiation, e.g. given the same characteristics/features, consumers would prefer to own a more fuel-efficient vehicle (Siegel, 2009) – or appeal to specific consumer's tastes, beliefs – as in the case of horizontal differentiation, e.g. consumer choice of brand is based on superior environmental performance (Siegel, 2009). The use of ESR as a quality improvement approach is often transparent and visible to competitors. This reduces the opportunity for first mover advantage, but ESR can generate consumer loyalty and other benefits that are uniquely valuable to the company (Porter & Kramer, 2002). Benefits that may arise from ESR include product differentiation, reputation/image enhancement, and improved relations with workers, customers, suppliers, government, and the community (Siegel, 2009). ESR can thus constitute a marketing tool (a sub-category of product differentiation) using *ethical differentiation* to signal a hierarchy of perceived product/service virtuousness, moral excellence.

In terms of valuing ESR and signalling moral excellence, there is a need to address the problem of information asymmetry reflecting the potential inability of consumers to determine whether a company's internal operations adhere to their expectations for ESR. This lack of knowledge on the part of consumers creates a market imperfection leading consumers to make only partially informed buying decisions (Cohen & Winn, 2007). To alleviate information asymmetry, Siegle (2009) distinguishes between persuasive ESR advertising and informational ESR advertising. Persuasive ESR advertising attempts to positively influence consumer tastes for products with ESR attributes. Informational ESR advertising merely provides information about the ESR characteristics or ESR managerial practices of the firm, and as such, is quite similar to ESR reporting.

To summarise, reducing or removing the external cost created by industrial processes (e.g. production, transport, etc) through entrepreneurial initiatives and exploiting marketing opportunities to signal positive ethicality of the firm are potential catalysts for ESR commitment and drivers for the achievement of syncretism. A recent insightful paper by Sully de Luque, Washburn, Waldman, and House (2008) further suggests that organisations with inspiring, transformational leaders possessing strong stakeholder values tend to have superior social and financial performance. The adoption of ESR is comprehended in this paper as a strategic choice that is not exclusively motivated by macro-level (inter alia, population, production, distribution, regulation) and meso-level forces (institutional domains and corporate units) but also embrace micro (individual) level influences – inter alia, cognition, emotions, values, roles, status, demographic (Bansal & Gao, 2006; Turner & Daily, 2008; Waldman, et al., 2006). An increasing number of business owners and managers are actually transforming their enterprises to become more environmentally responsible because of deeply rooted beliefs and values (Bénabou & Tirole, 2010; Hawken, et al., 2002; Waldman, et al., 2006).

10.2.2. The Four stages of compatibility between lean and green

This transformation is viewed by a number of authors (inter alia; Gustashaw & Hall, 2008; King & Lenox, 2001b; Simons & Mason, 2003; Wehrmeyer, Leitner, & Woodman, 2009) to occur via the adoption of lean thinking; in particular, lean systems are argued to yield high green results. Lean can be defined as a generic framework that supports continuous process improvement of manufacturing and production systems (Hicks, 2007). It helps to identify critical areas of improvement and, ultimately, bring about such improvement (Hicks, 2007).

The relation between lean and green remains however understudied. Siegel (2009); and Robèrt et al. (2002) stigmatise the lack of clarification (or transparency) about the ultimate objectives of 'green work'. In fact, examining firms' performance against more widely accepted ESR performance targets may prove to generate more clarity and transparency in the evaluation, implementation and

Citation : Martinez, F., Vazquez-Brust, D., Peattie, K., Zokaei, K. 2012. Achieving greener growth: a business perspective for proactive commitment. In D. Vazquez-Brust & J. Sarkis (Eds.), *Green Growth: Managing the transition to a Sustainable Economy* (Vol. 1, pp. 191-212). Dordrecht, Heidelberg, New York, London: Springer.

progress of green work. Stephen Stokes, vice president of sustainability and green technology for Boston based AMR Research, explains in McCrea (2010, p. 560): *“you have to get a sense of where you are right now before you can look at where you want to go.”*

In accounting for the lack of knowledge regarding the ultimate objectives of green work, we draw upon existing research to pose the assumption that lean may be associated with green in various ways. This is reflected in **Figure 10.2.2** as four stages of compatibility between lean and green which we label as trade-off (Hahn, Figge, Pinkse, & Preuss, 2010; Porter & van der Linde, 1995a, 1995b), ambidexterity (Aupperle, Carroll, & Hatfield, 1985; Kollman & Stockman, 2008; McNulty & Davis, 2010), synergy (Ambec & Lanoie, 2008; Dowell, Hart, & Yeung, 2000; Orlitsky, et al., 2003; Salama, 2005), and symbiosis (King & Lenox, 2001a, 2001b, 2002; Porter & van der Linde, 1995a, 1995b; Schaltegger & Figge, 2000; Siegel, 2009).

Trade-off exists when lean and green become mutually inhibitive instead of reinforcing one another. Ambidexterity is the state of being equally adept in the advancement of lean production practices and environmental performance, one complementing and/or adding to the other without significant correlation. Synergy consists of a catalytic effect between lean and green in a mutually beneficial relationship. Finally, symbiosis is proposed, notably by King and Lenox (2001b), to represent the most advanced stage of compatibility between lean and green. At this final stage, a relation of interdependency is inferred. **Figure 10.2.2** sketches these stages and attaches examples, notably extracted from Gulati (2007); and Porter and van der Linde (1995a).

FIGURE 10.2.2 about here

In using this framework as a diagnostic or mapping tool for evaluating green against lean, the wider economic consequences of strategic and operational decisions or change may be more effectively appreciated. The argument now extends to discuss the dynamic contingencies to be considered for the planning of ESR integration and the pursuit of lean/green symbiosis.

10.2.3. Planning lean & green: the four system conditions & the five dynamic contingencies

To reiterate, while corporate values and micro-level inspirations/aspirations are viewed as essential drivers for ESR, this paper stresses the economic benefits that may arise from reduction or removal of external cost generated by unwieldy industrial outputs, as identified by Siegle (2009) – thus ameliorating productivity – and exploitation of marketing opportunities – thereby maintaining or enhancing competitiveness. We further propose that the enhancement of corporate productivity can be achieved via the symbiotic pursuit of green *values* and lean production *practices*. A firm which manages to set up an innovative sustainable action plan can potentially harness the opportunity to put pressure on all of its major competitors – such was the case of Electrolux (Robèrt, 2002) – thereby leading the way to the symbiosis of lean and green.

