Business Model Concepts in Corporate Sustainability Contexts

Lüdeke-Freund, Florian

DOI:
10.2139/ssrn.1544847

Publication date:
2009

Document Version
Publisher's PDF, also known as Version of record

Business Model Concepts in Corporate Sustainability Contexts

From Rhetoric to a Generic Template for "Business Models for Sustainability"

Florian Lüdeke-Freund

Lehrstuhl für Nachhaltigkeitsmanagement
Leuphana Universität Lüneburg
Scharnhorststr. 1
D-21335 Lüneburg

Fax: +49-4131-677-2186
csm@uni.leuphana.de
www.leuphana.de/csm/

Dezember 2009

Centre for Sustainability Management (CSM) e.V.

Chair of Corporate Environmental Management
Leuphana University of Lueneburg
Scharnhorststr. 1
D-21335 Lueneburg

Centrum für Nachhaltigkeitsmanagement (CNM) e.V.

Lehrstuhl für Nachhaltigkeitsmanagement
Leuphana Universität Lüneburg
Scharnhorststr. 1
D-21335 Lüneburg

Tel. +49-4131-677-2181
Fax. +49-4131-677-2186
E-mail: csm@uni.leuphana.de
www.leuphana.de/csm

ISBN 978-3-935630-85-6

Abstract

This paper proposes a conceptual integration of business models into contexts of corporate sustainability. A business model can be interpreted as the blueprint of an organization's business logic. It can serve as starting point to investigate first, if business cases for sustainability can be realized under industry- and firm-specific circumstances and second, if an organization's resources and activities are configured in a way that allows for creating value on the private and public level. Therefore, conventional business model perspectives have to be enhanced through accentuation and extension to integrate sustainability aspects. After discussing some general business model rhetoric which can be found in corporate sustainability contexts, a promising conventional business model concept is introduced and further developed to propose a generic template for "business models for sustainability". This conceptual work is guided by the following principle: A business model for sustainability is the blueprint of a company's business logic which internalizes the business case for sustainability. The intention of this paper is threefold: First, identify currently perceived intersections of corporate sustainability and business models. Second, generic business model templates for issues of corporate sustainability are rare; a gap that shall be filled by moving from rhetoric to a generic template for business models for sustainability. Third, open up a new field which may be labelled "strategic business model management".

CONTENTS

FIGURES AND TABLES

1. INTRODUCTION

Growing interest in the applicability of business model concepts can currently be recognized in management sciences. Following a period of primarily practical discussions, above all in the field of internet business (e. g. Viscio & Paternack 1996; Timmers 1998; Tapscott et al. 1999; Hoque 2000; Mahadevan 2000; Kersten 2001; Yu 2001), academic contributions to general fields like business and market development, organization or strategy have emerged (e. g. Amit & Zott 2001; Porter 2001; Magretta 2002; Stähler 2002; Hamel & Välikangas 2003; Voelpel et al. 2005; Zott & Amit 2007; 2008). But only little efforts have been made to explore if business model concepts could enrich research on corporate sustainability.

Occasionally, researchers from the field of corporate sustainability management point to the importance of business models for their domain. Following e. g. Schaltegger and Müller (2008) or Weber (2008) the business model becomes a relevant factor for corporate sustainability when companies try to improve their sustainability performance strategically and with a long-term perspective: “True corporate sustainability requires an integration of all three sustainability dimensions into business management, *which can even lead to business model transformations* to secure sustainable operations in the long-term.” (Weber 2008, 248; emphasis added) But besides such general conclusions only few extensive thoughts can be found in academic and practical literature to this day. Exceptions are the offensive papers of Seelos and Mair (2006; 2007) who analyse “profitable business models in the context of deep poverty” and Stubbs and Cocklin (2008) who try to conceptualize a so called “sustainability business model”.

That is, further conceptual and theoretical work is necessary but missing (e. g. Wüstenhagen & Boehnke 2008; Schaltegger & Müller 2008; Schaltegger & Wagner 2008; Stubbs & Cocklin 2008; Schoettl & Lehmann-Ortega 2010 [forthcoming]). Only few authors directly address theoretical and conceptual work on “sustainable business models” (Elkington 2004; Birkin et al. 2009) or “sustainability business models” (Stubbs & Cocklin 2008). The research at hand contributes to the conceptualisation of “business models for sustainability” as a prerequisite for theory building. The term business models for sustainability is chosen because it directly refers to the concept of the “business case for sustainability” (Schaltegger & Wagner 2006) and because it is built on the basic idea of corporate sustainability management of which task is the integration of environmental, social and economic issues of business.

