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Is green and profitable sustainable? Assessing the trade-off between economic and environmental aspects

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ABSTRACT

Businesses are more and more confronted with demands to play an active role to reduce environmental burdens effectively and to help to achieve environmental sustainability. We question the suitability of the green business case and argue that corporate environmental strategies need to aim at the creation of environmental value *alongside* economic value rather than the creation of economic value *through* environmental management. Three shortcomings of the green business case limit its usefulness to develop suitable corporate sustainability strategies. We contrast the green business case with an opportunity cost based approach for assessing the environmental performance of firms. Our argument is then applied to an integrated analysis of the financial, carbon and VOC-performance of 16 major car manufacturers worldwide to illustrate how companies respond to the twofold scarcity of economic capital and natural resources as well as the role of proactive technology choices in this context. Our analysis shows how firms can go beyond the standard green business case that ultimately limits environmental strategies to increasing capital efficiency. We argue that by applying the well established notion of opportunity costs to the assessment of environmental resources besides economic capital, companies can identify strategies that create economic *and* environmental value and help to maximise the contribution to sustainability rather than to economic capital efficiency alone.

1. Introduction

For more than 25 years both scholars and practitioners in the area of environmental management and strategy have strived to establish the so-called "green business case". There are numerous empirical studies (for an overview see e.g. Margolis and Walsh, 2003; Orlitzky et al., 2003) and contributions that aim to show that and how environmental strategies pay off financially (ArthurD.Little, 2000; Epstein and Roy, 2003; Hart and Milstein, 2003; Orsato, 2006; Schaltegger and Figge, 2000), portraying the green business case as the gold standard for business to respond to environmental aspects and challenges (World Business Council for Sustainable Development, 2000).

At its core, the green business case posits that suitable strategies for sustainable businesses exploit win–win situations that reconcile environmental protection and financial success. Accordingly, it has been argued that environmental measures and activities such as environmental impact assessment (Bruhn-Tysk and Eklund, 2002; Lawrence, 1997), design for environment (Fiksel, 1996), pollution prevention and cleaner production (Bullinger et al., 1999), or environmental management systems (González-Benito and González-Benito, 2008; Vastag et al., 1996) are associated positively with gaining competitive advantages and higher financial performance (Elkington, 1994; Salzmann et al., 2005). Following this logic environmental investments and proactive environmental strategies are drivers of economic value creation as they contribute to achieving abnormal risk-adjusted returns on capital. Companies can achieve such win–win situations for instance through cost reductions due to less resource and energy use, higher revenues through new products and services or lower capital intensity through lean production (Epstein and Young, 1998; Florida, 1996; Hart and Milstein, 2003; King and Lenox, 2001; Orsato, 2006; Schaltegger and Figge, 2000). Overall, the green business case is concerned with defining environmental strategies that pay off financially in order to bring environmental management in line with shareholder wealth creation (Reinhardt, 2000). The aim of the green business case is therefore to arrive at a more efficient use of economic capital.

With the increasing salience of environmental issues such as climate change, businesses and the private sector are more and more confronted with demands to play an active role to reduce environmental burdens effectively and to help to achieve environmental sustainability (Bansal, 2002; Hoffman, 2005; Kolk and Pinkse, 2005; Levy, 1997; Reilly, 1999). Due to regulation and market pressures companies and managers face increasing

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environmental scarcities for instance with regard to carbon and greenhouse gas emissions and climate change issues. From this perspective environmental strategies are those strategies that enhance corporate environmental performance rather than only financial performance. The aim of environmental strategies is therefore to use less environmental resources per unit of production, i.e. to arrive at a more efficient use of environmental resources. This is reflected in the concept of eco-efficiency (McIntyre and Thornton, 1978; World Business Council for Sustainable Development, 1996). The growing importance of environmental and sustainability concerns questions whether the green business case, with its focus on a higher return on economic capital, can be the dominant strategic response to sustainable business development, which requires a more efficient use of environmental resources.