The Natural Step and the four system conditions of Robèrt (2002) are put forward as fundamental basis for green management. A sustainable action plan embracing five dynamic contingencies – consumption, business benefits, legislation, technology and corporate values – is proposed as a guide to successfully associating lean with green, thereby achieving syncretic equilibrium of ESR with economic performance.

The Natural Step & the four system conditions

In ‘the Natural Step story’, Robèrt (2002, p. 64) advocates compliance with a set of principles to be followed – *“the four System Conditions”* – in order to achieve sustainability. These principles imply four suggested practices based on what is assumed to be the conditions for a sustainable society – i.e. (1) *“substitute certain materials that are scarce in nature with others that are more abundant, use*

Citation : Martinez, F., Vazquez-Brust, D., Peattie, K., Zokaei, K. 2012. Achieving greener growth: a business perspective for proactive commitment. In D. Vazquez-Brust & J. Sarkis (Eds.), *Green Growth: Managing the transition to a Sustainable Economy* (Vol. 1, pp. 191-212). Dordrecht, Heidelberg, New York, London: Springer.

all mined materials efficiently, and systematically reduce dependence on fossil fuels”; (2) “systematically substitute certain persistent and unnatural compounds with ones that are normally abundant or that break down more easily in nature, and use all substances produced by society efficiently”; (3) “draw resources only from well-managed ecosystems, systematically pursue the most productive and efficient use both of those resources and of land, and exercise caution in all kinds of modifications in nature”; (4) finally “use all of our resources efficiently, fairly, and responsibly so that the needs of all people on whom we have an impact now and the future needs of those not yet born stand the best chance of being met.”

Overall, the goal here is to positively select and exploit the ingredients from which a product is made, and how they are combined (McDonough & Braungart, 2002). Such substances as PVC, cadmium, lead, and mercury are known to be bioaccumulative and to cause such obvious harm that getting free of them is almost always a productive step (McDonough & Braungart, 2002).

Robèrt (2002) reports the experience of IKEA whose impressive strategic efforts to phase out non-sustainable activities led to the progressive elaboration of non-overlapping principles for successful planning in a complex system into a concrete framework for decision making. IKEA not only implemented a sophisticated programme for upstream waste management – as a result, the costs for waste management turned into profits within two years – but elaborated a system of outsourcing contracts and advertising activities to facilitate the marketing of sustainable products (e.g. Compact Fluorescent Lamp) at competitive prices (Robèrt, 2002).

The example of IKEA (and other companies like Scandic Hotels) demonstrates the salience of developing favourable conditions for individual creativity. This can be achieved by involving key stakeholders including employees and outsourcing collaborators, suppliers, clients, and other partners. Collaboration within supply chains allows for objectives and guidelines to be shared amongst shareholders and a common language to emerge. This can lead to mutual support within the supply chain to increase the pace of transition and achieve internal and external conciliation/engagement with system conditions (Robèrt, 2002). The example of the ICA chain of stores (Sweden) in Robèrt (2002) points to the importance of scientific knowledge to assess the impact of material resources or *“ecologically ludicrous substances”* (Robèrt, 2002, p. 96) on the ecosystem. Research and development; training and education can therefore be viewed as motors to meso-level (organisational) eco-efficiency; that is, they instigate micro-level (individual) eco-friendly actions in addition to creating in-house scientific expertise on sustainability.

According to Cohen et al. (2007); and McDonough et al. (2002), an *ideal* pace of transition is incremental and rigorously controlled with cautious reflections on costs inducement. The holistic achievement of the lean/green association requires delineating strategic ‘landmarks’ on which businesses can develop constructive responses to operational and environmental pressures.

Sustainable action plan & dynamic contingencies

The system conditions suggested by Robèrt (2002) are brought in our argument to constitute the underlying principles of a sustainable corporate action plan which, as illustrated in **Figure 10.2.3**, draws attention onto five interrelated dynamic contingencies: consumption, business benefits, technology, legislation and corporate values. We use the formulation ‘dynamic contingency’ to express the varying and evolving nature of consumption, potential for business benefits, technological amenities, regulatory framework and cultural premises around different regions and industries. This falls in line with Donaldson (2008) and the contingency theory (Burns & Stalker, 1961) in that we contend that managerial choices of organisational structure and strategy that produce the highest lean/green performance depend on the fit of the structure/strategy to the contingency factors proposed in this section. Each dynamic contingency influences the association lean/green on

Citation : Martinez, F., Vazquez-Brust, D., Peattie, K., Zokaei, K. 2012. Achieving greener growth: a business perspective for proactive commitment. In D. Vazquez-Brust & J. Sarkis (Eds.), *Green Growth: Managing the transition to a Sustainable Economy* (Vol. 1, pp. 191-212). Dordrecht, Heidelberg, New York, London: Springer.

various dimensions which are concisely outlined in the form of suggested guidelines in **Figure 10.2.3**. Hawken et al. (2002) classify the methods to increase industry's energy and material productivity into at least six categories which often reinforce one another: design; new technologies, controls, corporate culture, new processes and saving materials. The following contingency factors embrace all of these categories.

FIGURE 10.2.3 about here

Consumption – A holistic approach to lean and green is to be sought, notably via the promotion of collective actions to address social and environmental concerns (Zadek, 2004) thus embracing the consumption end of the supply chain. That is, market knowledge is to be gained to enable a firm to align with consumer values and expectations. For example, Scandic Hotels was going to be transformed into the “IKEA of hotels” and the overall guiding spirit was to communicate “*värdegemenskap*” – shared values with the customers (Robèrt, 2002, p. 88). A *lean/green* company is to integrate responses to the potential issue of information asymmetry (Cohen & Winn, 2007; Siegel, 2009) reflecting relative distance with consumers in the way ESR initiatives are perceived by consumers, communicated to consumers and may be misinterpreted or misunderstood at the consumption end of the supply chain. Coherent pricing strategies may be needed to signal high quality standards and express eco-friendly provisos. Cruz (2009) notes the salience of focusing attention on the consumption end of the supply chain. Environmentally conscious, shrewd consumers can significantly reduce environmental emissions through the economics by not buying environmental unfriendly products.