Approaches to deal with the integration challenge refer to a broad set of concepts and instruments for sustainable organisation development. To be accepted by economically driven companies these concepts and instruments face ecological and social challenges and simultaneously aim at reducing costs, increasing turnover, enhancing reputation and supporting innovations (BMU et al. 2007, 16). To deal with these challenges often requires completely different viewpoints and sometimes radical and transformational measures. Here, the “power of business models” (Shafer et al. 2005) can come into play since radical and transformational strategic management and business model management are complementary concepts (e. g. Magretta 2002; Yip 2004; Belz & Bieger 2006).

The intention of this paper is threefold: First, identify current intersections of corporate sustainability and business models (Chapters 3 and 4). Second, open up a new field which may be labelled “strategic business model management” (Chapter 5). Since an abstract idea itself does not support corporate sustainability management, approaches of making the business model manageable are urgently needed. Third, besides Stubbs’s and Cocklin’s (2008) “SBM ideal type” no generic business model templates for issues of corporate sustainability exist; a gap that has to be filled. Following e. g. Zott and Amit (2007; 2008) the business model can be interpreted as a structural template or as an activity system. Accordingly, business model concepts have to start from a generic template (Chapter 5).

2. RESEARCH APPROACH

A thoroughly developed concept is necessary to serve the purposes introduced above. Lambert points to the fact that the "conceptual nature of the research has resulted in there being a myriad of concepts, ontologies and frameworks of business models all of which have merit, but none of which have been universally accepted" (Lambert 2006, 2). Literature shows that the development of business model research as a distinct field is well underway. Therefore, a generic concept can be derived from existing ones and be used for transferring business model thinking to the field of corporate sustainability. A process that has to be accomplished with care since a universally accepted business model concept does not exist yet. One reason might be that in most cases practitioners and academics create business model approaches according to their individual needs. As a consequence a variety of *concepts* has been developed, while *theories* are still underdeveloped. Therefore, this research is not intended to add another basic definition or concept, but to explore the strengths of business model thinking for the field of corporate sustainability. Lambert's "Business Model Research Schema" (BMRS) is an appropriate starting point to locate the research approach at hand in a methodological context.

2.1. The Business Model Research Schema

As the objective is "to keep moving the research from conceptual frameworks to theoretical frameworks" (Lambert 2006, 3), business model concepts have to be developed with an eye on the needs of explanatory and predictive research enabling theory building. This includes questions about deductive and inductive relationships between theory and research as well as the application of qualitative and quantitative research strategies (Bryman & Bell 2007). Lambert (2006) sketches a methodological sequence from early business model ideas to business model theories. Therefore, she develops the BMRS based on iterations of deductive and inductive phases which interact with developing and improving concepts and finally culminate in theory building (Figure 1). The BMRS is based on a so called "inductive-deductive research cycle": "This inductive-deductive cycle provides the means by which concepts can be developed into theories. To be of value, research must progress from being descriptive and conceptual to being explanatory and predictive. It must move from conceptual frameworks towards theoretical frameworks." (Lambert 2006, 6) The basic idea of the BMRS is that business model *concepts* are developed and improved through deduction, whereas business model *theories* result from induction. Hence, with regard to theory development this schema clearly subscribes to Grounded Theory (Glaser & Strauss 1980; Bryman & Bell 2007).

According to this schema, the sequence starts from simple concepts, e. g. element definitions and typologies (Phase 1), which guide empirical data processing (Phase 2). This corresponds to the essence of a deductive approach as described e. g. by Bryman & Bell (2007, 11). The deductive part thus enhances and refines the basic ideas leading to developed concepts of (Phase 3). While additional deductive iterations improve these concepts (loop to Phase 2, deductive sub-cycle), inductive empirical research is indispensable in order to pro-

gress towards the theory level (Phase 4). In accordance with Eisenhardt (1989), inductive research in Phase 4 includes the definition of potentially important variables. “Selection of the variables is based on the foregoing research, in particular the business model elements identified in the research conducted at Phase 3.” (Lambert 2006, 3) Phase 4 produces “the means by which business models can be classified and named and relationships between variables can be measured” (ibid, 3-4). General business model configurations and relationships of variables are hypothesised and tested at Phase 5 – the basis for theory building at Phase 6. Findings from Phases 4 and 5 can also help to enhance the conceptual frameworks (loops to Phase 3, inductive sub-cycle), while the loop from Phase 6 to Phase 2 can stimulate e. g. thematically new or differently focused sequences.