By critically examining the green business case and the underlying win–win paradigm we identify three major shortcomings of the green business case as a suitable response to sustainability challenges. These limitations follow from the business cases's inherent dominance of economic value creation over environmental concerns (Hahn and Figge, 2011). We contrast the green business case with an opportunity cost based approach for assessing the environmental performance of firms and show how companies can identify strategies that aim at the creation of both economic *and* environmental value separately. The automobile industry is one of the most important industrial sectors in terms of its economic and environmental impact in the developed world. We therefore choose this sector to apply our argument to an integrated analysis of the financial, carbon and VOC-performance of 16 major car manufacturers worldwide to illustrate how companies respond to the twofold scarcity of economic capital and natural resources as well as the role of proactive technology choices in this context.

2. The green business case

Companies play an important role for innovation and efficiency in a market economy and are particularly apt to generate value from scarce resources. It is generally accepted that without corporate support society will not achieve environmental sustainability, as firms represent the productive resources of the economy (Bansal, 2002). From this perspective, the green business case appears as the obvious response of private sector companies to environmental challenges and pressures.

The green business case strives to identify and develop corporate environmental strategies that help to enhance the risk-adjusted return on capital of a company, i.e. create shareholder value. Following this logic of value-based management green value drivers have been proposed (Epstein and Roy, 2001, 2003; Schaltegger and Figge, 2000) and guidance developed on how to develop green strategies that pay off financially (Aragón-Correa and Rubio-López, 2007; Hoffman, 2005). Proponents of the green business case argue that only environmental management that is economically viable in that it contributes to financial performance will be sustainable and robust in times of economic slump or crisis. The green business case is thus expected to serve as a role model for companies that have not yet adopted environmental management practices.

The logic of the green business case can be easily depicted using a matrix in which the two axes describe financial and environmental performance and 0 denotes the origin or status quo (see Fig. 1). Any improvements in financial performance reside in fields III and IV while improvements of environmental performance will be found in fields I and IV. Obviously, win–win solutions that constitute the green business case are situated in

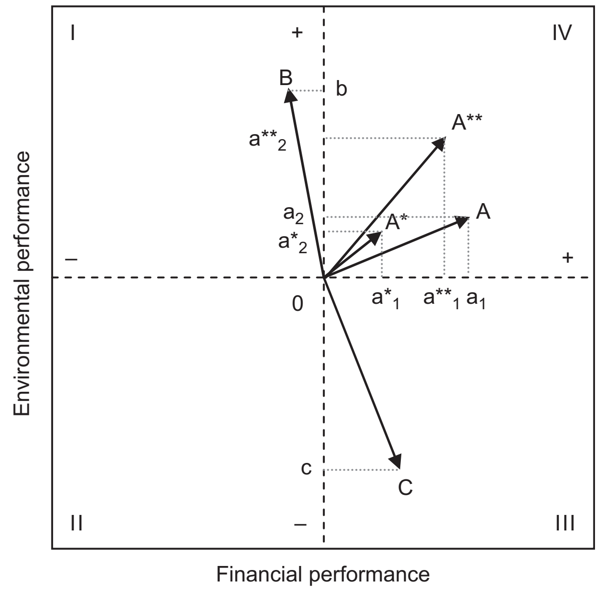

Fig. 1. Environmental and financial performance effects of corporate strategies.

field IV whereas field II clearly defines undesirable developments. Fields I and III represent situations in which there are trade-offs between environmental performance and financial performance. More specifically, in field I an improvement of environmental performance is associated with a loss in financial performance. Field III covers situations in which improvements in financial performance come at the expense of environmental performance. This characterises business as usual strategies that do not take into account environmental considerations and strive for economic growth even at the expense of additional environmental burdens. The arrows in Fig. 1 depict different possible corporate strategies.

3. Environmental strategies along the green business case

Integrated corporate environmental strategies involve two perspectives: financial and environmental. While at first sight, the green business case might appear as a suitable guiding principle for strategic environmental management, we argue that it suffers from three fundamental limitations.

The green business case:

- Is biased towards financial performance in the prioritisation of different win–win cases (section (3.1)). Where there are different alternatives that improve financial and environmental performance the one with the highest financial gain will be chosen irrespective of the overall, i.e. environmental and financial, gain.
- Ignores trade-off cases (section (3.2)). Alternatives that come with a financial loss will always be second to alternatives that come with a financial gain even if these result in vast environmental losses.
- Uncritically prioritises win–win cases (section (3.3)). Win–win cases will always be preferred to trade-off cases, even if these have a higher net gain than the win–win case.

In the following sections these three cases are explained using Fig. 1.