Business benefits – Sustainable entrepreneurs are potentially able to identify the opportunities present in market imperfection (Vazquez, et al., 2009) to venture toward the triple bottom line (Cohen & Winn, 2007). These opportunities for improvement are present at each stage of the supply chain; in particular, environmental prudence throughout the supply chain lowers costs in the long run not only for the company, but also for customers and vendors (Cruz, 2009). Exploitation of these marketing opportunities (Bansal & Gao, 2006) can substantially strengthen a firm's competitive position; in particular, continuous improvements strategies (Kaizen methods) can be used as a competitive differentiator both in terms of productivity (i.e. enhanced capabilities) and brand image. Minimising or annihilating company-external and company-internal distribution conflicts (e.g. inefficient flows of materials) can be a shining example to follow (Schaltegger & Figge, 2000) as a means to harness the quantitative and qualitative business benefits out of *lean/green* practices. Quantitative or tangible benefits include, inter alia, cost savings from energy efficiency, productivity increases and quality improvements. It is especially important to analyse the potential increase in shareholder value (Schaltegger & Figge, 2000) to create a strong motive for management to become actively involved in ESR, thus presenting a strong business case for the association of lean with green (Suh, Lee, & Ha, 2005). Qualitative or intangible benefits mainly translate into positive effects on reputation and brand perception (Siegel & Vitaliano, 2007). According to Zadek (2004), environmental and social responsibility can generate a competitive edge and contribute to the company's long-term success. Business benefits from ESR initiatives are reported by Zadek (2004) – who used the example of Nike – to be hard-won and frequently ephemeral or non-existent in the short term. A long-term perspective is therefore to be pursued by corporate leaders and bought by institutional and/or individual shareholders.

Legislation – As tough legislation is being established to enforce environmental responsibility and energy efficiency – especially on UK businesses (Adam, 2009) – a pro-active solution may be to seek governmental cooperation to implement sustainable operations throughout the supply chain. For example, McDonough & Braungart (2002) convey the experience of Ford who negotiated with the government to experiment with treating its soil in a new way. Pre-empting legal sanctions and even going beyond law with pro-active environmental thinking can in turn foster financial performance

and competitiveness (Cruz, 2009; Zadek, 2004); that is, taking the lead in green management practices may obviate the risk of further or higher governmental taxations (e.g. *'la taxe carbone'* in France) or consumer boycott led by an NGO (Baron & Diermeier, 2007). It is worth noting that Small and Medium Enterprises generally operate under less stringent environmental regulations than larger firms (Suh, et al., 2005). To epitomise the critical impact of regulations, Dam and Sholtens (2008) provide evidence that firms with poor social ESR tend to move their operations to countries with weak regulation whereas more responsible firms tend to avoid locating their operations in these countries. Besides, some companies, Hawken et al. (2002) convey, would only invest in ESR activities to meet regulations – e.g. Nike's ESR commitment is principally driven by the increasing volume of environmental legislation primarily coming out of Europe (Charter, 2001, p. 53).

Technology – A company's level of commitment to ESR can be appraised in terms of several actions; including the extent to which the firm uses clean energy and alternative fuels, recycles, derives substantial revenue from products that promote or generate environmental benefits, yields hazardous waste and toxic emissions, and violates environmental statutes (Waldman, et al., 2006). Effectively associating lean with green requires to gain internal flexibility in implementing self-designed voluntary standards (Cruz, 2009) or endogenous innovation. Internally conceived eco-friendly responses are to be developed to address the scientific implications of business activities on eco-systems notably via the use of satisfactory technologies which reduce waste and pollution. Such initiatives may go beyond existing, readily available information as to the contents of a given product and possible harmful effects on the environment. The objective is to acquire and/or develop the capacity to reduce the use of problematic substances or resources and lean toward eco-efficiency and quality excellence through the marketing of products that generate nutritious effects on the environment (McDonough & Braungart, 2002) – e.g. *"cars designed to release positive emissions"* (McDonough & Braungart, 2002, p. 179). That is, according to Cohen and Winn (2007); and Cruz (2009), efficient exploitation of technological or scientific resources or uptake of innovation in environmental technologies can generate positive environmental externalities, thus remediating polluted eco-systems to (ideally) enable regenerative ecological capacity which may result in increased species diversity and greater resiliency.

Hollender (2004) observes that businesses are often looking for non-profit partners to help them in the ESR process. The firm may not have the experience and expertise needed to develop these plans; it is thus sensible to create partnerships with associations, NGOs, or consultants who can help to address those challenges in a responsible manner (Nissan, 2009). In the quest for technological excellence, *lean/green* firms can exploit the option of collaborative practices whereby external experts are consulted to situate potential areas for improvement and propose alternative solutions. For example, Nissan (2009) contracted out the responsibility for waste management to Initial Industrial Services with a view to operating a sustainable facility and substantially reducing manufacturing emissions.

Using innovative technologies is critical to the effective association of lean with green. It amounts to embarking everyone within the organisation to eliminate profligacy – i.e. continuous overuse of energy and resources – throughout supply chain processes and alternatively spread the notion of frugality – i.e. being economical in use or expenditure of resources, prudently saving or sparing; not wasteful. A frugal manager/employee may be a sustainable manager/employee who is engaged in dealing responsibly with waste (Hawken, et al., 2002). Hawken et al. (2002) advocate the establishment of continuous monitoring methods – in the form of measurement and control intelligence – to enhance the purity of products and production processes. Strategies to reduce carbon footprint also include environmental management systems, waste recycling, implementation of environmental performance measures and sustainable building. The overall idea is to reduce CO₂ emissions and instigate accurate monitoring of energy consumption, staff environmental awareness (travel, lights, waste, etc...), product design improvements, and eco-friendly supply chain and water

management. Intensifying competitive pressures to preserve the biosphere by saving resources are giving rise to exciting frontiers for chemists, physicists, process engineers, biologists and industrial designers. Businesses are increasingly inclined to respond by reviewing the energy, materials, and manufacturing systems required to provide the specific product qualities (strength, warmth, structure, protection, function, speed, tension, motion, skin) expected by end users and are turning away from mechanical systems requiring heavy metals, combustion, and petroleum to seek solutions, that use minimal inputs, lower temperatures, and enzymatic reactions (Hawken, et al., 2002). This evolution can be referred to as the substitution of conventional raw materials by environmentally friendly materials; a transition which may require heavy expenses and is therefore difficult to implement (Charter, 2001). Some Businesses are switching to imitating biological and ecosystem processes through the replication of natural methods of production and engineering to manufacture chemicals, materials, and compounds, and even microprocessors (Hawken, et al., 2002). This refers to the concept of biomimicry experimented, for instance, by Nike to develop a combination of learning from nature and utilisation of sophisticated chemistry and science (Charter, 2001). The most exciting technological developments have often resulted from emulating nature's life temperature, low-pressure, solar-powered assembly techniques, whose products rival anything human-made.