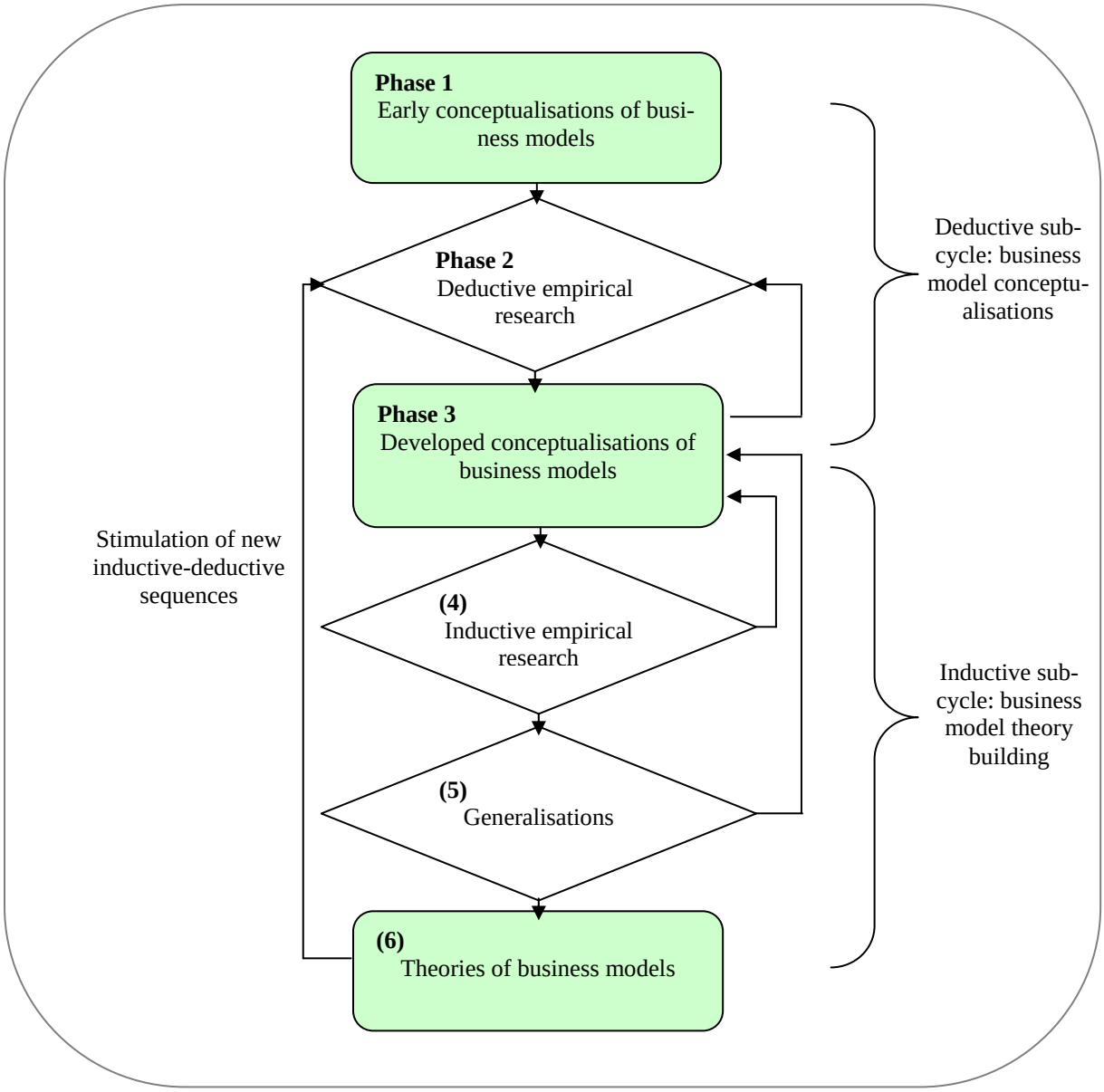

Figure 1: “Business Model Research Schema” (Lambert 2006, 4)

Due to the fact that business model concepts and theories have rarely been developed in corporate sustainability contexts the research schema outlined in this paper has to start at

Phase 1 in order to redirect existing work. Hence, the chosen approaches of Osterwalder (e. g. Osterwalder 2004; Osterwalder et al. 2005; Osterwalder & Pigneur 2009) and Zott and Amit (e. g. Amit & Zott 2001, 2009; Zott & Amit 2007, 2008) are applied and further developed (Chapter 5). Although both approaches can be assessed Phase-3-conceptualisations, they have to be fed in Phase 1 and the deductive cycle of concept development.

The expected outcome is twofold: First, conceptual insights into the interrelations of business models and corporate sustainability; second, deductive empirical findings on sustainability oriented business models. Generalisations of business model attributes and effects will be inferred later, based on further developed conceptual frameworks.

2.2. Methodological approach

As outlined, the intersections of business models and corporate sustainability have merely been tackled yet, neither conceptual nor theoretical; i. e. new concepts and theories have to be developed, adequate empirical data have to be gathered. Following Marsden (1982) empirical facts are not given naturally since they have to be selected or produced by theory, which indicates a deductive position (Bryman & Bell 2007). According to others theoretical progress requires inductive work (Glaser & Strauss 1980; Eisenhardt 1989). What are the relationships between theory and research in the given context?

