Chapter 1
The Emergence of Green Business Models

1.1 The Green (r)evolution

Climate change and its potential impact has had an enormous increase in attention in the media, in politics and in the public at large. Consequently, the topics *climate change* and *sustainability* have more and more become a priority for top management of corporations (Economist Intelligence Unit 2008b). This trend is also reflected in increased communication about sustainability: According to a survey of the professional services firm KPMG, almost 80 percent of the largest 250 corporations has published a corporate responsibility report by 2008, up from 52 percent in 2005 (KPMG 2008, 14). Another trend is that sustainability is not considered solely a threat anymore that has to be addressed via defensive strategies in order to mitigate reputation or litigation risks. Moreover, sustainability is no longer considered a question of philanthropy. Instead, more and more companies view sustainability as an opportunity to gain a competitive edge and create tangible, economic value (Esty & Winston 2009).

Nevertheless, the debate on the core issue – namely whether sustainability practices as such create value for the company or not – is far from over. In this respect, a distinction has to be made between *sustainability markets* like clean energy, and *sustainability management* that aims to integrate sustainability aspects into the regular operations of a company. The former can undoubtedly be very attractive: global new investment in clean energy alone has more than quadrupled since 2004 to US$ 155 billion (circa € 106 billion) in 2008 (New Energy Finance 2009, 4). The latter refers to whether a company operates in a sustainable way or not, i.e. minimises its social and environmental impact within the constraints of the technological possibilities and market mechanics of the industry it belongs to. Clarification of the relation between sustainability performance and economic value creation is difficult: The link between sustainability performance and economic value creation is often indirect and hard to quantify (Steger 2006).

Whether a company should be expected to act in a sustainable ("ethical") manner – even if it contradicted its economic interests – remains controversial in academic circles (Schaltegger & Burritt 2005). It seems sensible to claim that a company should at least seek to improve its sustainability performance as long as this creates value for the company in the long run. In practice, it is unrealistic to expect

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companies to improve their sustainability performance beyond that point at the expense of economic value. Overall progress in corporate sustainability has thus been gradual rather than revolutionary so far - most companies have refrained from challenging their business models fundamentally with regard to sustainability. However, recent history clearly demonstrates that such a passive approach may not be expedient in the wake of a new "megatrend" unfolding.

1.2 The Origins of the Business Model Concept

A few years before climate change became a major concern in public perception, another topic was omnipresent in the media: e-business. In 1999, technology stocks skyrocketed and the era of the so-called "old" economy seemed to have come to an end (Brynjolfsson & Urban 2001). Valuations of some dot-com firms reached heights that appeared to be completely out of proportion to their revenue and earnings – or, not uncommon, losses (de Figueiredo 2000). The brick and mortar counterparts of these dot-coms were suddenly dwarfed in terms of market capitalisation. The perhaps most intriguing example in this context is the merger of AOL and Time Warner which was announced in January 2000: At the time, the internet service provider AOL was worth twice as much, but generated only about a quarter of Time Warner's revenue (BBC News 2000; AOL Time Warner Inc. 2001).

What was this phenomenon based on? – It was based on the firm belief that these highly valued companies would demonstrate fantastic growth and profits in the future – created by their superior *business models*. The term business model may preliminarily be defined as *a blueprint of the value proposition offered to the customer, the way the business creates and delivers that value and extracts profits from it* (a detailed discussion on the concept is provided in chapter 4.2). Although the roots of the business model concept in academia date back a few decades, it was not widely used until the e-business boom started in the late 1990ies (Osterwalder 2004, 23). At this time, entrepreneurs, managers and investors realised how useful business models were as a medium to propagate their dot-com fantasies that seemed to overturn conventional rules of doing business. After the bubble burst, the term *business model* obtained a negative connotation due to the abrupt end of many ill-conceived ventures that consumed large amounts of capital (Magretta 2002). Consequently, the merger of AOL and Time Warner is now considered one of the worst in history: Shareholders had lost more than US$ 200 billion (circa € 160 billion) by the end of 2003 (Bodie 2006). Not only were initial expectations unreasonable, but competition soon started to make AOL's original core business model obsolete and dramatically eroded its base of subscribers.

Nevertheless, Lai et al. (2006) point out that the term business model continues to be considered useful by business people to explain the strategies and plans for value creation of firms – including both those from the new and old economy. Apart from these practical applications in communication, the business model concept is also adjuvant for researchers trying to analyse the logic behind economic value creation (Osterwalder 2004). And despite its roots, the concept's usefulness is certainly not restricted to dot-coms (Linder & Cantrell 2001).

How is the e-business boom and crash relevant to the research of this work? Firstly, it originated the business model concept as a suitable unit of analysis in strategic management. Maybe even more importantly, it illustrated how entire industries can be revolutionised by introducing innovative new business models. Just like information technology, the challenge of global sustainability represents a "major discontinuity with the power to radically transform many industries" (Hart & Milstein 1999, 25).

However, the digital revolution also demonstrated spectacularly how hype effects combined with superstitious use of the business model concept can produce large-scale failure (which, in turn, can provide most valuable insights for learning). Thus, the business model concept can be utilised to distinguish real sustainability opportunities from thin air, and help seizing these opportunities while avoiding the usual pitfalls of business model transformations. In other words, it can guide companies to become sustainable *and* more competitive.

1.3 Green Business Models as a Means towards Competitive Sustainability

There is no doubt: the sustainability megatrend will change the business world. In fact, the economy has already started to respond, for example in the form of green marketing efforts (most apparent in consumer goods), changes in product portfolios (e.g., low carbon cars) or capital flows (e.g., renewable energy stocks). Some scholars even proclaim the emergence of a new form of capitalism (Porter & Kramer 2011). Similarly to the dot.com bubble, certain signs of hype can also be observed. But even if some activities are part of a sustainability fad, sustainability will continue to lead to fundamental changes in the business world (Esty & Winston 2009). Naturally, the resulting dynamic business environment brings about immense opportunities and challenges that can shake the competitive landscape of industries to the core (e.g., see Lash & Wellington 2007; Porter et al. 2007). Thus, hesitant managers should be asking themselves: "How do sustainability issues influence the future success of our current business models?" And: "How can we adapt them to best mitigate the risks and take advantage of opportunities arising from sustainability issues?"

Sustainability issues are similar to digital technologies in that they also have the capability to fundamentally change the logic of existing market mechanisms (Senge et al. 2008). On a detailed level, however, there are major differences. Among others, green business models often require significant investments of capital and other resources, and are intertwined with the existing business environment in complex ways. Green business models therefore tend to conflict with traditional business practices and structures. Many researches pin their hopes on start-up firms with their entrepreneurial spirit to introduce revolutionary green business models and associate large, incumbent firms mainly with gradual greening of their operations (Hockerts & Wüstenhagen 2010). Yet, despite the momentum in recent years, progress in sustainable development has been slower than hoped for (Baumgartner & Korhonen 2010). The reach of green start-ups is

limited, and the changes made by most established firms are indeed incremental in nature. This suggests that radical changes from large incumbent firms are possible and necessary to transform the economy at a sufficient pace.

Yet, so far, established companies frequently neglect disruptive opportunities for too long – even if they can build on the experiences of pioneering small firms and possess superior resources to seize the opportunities. All too often managers are misled trying to protect previous investments in technologies or markets, and fail to question their beliefs that were valid for years or even decades (Hart & Milstein 1999; Hockerts & Wüstenhagen 2010). This work aims to help rectify this situation and assist them in *Managing Green Business Model Transformations*, thereby accelerating the transition towards an environmentally more sustainable economy.