Corporate values – The fifth and last dynamic contingency influencing the association of lean with green is concerned with business values as the expression and commitment to spiritual principles sealing a set of strategic and behavioural guidelines in daily business activities. Infusing corporate values translating the vision of a sustainable future requires building awareness or 'educating' the personnel – especially front line employees – and encouraging individual creativity, inspiration within the organisation. To understand why business organisations are engaging in CSR, Aguilera et al.(2007) and Secchi (2007) argue that corporations are being pressured not just by external actors such as NGOs and the government but also internal actors (e.g. employees). The establishment of a strategic social or philanthropic agenda indicating corporate awareness at the meso level (Aguilera, et al., 2007; J. Holm & Stauning, 2002) of its social and environmental impact or its exposition to the influence of wider stakeholders can therefore emerge not only externally but internally at micro level (Aguilera, et al., 2007; Secchi, 2007) through personal convictions or values of individual agents of management whose prosocial behaviour (Bénabou & Tirole, 2010), sensibility and proximity to the cause ultimately determine the possibility of engaging firm's resources. The implication is that corporate values are instilled by business leaders whose charisma and degree of sensitivity or awareness vis-à-vis environmental ills determine the propensity of ESR engagement (Hollender, 2004; Martinez & Agüero, 2005; Waldman, et al., 2006).

This dimension was essential to Scandic Hotels in its quest to 'greening' all its activities (Robèrt, 2002). The traditional top-down managerial styles may be revised to promote greater worker self-management that delivers more flexibility, productivity and conditions improvement. Employees – especially front line associates – can offer/generate ideas to improve environmental performance. Spreading the notion of frugality – possibly via the three Rs: Reduce, Reuse, and Recycle – permits to minimise waste and emissions from operations, lean toward 'zero landfill' and prevent pollution by focusing everyone's attention on where to get the most advantage of their environmental efforts (Hart & Milstein, 2003; Huppel & Ishikawa, 2007). Ultimately, this idea of involving all staff can generate substantial cost savings, more particularly for manufacturers (Zadek, 2004). It can practically translate into the utilisation of a 'balanced scorecard' (BSC) system whereby the execution of activities by staff are tracked and controlled by managers. The BSC provides a means for controlling and coordinating decision making via the translation of corporate vision into meaningful measures for managers and employees alike (Norreklit, Jacobsen, & Mitchell, 2008). To be truly *lean/green*, a firm must strive to involve all staff from the bottom to the top in constantly improving environmental impact. Fundamentally, the impact of micro-level activities within an organisation and the role of individual agents of management to promote worthwhile CSR goals are to be firmly

Citation : Martinez, F., Vazquez-Brust, D., Peattie, K., Zokaei, K. 2012. Achieving greener growth: a business perspective for proactive commitment. In D. Vazquez-Brust & J. Sarkis (Eds.), *Green Growth: Managing the transition to a Sustainable Economy* (Vol. 1, pp. 191-212). Dordrecht, Heidelberg, New York, London: Springer.

emphasised. Corporate values determining the proclivity of managerial decisions to adopt more sustainable materials and business practices must be further extended onto suppliers with a view to achieving homogeneity of ethical standards throughout the entire supply chain and ‘holistically’ coordinate ESR efforts.

As previously noted, local climate and infrastructures can be added as constant, relatively foreseeable contingency implying different degrees of adaptation and responses to the dynamic contingencies. Having crystal-clear views on the five aspects sketched in **Figure 10.2.3** can be viewed as a condition to the simultaneous pursuit of eco-efficiency and economic performance. That is, management choices may be *“based on the best information available to them, and on their aesthetic judgment”* (McDonough & Braungart, 2002, p. 169). A firm which manages to set up an innovative sustainable action plan can potentially harness the opportunity to put pressure on all of its major competitors (Cohen & Winn, 2007) – such was the case of Electrolux (Robèrt, 2002) – thereby leading the way to the successful integration of lean and green. Robèrt (2002) lays stress on the capacity of businesses to make predictable sense out of the endpoint of sustainability via such a planning technique notably used by IKEA as backcasting – i.e. planning ahead from a starting point of success in the future; in other words, what the firm could do today to get to a successful result envisaged in the future.

Developing strategic, tactical, and operational responses embracing the five dynamic contingencies arguably allows business managers to develop a range of tools and techniques to evaluate the impact of ESR initiatives on their key objectives – i.e. profit, environment and risk (Cruz, 2009) – thereby empowering them to effectively put the association lean/green into practice. Life cycle assessments (LCA) – notably used by Nike (Charter, 2001) – are an effective tool to fully understand the impact of managerial decisions from all perspectives – i.e. economical, environmental and social.

We now illustrate and extend the theoretical propositions drawn above through the case study of Adnams Brewery.

10.3. ADNAMS CASE STUDY

Adnams Brewery¹ has come to symbolise the benefits of strong eco-friendly values driving to ‘green’ the business and its products (e.g. Adnams’ carbon-neutral East Green beer) with a view to reducing carbon emissions and combating climate change. The efforts of the company to generate a positive impact on the environment while preserving business interests are discussed. Particular emphasis is placed on the salience of combining ‘pro-ethical’ corporate values with technological excellence to ultimately harness substantial business benefits. Drawing on in-site visits, an interview with Andy Wood (Chief Executive), and corporate reports, we explain how Adnams successfully transposed green thinking and the use of eco-efficient technologies into quality, cost and delivery improvements – i.e. lean approach. However, Adnams’ decision makers are to further reflect on how to turn the radical (technological) improvements – achieved via the acquisition of new brewing system and distribution depot – to a long-term sustainable plan with continuous improvement as driving *philosophy* (**Figure 10.3.1**).

10.3.1. The greening process and related benefits

Adnams demonstrates a remarkable emphasis on corporate values in the quest for the best environmental and social practices. These values, combined with technological excellence, not only

¹ The principal activity of Adnams Brewery is to produce cask ale and pasteurised bottled beers with an annual production of around 85.000 barrels for distribution mainly in East Anglia. The evolution and growth of the company led to the development of diverse business activities. Adnams can now be defined as a brewer, hotelier, wine and kitchenware merchant and owner of 74 non-themed pubs. Moreover, its distribution centre allows or the direct supply of more than a thousand other outlets.