The fact that the BMRS includes deductive *and* inductive cycles must not be misleading. Lambert's (2006) position is that of generating theory from empirical data according to Grounded Theory. This does not exclude deductive relationships of theory and research which are immanently given even in Grounded Theory (Glaser & Strauss 1980, 5; Bryman & Bell 2007, 14). Indeed, no researcher "can possibly erase from his mind all the theory he knows before he begins his research. Indeed the trick is to line up what one takes as theoretically possible or probable with what one is finding in the field" (Glaser & Strauss 1980, 253). Therefore, the work on business models for sustainability is based on conceptual and theoretical work on business models and corporate sustainability as well as empirical data in different relationships. Such an inclusive design is needed for transferring the BMRS to corporate sustainability contexts (Figure 2). Since this results in a demanding methodological approach the project has to be divided into manageable milestones (see below).

The *deductive cycle* is based on the following: Existing concepts and theories of business models and corporate sustainability as well as empirical indications have to be fed in the deductive cycle to start the envisaged transfer process by redirecting existing conceptual frameworks. Whereas the concepts applied stem from currently growing bodies of literature on business models and corporate sustainability, empirical data are generated by means of surveys (e. g. on photovoltaic or bioenergy business models) and secondary data analyses.

The *inductive cycle* is sketched for future research: It will follow Eisenhardt's (1989) approach of theory building based on the triad of induction, case studies and literature for triangulation purposes. Theorizing will start from the stance of empiricism "that the accumulation of 'facts' is a legitimate goal in its own right" (Bryman & Bell 2007, 10). Furthermore, this has to be followed by generalizations as a step towards inferring theory, whereas an aspect is that "[o]nce the phase of theoretical reflection on a set of data has been carried out, the re-

searcher may want to collect further data in order to establish the conditions in which a theory will and will not hold" (ibid, 14). Such a strategy can be called iterative as "it involves a weaving back and forth between data and theory" (ibid).

Ultimately, developing theories of business models for sustainability roughly necessitates the following cornerstones (Figure 2):

- identification or development of an adequate generic business model concept (1)
- deductive (2) and inductive (4) empirical research to reroute the generic concept
- conceptualizing interrelations between generic model and corporate sustainability (3)
- generalisation of findings (5)
- theory building (6)

In the following existing concepts will be chosen (1) as foundation for future conceptual (3) and theoretical frameworks (6) of business models for sustainability. For now, a pivotal step to start the BMRS sequence is a general convergence of business model thinking with the complex world of corporate sustainability. As a first approach this will be done according to the deductive cycle ((1), (2) and (3)) against the background of specific empirical fields (e. g. sustainable energy). This approach tallies with sustainability research since it usually is issue-driven. Inductive empirical research (4), further generalisations of business model configurations and effects on corporate sustainability (5) as well as rigorous theory building (6) are further steps to be taken in the future.

This paper focuses the identification and development tasks at Phase 1.