Citation : Martinez, F., Vazquez-Brust, D., Peattie, K., Zokaei, K. 2012. Achieving greener growth: a business perspective for proactive commitment. In D. Vazquez-Brust & J. Sarkis (Eds.), *Green Growth: Managing the transition to a Sustainable Economy* (Vol. 1, pp. 191-212). Dordrecht, Heidelberg, New York, London: Springer.

enabled substantial improvements in terms of environmental performance but generated quantitative and qualitative business benefits principally in the form of cost savings and brand image. **Figure 10.3.1** is our conceptualisation of the strategy adopted by Adnams to associate the 'greening' of its activities with optimised business performance. In the following, we discuss the impact of corporate values and technology on the progress of the company. Next, we put forward the quantitative and qualitative benefits obtained by Adnams as a result of its pro-environmental strategic orientation and recommend future directions to *profitably* push forward the greening process (**Figure 10.3.1**).

FIGURE 10.3.1 about here

10.3.1.1. The ethos of Adnams' inspirational leaders & full adherence of staff

Adnams Brewery is an innovative company that dares to initiate changes and where top managers have a strong ethos about how companies may behave and improve the brewery's green credentials, hence seeking to be a reference in corporate responsibility. Company's MD, Dr. Andy Wood, has been instrumental in leading Adnams in a transformational and distributed fashion into one of the most environmentally-proactive brewers in the UK. A top-down approach is prescribed with the fundamental role of inspirational leaders who express clear values to determine the business route to social and environmental responsibility. This falls in line with Hollender (2004) who advocates the need to become clear about what are the values of the company prior to bringing environmentally and socially responsible goals to life. In Adnams, these values are constructed within the organisation, have a collective approbation, most essentially from the top of the company and shareholders. They concretely translate into a collective momentum of social and environmental sensitivity within the firm which, in turn, transpires into adherence of staff; for instance, employees are reported to be competitive in becoming the 'environmental super- hero' of the firm by spotting areas of improvement and proposing best alternatives².

Adnams' decision-makers can be defined as transformational leaders (Waldman, et al., 2006) who possess the boldness and inspirations to make environmentally and economically sensible changes. The firm is in fact committed to exercising high attention onto the environmental impact of its operations through the association of social and business benefits with long-term sustainable success.

The case of Adnams ratifies the importance of the willingness of agents of management in developing environmentally and socially sensible actions. According to Adnams MD, the business route of Adnams is prevalently determined by the vision of a long-term, sustainable future. Although the economic viability of eco-friendly initiatives is not omitted, ESR actions are not essentially validated by immediate cost-benefit analysis.

Long-term strategic orientation, the continuous pursuit of positive impact on its environment and its inclination to encourage individual creativity, inspirations are the key features of Adnams' ethos. What Andy Wood refers to as "*enlightened self-interest*" led Adnams to take a different path and create greater value, which translates into competitive distinction. The association of applied pro-ethical values with the quest for technological excellence leads to an effective symbiosis of lean production practices and visionary 'green proclivities', as illustrated in **Figure 10.3.1**.

10.3.1.2. Technological excellence for a radical *green transition*

As mentioned above, Adnams is run by transformational leaders whose dispositions to adopt innovative management and production methods have influenced infrastructure decisions with the

² Focusing all activities on the environment is imprinted into the culture of the company; in particular, considering environmental impact has become second nature to the staff. Adnams thus operates in phase with the "*beauty of its environment*" (Andy Wood) and its aspiration to fulfill high ethical standards. In turn, environmental awareness impinges on operations in a highly productive way with substantial reduction of waste, unwieldy outputs and production costs.

Citation : Martinez, F., Vazquez-Brust, D., Peattie, K., Zokaei, K. 2012. Achieving greener growth: a business perspective for proactive commitment. In D. Vazquez-Brust & J. Sarkis (Eds.), *Green Growth: Managing the transition to a Sustainable Economy* (Vol. 1, pp. 191-212). Dordrecht, Heidelberg, New York, London: Springer.

acquisition of state-of-the-art technologies and building for all major business activities. In fact, the radical green transition enabled by the acquisition of ultra-efficient technologies resulted in substantial reduction of waste and enhancement of productivity via a more efficient delivery of operational effectiveness. **Figure 10.3.1.2** provides statistical evidence of savings in CO₂ emissions in the brewing process (19%), transport (20%), bottling process (18%), and bottle manufacture (34%) of East Green beer.

FIGURE 10.3.1.2 about here

On a more qualitative note, Adnams' efforts to invest in new technologies positively influenced its relationships with the wider stakeholders, including, inter alia, the local community, governmental institutions, customers and consumers. In fact, various stakeholders were, and still are, incorporated into the process of innovation; e.g. Cambridge University, the University of East Anglia and local associations.

Scientific 'green proclivities' translate into the acquisition of an innovative brewing system and state-of-the-art, eco-efficient distribution depot.

Ultra-efficient brewing equipment

One of the first heavy investments of the company occurred in 2006-7 to replace the 100-year old brewing system with a spanking new one which recycles 100 per cent of the heat it uses to provide 90 per cent of the energy for the next brew. The need to improve the brewing system principally emerged to provide Adnams with new capabilities intended to create a leaner production system, reducing wastage and related costs. The new system needs just 3.1 pints of water to produce a pint of beer. By contrast, the old machinery used 8 pints of water to make a pint of beer. This Adnams Brewstream, as it is called, hence represents a substantial path forward in terms of eco-efficiency and cost reduction. And the objective advanced by Andy Wood is to further reduce the quantity of water used to only three pints.

The brewing system is completely computerised which significantly reduces human activities and flows of material inside the brewery, minimising thereby potential areas of waste effluences and redundancies; for instance, it takes 1^{1/2} person to run and monitor the brewing 'computerised' system. This automation is again an important tool that justifies the investment in the new brewhouse as part of Adnams' commitment to aiding the environment and achieving a high degree of compatibility between green and business economic performance.

State-of-the-art distribution depot

The second important move of Adnams in the quest for greener and leaner business activities consists of the distribution depot built in 2006 in the neighbouring village of Reydon. Adnams' investment marked the product's first commercial scale application in the UK. According to Andy Woods, the decision to build this eco-efficient distribution depot was driven equally by business sense and environmental credentials. The sunken buildings are almost invisible from the road – for they are built seven metres underground out of hemp – and have grassed roofs which not only merge with the natural environment but use reed beds to catch and recycle rain water. The recycled water is then used in the plant, notably to water the grass roof, flush toilets and wash goods vehicles. The construction was executed with innovative material now enabling the firm to save 50% on electricity and gas and constituting substantial cost savings.

Citation : Martinez, F., Vazquez-Brust, D., Peattie, K., Zokaei, K. 2012. Achieving greener growth: a business perspective for proactive commitment. In D. Vazquez-Brust & J. Sarkis (Eds.), *Green Growth: Managing the transition to a Sustainable Economy* (Vol. 1, pp. 191-212). Dordrecht, Heidelberg, New York, London: Springer.