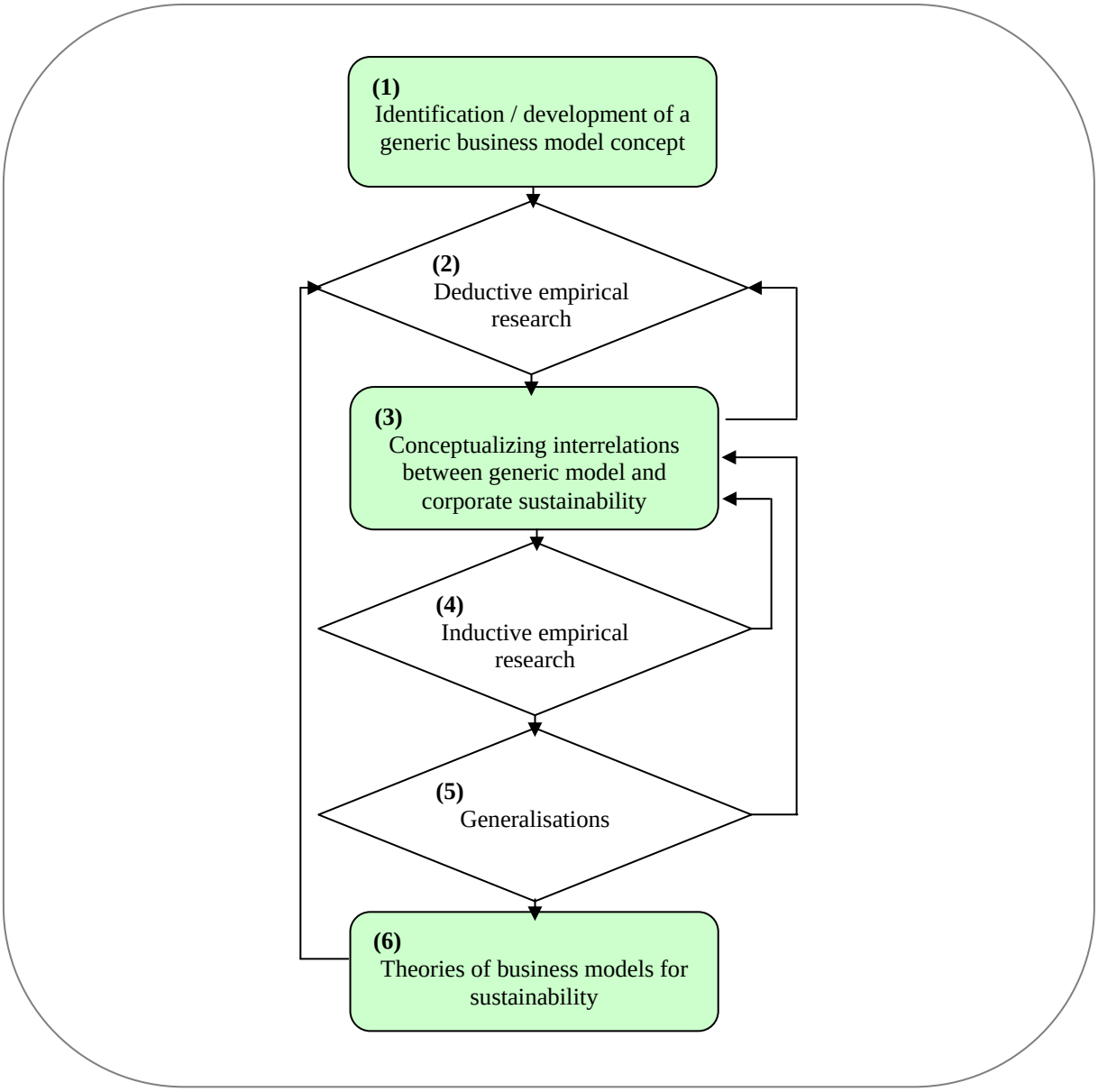

Figure 2: Research schema for business models for sustainability

2.3. Phenomenological background and central question

It is a fact that decentralized small-scale energy systems based on renewable energies increasingly contribute to the German energy production, especially electricity (Federal Government 2008). And it is another fact that the Big Four (E.on, RWE, Vattenfall and EnBW) who control 80 to 90 % of the German electricity market produce unexpectedly small amounts of green electricity: While in 2007 the share of green electricity was 10.8 % of the whole market, the production portfolios of the Big Four contained only 0.1 to 1.4 % green electricity (statistics without water power) (BMU 2008; IÖW 2009). Who else contributes to the growing market share of green electricity?

The answer is thousands of new and diversified market players. The emergence of business approaches of which core businesses deal with renewables, e. g. on the level of regions,

towns, villages or citizen initiatives, leads to the assumption that these attempts might be based – consciously or unconsciously – on somehow different "ways of doing business" as they are initiated by somehow unconventional market players. From a conceptual point of view the "way of doing business" can be operationalized as the business logic or business model of a company. As these alternative energy ventures contribute to sustainable development by means of corporate sustainability, the question comes up to what extent their sustainability performance is promoted by their business logic and business models. With the example of sustainable energy in mind, the central research question is as follows:

What are the interrelations between business models and corporate sustainability, and how can possible "business models for sustainability" be designed and managed?

The positive connotation and implicit hypothesis are obvious: interrelations do exist; they have to be identified and analysed. To validate or negate this hypothesis requires methods like multivariate quantitative testing and analyses of statistical correlations, based on thoroughly developed conceptual frameworks of business model configurations, variables and relationships which constitute the subtype of business models for sustainability. The fundament for approaching this question and related hypotheses will be promoted through this paper.

2.4. Basic work on business model concepts and theories

Literature shows that examples of somehow innovative business models related to sustainability issues stem from different industries, address different problem areas and therefore reveal different ideas about the roles business models can play (e. g. Hart & Milstein 1999; Halme et al. 2008; Seelos & Mair 2006, 2007; Wüstenhagen & Boehnke 2008; Stubbs & Cocklin 2008; Anttonen 2008). Accordingly, choosing an appropriate conceptual basis for business models for sustainability is a challenging task. A vast literature review was conducted referring, amongst others, to the business model meta studies of Scheer et al. 2003; Osterwalder 2004; Lambert 2006, and Lehmann-Ortega 2008. Finally, the business model concepts of Osterwalder (e. g. Osterwalder 2004; Osterwalder et al. 2005; Osterwalder & Pigneur 2009) and Zott and Amit (e. g. Amit & Zott 2001, 2009; Zott & Amit 2007, 2008) were chosen as starting point (Phase-3-conceptualisations; Figure 1).

Current developments in research and practice point to at least two relevant and rigorous conceptual and theoretical frameworks. First, the work of Alexander Osterwalder who proposes a business model concept "that draws extensively and systematically on the foregoing research" (Lambert 2006, 2). As its practical impact shows, it is of significance for the growing business model community (see e. g. http://www.businessmodelalchemist.com). The concept's foundations stem from general management theory and are influenced "by the Balanced Scorecard approach (Kaplan and Norton 1992) and more generally business management literature (Markides 1999)" (Osterwalder 2004, 42). Despite being partly located in the field of e-business, Osterwalder developed a generic concept that should be familiar to academics and practitioners from diverse fields of entrepreneurship and business management. Second, the work of Zott and Amit is chosen due to their elaborated abstract understanding of business models and due to their groundbreaking approaches on measuring

business model topics statistically and theorizing on empirical findings (Amit & Zott 2001; Zott & Amit 2007; 2008).

That is, the chosen frameworks represent further developed conceptual and theoretical, deductive as well as inductive work on business models from a "conventional" perspective on entrepreneurship and management.

2.5. Recognizing business models

A business model is related but is not equal to business strategy (Stähler 2002). It can be a planning tool but it is not the same like business modelling; it can serve visualization purposes but it is not an organization chart (Osterwalder 2004). A business model is a complex conceptualisation of the "what", "who" and "how" of business activities (Afuah 2004; Zott & Amit 2009) that differs from common management concepts and tools because of its holistic and systemic approach (Voelpel et al. 2005). At this stage a reference can be made to a somewhat older but still valid definition of *business system design.* Slywotzky (1996) describes the task of designing a business system as "the totality of how a company selects its customers, defines and differentiates its offerings, defines the tasks it will perform itself and those it will outsource, configures its resources, goes to market, creates utility for customers, and captures profit" (Slywotzky 1996, 4). The earlier term business system refers to similar phenomena as the currently spreading out term business model. Osterwalder approaches the latter by a condensed definition: "A business model describes the rationale of how an organization creates, delivers, and captures value." (Osterwalder 2009, 14) In other words its about the *business logic* of a company. His previously developed, more "academic" definition cited below serves as the basic business model understanding for this paper; it depicts the characteristics of the holistic and systemic perspective of business model thinking. The corresponding generic concept is described in Chapter 5.

"A business model is a conceptual tool that contains a set of elements and their relationships and allows expressing a company's logic of earning money. It is a description of the value a company offers to one or several segments of customers and the architecture of the firm and its network of partners for creating, marketing and delivering this value and relationship capital, in order to generate profitable and sustainable revenue streams." (Osterwalder 2004, 15)

2.6. Structure of the paper

The first step is to locate the business model in the field of management in general and in relation to business strategy in particular (Sections 3.1 and 3.2). Afterwards, the possible advantages of introducing business model thinking to the field of corporate sustainability are outlined (Section 3.4) and further illustrated in Chapter 4 by referring to different corporate sustainability contexts in which business model thinking can play a crucial role. Section 4.2 describes the "Sustainability Business Model" of Stubbs and Cocklin (2008) in some length as this is the only work which directly aims at developing a generic business model concept for corporate sustainability issues. Then, Chapter 5 introduces Osterwalder's business model ontology as outlined in his dissertation and further publications from the years 2004 and 2005. Moreover, his ontology is used to develop an extended generic business model tem-

plate which integrates aspects of corporate sustainability and sustainable development. Additionally, a basic concept for strategic business model management is introduced.

3. THE BUSINESS MODEL IN THE CONTEXT OF CORPORATE SUSTAINABILITY MANAGEMENT

Progress in corporate sustainability is a venture that needs normative and strategic foundations and must be translated into practice through adequate concepts and instruments which guide managers and entrepreneurs. Additionally, it is also a question of changes of the way a company does business. Thus, the impacts of striving for corporate sustainability on the "way" – represented by the business model – of a company, and vice versa, have to be studied. This paper elaborates on the assumption that the business model plays a crucial role when sustainability thinking concerns the core of business activities.

Two different causalities have to be considered: First, if a company addresses the business case for sustainability (e. g. Schaltegger & Wagner 2006) the business model changes consciously or unconsciously; i. e. normative and strategic management have an affect on the business model configuration. Second, the business model is often interpreted as a determining factor of corporate behaviour (e. g. Elkington 2004); i. e. the business model in turn influences business strategy and operative outcomes. Accordingly, sustainability management, its norms, strategies and operations and the business model do interact as a company strives for corporate sustainability.