The project clearly manifests the commitment of Adnams to innovate sustainably, using a building that combines environmentally sensible elements. In fact, this move is attesting that an environmentally-friendly building is able to meet the financial and operational requirements of one of the UK's most progressive brewers that have sustainable development at the heart of everything it does.

Yet, during our visit, we did not notice any visible sign of active waste management. Also, Adnams still needs to deal with latent operational impediments principally caused by the use of different standards of palletisation of beers and wines among customers across Europe. This represents an inhibitor to the performance of the distribution centre – generating storage inconveniences – which currently proceeds to 8-12 deliveries per day. Moreover, the company is outsourcing bottling and the concomitant additional transports generate risks of dilution – generally considered as one of the latent downsides of industrial activities.

Overall, the acquisitions of a new brewery system and innovative distribution depot gave Adnams a strong scientific momentum to push the boundaries of eco-efficiency in addition to enhancing productivity and leaning business activities. In other words and as sketched in **Figure 10.3.1**, the scientific green proclivities acquired by Adnams and its strong pro-environmental ethos promoted by transformational leaders constitute effective impetuses to the implementation of lean production practices and new business capabilities with superior returns on investment – a conclusion validated by Andy Wood.

10.3.2. Quantitative/qualitative business benefits & the move to continuous improvement

The disposition of the company to put into effect green thinking and innovative technologies generates a number of quantitative and qualitative benefits which are, to some extent inadvertent, outcomes of a successful symbiosis of lean and green.

To begin with, the most visible, quantifiable business benefits are principally reflected by substantial cost savings from energy efficiency. Albeit Adnams has significantly invested over the recent years with the purchases of a new brewing system and the distribution centre, the financial stability of the firm is not imperilled. In fact, the financial efforts consented are expected to pay off in the long-term thanks to economies in energy and production cost – not mentioning quality improvement – that are continuously being realised since the company started to exploit its new technologies. It is now apparent that engagement in green responsibility became part of the everyday processes in Adnams and, as such, does not require that much of additional resources to make this happen. The company is therefore doing increasingly better by being prevalently green. For instance, the operating profits recorded in 2009 at £922,000 are substantially higher than the £142,000 achieved the previous year. Yet, these financial results are not regarded as paramount indicators of performance by the board of directors insofar as they only reflect snapshots from what is envisioned to be a long-term story. The company holds a leading position within the competition with the main competitors striving to catch up as they face the obligation to regain competitive momentum by targeting the environmental standards of Adnams Brewery. The market conjuncture is also favourable with the notable revival of cask beers, a strong heritage of Adnams.

To give a concrete illustration of the promising business performance and outstanding green credentials of Adnams, the firm recently concluded a deal with supermarket giant Tesco for an exclusive six month distribution of the carbon neutral 'East Green' beer. The beer is now available bottled and on draught in 508 Tesco stores throughout the country. This move was initiated by Tesco who suggested the production of a carbon neutral beer to Adnams whose strong commitment to preserve the environment appears to find echoes among big retailers and beyond East Anglia's borders. Meanwhile, the firm signed a 5 year agreement to supply Ipswich Town FC with beers at

Citation : Martinez, F., Vazquez-Brust, D., Peattie, K., Zokaei, K. 2012. Achieving greener growth: a business perspective for proactive commitment. In D. Vazquez-Brust & J. Sarkis (Eds.), *Green Growth: Managing the transition to a Sustainable Economy* (Vol. 1, pp. 191-212). Dordrecht, Heidelberg, New York, London: Springer.

their Portman Road stadium replacing the 14 year old association with Greene King. With growing capabilities, productivity and better quality, the sustainable brewery is attracting and seizing new commercial opportunities. It presents a healthy financial position which is to be red and comprehended essentially by envisioning long-term business performance.

On a more qualitative note, the firm also enjoys a strong brand image and growing reputation; in particular, the commitment to environmental and social responsibility helped the business to shape and reflect public opinion in a way that positively affects its *"license to operate"* (Andy Wood). The unsolicited initiative of Tesco is a meaningful illustration. The firm thus seeks to influence the influencers (lobbyists, legislators, opinion formers) to the company's advantage via (in-house developed) socially responsible policies. Suppliers are also associated to the pursuit of green activities. However, while the Brewery sets high expectations on its suppliers to meet its environmental standards and is working not only up to but beyond regulations, thus outperforming competitors, the consumption side of the supply chain is still to be tracked. That is, wastage and/or CO₂ emissions generated by the consumption of Adnams beers are not yet estimated. The dotted arrow leading to consumption in **Figure 10.3.1** suggests that further efforts may be undertaken to optimise the firm's impact on consumers. An objective may be to reduce CO₂ emissions on the consumption side of the supply chain with a view to strengthening the compatibility between EFF² and green and making truly 'holistic' improvements in the supply chain (Simons & Mason, 2003). For example, plans to raise awareness through informational and/or persuasive advertising methods (Siegel, 2009) may be established. In a similar line, Adnams is currently working in collaboration with external organisations, experts (including the University of East Anglia and its MBA programme) to further improve its lean and green performance. Through such partnerships, the company seeks to gain the competence to effectively measure all quantitative and qualitative benefits, thus continuously optimising its capacity to spot areas of improvements (**Figure 10.3.1**: 'continuous improvement' box and **Figure 10.3.2**). For example, collaborations with the University of East Anglia recently enabled Adnams to produce the country's first carbon neutral beer ('East Green') via a thorough analysis of the whole supply chain, from the farming to the malt, to brewing, the bottling process and logistics, movement to the warehouse and delivery to the pub. The deal with Tesco was concluded as a result of this fructuous collaboration. The firm also worked with Cambridge University to investigate anaerobic digestion – i.e. the use of microorganisms to break down biodegradable material.