In other words, a company that tries to improve its sustainability performance has to change its business model, however incremental or radical (Yip 2004), which can turn out to be *the* decisive (i. e. limiting or supporting) factor for succeeding in that task. Despite its obviously fundamental significance, the business model has been neglected in academic and practical literature on corporate sustainability, corporate sustainability management and sustainable entrepreneurship.

3.1. The business model in the realm of management

To generally locate the business model in the world view of business management one can refer to Osterwalder (2004) and describe it as a mediator between different perspectives on and layers of business. In the specific context of internet business he refers to a triangle consisting of strategy, organization and information technology. Each of the three elements represents a specific group of professionals that have different points of view on similar business tasks. These different perspectives have to be harmonized to successfully implement visions and strategies and to guarantee efficient and effective business operations. Osterwalder (2004) then argues that a conceptually defined business model can facilitate communication and "create a shared and common understanding of what a company does to earn money" by the provision of value to customers (p. 16). This conceptual model is "acting as a sort of glue" and is interpreted "as a business layer … between business strategy and processes" (p. 15).

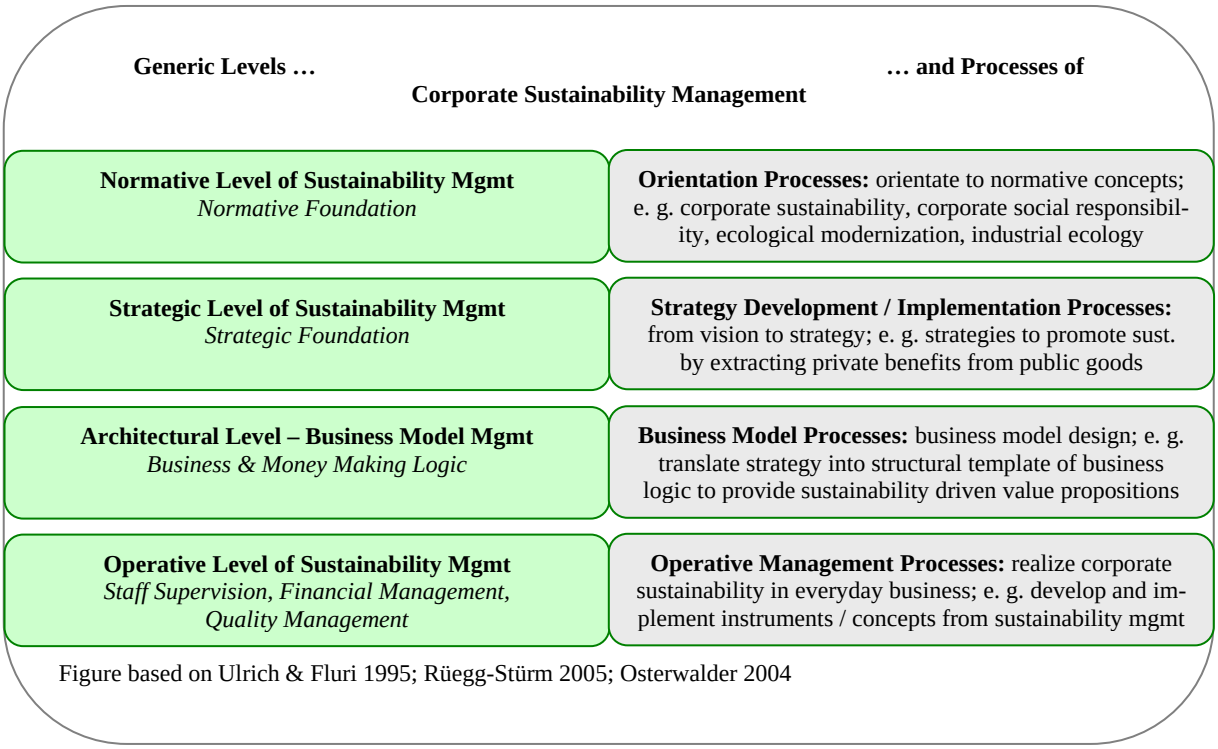

Figure 3: Location of the business model regarding management levels and processes

Distinguishing between normative, strategic and operative management layers (e. g. Ulrich & Fluri 1995; Rüegg-Stürm 2005) the business model appears to be an additional layer between strategy and operations (see Figure 3). Like every additional concept the business model has to prove its specific benefits. Thus, analogous to the idea of harmonizing different professionals' perspectives for the sake of corporate strategy and operations, the business model concept might, inter alia, be used to integrate diverse stakeholders' perspectives and demands in the context of corporate responsibility and sustainability management (this follows especially from Osterwalder 2004, Chapters 2.3 and 2.4). The result could be a better understanding of business and non-business relations of companies and therefore the business model may serve as a valuable perspective for working on appropriate management measures (see Section 5.1). Consideration and harmonization of different and conflicting interest groups, current and future, as well as economic and non-economic stakeholders are inextricably linked with the field of corporate sustainability management (Schaltegger & Sturm 1992; Dyllick & Hockerts 2002; Schaltegger & Burritt 2005). Here, the business model concept might demonstrate its value.