To sum up, the transition to effectively greener and leaner production practices has been radically boosted by the acquisition of innovative technologies and pro-ethical organisational values which took 15 years to put into place. This approach falls in line with Adnams' focus on sustainability. Yet, it does not fully satisfy the requirements for long-term environmental, social and business performance if it is not complemented or followed by a focus on continuous improvement. The positive results in terms of eco-efficiency and productivity emerged relatively fast. In fact, the heavy investments of Adnams in innovative technologies substantially accelerated the integration of environmental concerns into business operations but may not secure long-term, sustainable performance. In fact, the 'greening' strategy of Adnams cannot be strictly assimilated with the 'conventional' method of incremental, step-by-step improvements recommended by, inter alia, Robèrt (2002) in *'The Natural Step Story: Seeking a Quite Revolution'* and McDonough and Braungart (2002) in *'Cradle to Cradle: Remaking the Way We Make Things'*. It may be appropriate to envision a transition from radical improvement changes – with technological excellence as key driver – to continuous improvement by leaning the morphology of the business system – thereby tracking the consumer journey. Adnams would thus use a *more conventional* approach in its attempt to venture toward symbiotic compatibility of green and operational effectiveness and efficiency (abbreviated herein as EFF²). **Figure 10.3.2** illustrates not only the need to use lean tools to improve performance but also the salience of encouraging behaviours focused on continuous improvement to provide sustainable long-term improvement. Andy Wood (company's MD) sees the next stage in Adnams

Citation : Martinez, F., Vazquez-Brust, D., Peattie, K., Zokaei, K. 2012. Achieving greener growth: a business perspective for proactive commitment. In D. Vazquez-Brust & J. Sarkis (Eds.), *Green Growth: Managing the transition to a Sustainable Economy* (Vol. 1, pp. 191-212). Dordrecht, Heidelberg, New York, London: Springer.

evolution to be a much more systemised way of measuring and communicating environmental issues both top-down and bottom-up.

FIGURE 10.3.2 about here

Hines, Found, Griffiths, and Harrison (2008, p. 8) propose ten tips for adopting a long-term continuous improvement plan (green curve in **Figure 10.3.2**):

1. *"Think of lean as a philosophy for success rather than a series of tools and techniques.*
2. *Apply Lean right across the organisation, not just in the parts the textbooks talk about.*
3. *Focus on improving processes or value streams, not departments.*
4. *Link everything you do to creating value for your customers, your organisation and your people.*
5. *Don't just copy others, think through your approach, based on what you are trying to achieve.*
6. *Make everyone aware of what you are trying to achieve and why.*
7. *Align your communication and key performance measures to creating and sustaining a Lean organisation.*
8. *Provide sufficient resources in terms of people and training right across the organisation, not just your Lean coaches.*
9. *Leaders need to not just talk about Lean; they need to demonstrate in their actions that they are serious."*

10.4. Conclusion

To conclude, the review of existing knowledge in the area of ESR leads to make a number of propositions as to the integration of eco-friendly activities into businesses' strategic agendas. We contend that the condition underpinning the moral tenability of ESR is often the achievement of a syncretic coherence with goals of growth and shareholder value creation. Ethical entrepreneurship and differentiation are viewed as potential pathways to syncretism with ESR integration contributing to reduce the production/manufacturing cost (Siegel, 2009) and exploit of marketing opportunities. The compatibility between lean and green is framed as four stages: trade-off, ambidexterity, synergy and symbiosis. We further propose compliance of *lean/green* firms with a sustainable action plan based on the four system conditions of Robèrt (2002). Through this plan, we advocate the salience of five dynamic contingencies: consumption, business benefits, legislation, technology and corporate values. Brief guidelines drawing upon the dynamic contingencies for the simultaneous achievement of eco-efficiency and economic performance are suggested in **Figure 10.2.2**.

The case of Adnams leads to examine a strategic pathway to the simultaneous achievement of green and economic performance. **Figure 10.3.1** serves as an illustrative synthesis of the firm's strategy to address the five dynamic contingencies and *green* its activities. Most essentially, the framework highlights the prevalence of a top-down approach with visionary and scientific green proclivities generating substantial business benefits. That is, Adnams appears to place a strong emphasis on technological excellence and 'eco-friendly' organisational values instilled by top managers. These values are widely approved by shareholders and are claimed to incite employees' commitment. As a result, the firm became more productive while substantially reducing CO₂ emissions throughout the supply chains of its various activities – as illustrated in **Figure 10.3.1.2** with the example of the East Green bottle of beer. The company is now seizing opportunities to grow its reputation, widen its commercial appeal and enter new markets – e.g. Tesco, Ipswich Town FC.

Competitors are now striving to catch up with Adnams which pro-environmental business vision and technological advancement can be considered as references in the brewing industry. **Figure 10.3.2** sketches the pathway that Adnams, according to Andy Wood, aspires to follow with a view to

Citation : Martinez, F., Vazquez-Brust, D., Peattie, K., Zokaei, K. 2012. Achieving greener growth: a business perspective for proactive commitment. In D. Vazquez-Brust & J. Sarkis (Eds.), *Green Growth: Managing the transition to a Sustainable Economy* (Vol. 1, pp. 191-212). Dordrecht, Heidelberg, New York, London: Springer.

pushing forward the leaning and greening process and venturing toward symbiotic compatibility of green and EFF². Although Adnams faced criticism from one of its investors (the Guinness Peat Group) last year principally for its corporate governance, heavy investments and tendency to diversify and stray from its core business, the company displays promising financial results. Last but not least, the brewery has the wide approval of shareholders to pursue its long-term strategic orientation with the integration of green as key driver.

10.5. References

- Adam, D. (2009). Recession 'threatens UK efforts to tackle global warming'. *The Guardian*.
- 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.
- 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., & Gao, J. (2006). Building the future by looking to the past: Examining research published on organizations and environment. *Organization & Environment*, 19(458-478).
- Baron, D., & Diermeier, D. (2007). Strategic activism and nonmarket strategy. *Journal of Economics and Management Strategy*, 16(3), 599-634.
- Bénabou, R., & Tirole, J. (2010). Individual and Corporate Social Responsibility. *Economica*, 77(305), 1-19.
- Burns, T., & Stalker, G. M. (1961). *The Management of Innovation*. London: Tavistock.
- Charter, M. (2001). Interview with Darcy Winslow, General Manager, Sustainable Business Strategies, Nike, Inc. US. *The Journal of Sustainable Product Design*, 1(1), 53-56.
- 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.
- Dam, L., & Scholtens, B. (2008). Environmental regulation and MNEs location: Does CSR matter? *Ecological Economics*, 67(1), 55-65.
- 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.
- Dienhart, J. W. (2008). The separation thesis: perhaps nine lives are enough. A reponse to Joakim Sandberg. *Business Ethics Quarterly*, 18(4), 555-559.
- Donaldson, L. (2008). Ethics Problems and Problems with Ethics: Toward a Pro-Management Theory. *Journal of Business Ethics*, 78(3), 299-311.
- 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.
- Drucker, P. F. (1974). *Management: Tasks, Responsibilities, Practices*. Oxford: Butterworth-Heinemann.
- 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.

Citation : Martinez, F., Vazquez-Brust, D., Peattie, K., Zokaei, K. 2012. Achieving greener growth: a business perspective for proactive commitment. In D. Vazquez-Brust & J. Sarkis (Eds.), *Green Growth: Managing the transition to a Sustainable Economy* (Vol. 1, pp. 191-212). Dordrecht, Heidelberg, New York, London: Springer.

- Hart, S. L., & Milstein, M. B. (2003). Creating sustainable value. *Academy of Management Executive*, 17(2), 56-67.
- Hawken, P., Lovins, A. B., & Lovins, L. H. (2002). *Natural Capitalism. The Next Industrial Revolution*. London: Earthscan Publications Ltd.
- Hicks, B. J. (2007). Lean information management: Understanding and eliminating waste. *International Journal of Information Management*, 27(4), 233-249.
- Hines, P., Found, P., Griffiths, G., & Harrison, R. (2008). *Staying Lean: thriving, not just surviving*. Cardiff: Lean Enterprise Research Centre, Cardiff University.
- Hollender, J. (2004). What matters most: corporate values and social responsibility. *California Management Review*, 46(4), 111-119.
- Holm, J., & Stauning, I. (2002). Ecological Modernisation and 'Our Daily Bread': Variations in the transition of the food sector. *The Journal of Transdisciplinary Environmental Studies*, 1(1), 1-13.
- Holm, S.-O., & Englund, G. (2009). Increased ecoefficiency and gross rebound effect: Evidence from USA and six European countries 1960-2002. *Ecological Economics*, 68(3), 879-887.
- Huppes, G., & Ishikawa, M. (2007). Sustainability evaluation: diverging routes recombined? Tasks for a new working group on modelling and evaluation for sustainability. *Journal of Cleaner Production*, 15(11/12), 1183-1184.
- 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.
- Margolis, J. D., & Elfenbein, H. A. (2008). Do well by doing good? Don't count on it. *Harvard Business Review*, 86(1), 19-20.
- Martinez, J. L., & Agüero, A. (2005). The why, when, and how of corporate social responsibility. Instituto de Empresa.
- 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.
- McNulty, E. J., & Davis, R. (2010). Should the C-Suite have a "Green" Seat? *Harvard Business Review*, 88(12), 133-137.
- Nissan. (2009). Nissan cleans up with added-value services. [Article]. *Works Management*, 62(10), 49-49.
- Norreklit, H., Jacobsen, M., & Mitchell, F. (2008). Pitfalls in Using the Balanced Scorecard. *Journal of Corporate Accounting & Finance*, 19(6), 65-68.
- Orlitsky, M., Schmidt, F. L., & Rynes, S. L. (2003). Corporate social and financial performance: a meta-analysis. *Organisation Studies*, 24(3), 403-441.
- Peloza, J. (2006). Using corporate social responsibility as insurance for financial performance. *California Management Review*, 48(2), 52-72.
- Porter, M. E., & Kramer, M. R. (2002). The competitive advantage of corporate philanthropy. *Harvard Business Review*, 80(12), 56-69.
- 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.

Citation : Martinez, F., Vazquez-Brust, D., Peattie, K., Zokaei, K. 2012. Achieving greener growth: a business perspective for proactive commitment. In D. Vazquez-Brust & J. Sarkis (Eds.), *Green Growth: Managing the transition to a Sustainable Economy* (Vol. 1, pp. 191-212). Dordrecht, Heidelberg, New York, London: Springer.

- 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.
- Salama, A. (2005). A note on the impact of environmental performance on financial performance. *Structural Change and Economic Dynamics*, 16(3), 413-421.
- Schaltegger, S., & Figge, F. (2000). Environmental Shareholder Value: Economic Success with Corporate Environmental Management. *Eco-Management and Auditing*, 7(1), 29-42.
- Secchi, D. (2007). Utilitarian, managerial and relational theories of corporate social responsibility. *International Journal of Management Reviews*, 9(4), 347-373.
- 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.
- Simons, D., & Mason, R. (2003). Lean and green: 'doing more with less'. *International Commerce Review: ECR Journal*, 3(1), 84-91.
- Suh, S., Lee, K. M., & Ha, S. (2005). Eco-efficiency for Pollution Prevention in Small to Medium-Sized Enterprises. A Case from South Korea. *Journal of Industrial Ecology*, 9(4), 223-240.
- 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., & Kirchhoff, J. F. (2010). Corporate Social Responsibility Reports: A Thematic Analysis Related to Supply Chain Management. *Journal of Supply Chain Management*, 46(1), 19-44.
- Turner, R. K., & Daily, G. C. (2008). The ecosystem services framework and natural capital conservation. *Environmental and Resource Economics*, 39, 25-35.
- Vazquez, D., Brust, D., 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.
- Waldman, D. A., Siegel, D. S., & Javidan, M. (2006). Components of CEO transformational leadership and corporate social responsibility. *Journal of Management Studies*, 43(8), 1703-1725.
- Wehrmeyer, W., Leitner, A., & Woodman, P. (2009). *Lean and green: leadership for a low-carbon future*. London: Chartered Management Institute.
- Winn, M. I., & Kirchgeorg, M. (2005). The siesta is over: a rude awakening from sustainability myopia. In S. Sanjay & M. Starik (Eds.), *Research in Corporate Sustainability* (Vol. 3, pp. 232-258). Mass & UK: Edward Elgar.
- Zadek, S. (2004). The Path to Corporate Responsibility. [Article]. *Harvard Business Review*, 82(12), 125-132.

List of Figures:

FIGURE 10.2.2: Framing Lean and Green Performance; The Four Stages of Lean/Green: Trade-off, Ambidexterity, Synergy, and Symbiosis.

FIGURE 10.2.3: The dynamic contingencies to be considered to design a sustainable business action plan.

FIGURE 10.3.1: The 'Greening' Process at ADNAMS BREWERY.

Citation : Martinez, F., Vazquez-Brust, D., Peattie, K., Zokaei, K. 2012. Achieving greener growth: a business perspective for proactive commitment. In D. Vazquez-Brust & J. Sarkis (Eds.), Green Growth: Managing the transition to a Sustainable Economy (Vol. 1, pp. 191-212). Dordrecht, Heidelberg, New York, London: Springer.

FIGURE 10.3.1.2: East Green bottle of beer as an illustration of Adnams' greening process: CO₂ emissions pre-transition and post-transition (2006).

FIGURE 10.3.2: Next Stage in Adnams Evolution: From Radical Changes to Continuous Improvement (adapted from Hines, Found, Griffiths & Harrison, 2008, p.7).