The comprehensive question is, what are the general benefits management can derive from this approach? "Its main area of contribution could be the creation of concepts and tools that help managers to capture, understand, communicate, design, analyze, and change the business logic of their firm." (Osterwalder et al. 2005, 19) To overcome the real-life complexities it is important to adequately capture and visualize the business logic. Through visualisation it becomes subject to communication processes and analyses. Hence, the way a company

does business, with emphasis on value creation, can better be pursued in general and specific management tasks are supported in particular. Ideally speaking, managers can analyse business models' adequacy to environmental circumstances and strategic considerations and then plan and implement modified or new versions. Thus, better design, reaction and alignment improve the quality of decision making (Osterwalder 2004). From a strategic point of view "the business model concept can help foster innovation and increase readiness for the future through business model portfolios and simulation" (Osterwalder et al. 2005, 24). The last aspect mentioned by Osterwalder, patenting, stems from the origin and the primal main field of application which is information and communication technologies. In this branch business models are valuable assets of more or less intangible and virtual companies.

3.2. Distinguishing between strategy and business models

"Business model" and "business strategy" are central terms in management which are often used in a fuzzy manner (e. g. Porter 2001; Magretta 2002; Stähler 2002; Afuah 2004). Both terms stand for important management concepts that are interrelated in many ways, but instead of clarifying the differences and common grounds the boom of the business model rhetoric covered up the boundaries (Porter 2001). For that reason, Magretta (2002) stands for re-drawing the line by working out appropriate definitions as these terms "are often stretched to mean everything – and end up meaning nothing. … Definition brings clarity. And when it comes to concepts that are so fundamental to performance, no organization can afford fuzzy thinking" (p. 8). In his analysis "Strategy and the Internet" Porter (2001) discusses the relationships between e-business, competitive advantage and e-business models critically and suggests concentrating on the concept of strategy. "Instead of talking in terms of strategy and competitive advantage, dot-coms and other internet players talk about 'business models'. This seemingly innocuous shift in terminology speaks volumes. The definition of a business model is murky at best." (Porter 2001, 73) But in fact, several clear definitions have been worked out for e-business as well as for "physical world" purposes over the last decade (Yip 2004), so the actual task is to use and elaborate on the existing definitions carefully and adequately (meta-studies on definitions are conducted e. g. by Scheer et al. 2003; Osterwalder 2004; Kraus 2005; Lambert 2006; Zollenkop 2006; Klein 2008; Lehmann-Ortega 2008).

To be aware of and to actively manage a company's business model is not equal to the concept of strategy (Osterwalder 2004; Seddon et al. 2004; Zollenkop 2006; Krstov & Sinkovec 2007). Magretta (2002) and Stähler (2002) discuss the relationships between both concepts. "A business model itself is not a strategy, as well as simply having a business model is not a strategy." (Stähler 2002, 48; translated) That is, two specific relationships can be distinguished (Stähler 2002): In the first case the business model is subject to business strategy, i. e. the business model depends on, and is an expression of, the applied strategy (see Section 5.1). With this in mind Osterwalder (2004) states that "the vision of the company and its strategy are translated into value propositions, customer relations and value networks" (p. 17). This is synonymous to translating strategy into a business blueprint. In the second case the business model is a more or less intended result of decisions and activities and is not explicitly managed, i. e. the business model is growing in time. When the business strategy is analysed the underlying business model reveals its identity. Finally, both concepts serve dif-

ferent management purposes as business models systematically describe “how the pieces of a business fit together. But they don’t factor in one critical dimension of performance: competition. Sooner or later – and it is usually sooner – every enterprise runs into competitors. Dealing with that reality is strategy’s job” (Magretta 2002, 6). After identifying both concepts as distinct but interacting approaches of performance management (Belz & Bieger 2006), their interplay has to be discussed.

In a more specific comparison Zott and Amitt (2008) show differences and intersections of the business model and product market strategy. From a more abstract angle this comparison holds true for the business model and business strategy in general.

Table 1: “Business model and product market strategy” (Zott & Amit 2008, 5)

	Business model	**Product market strategy**
Definition	A structural template of how a focal firm transacts with customers, partners, and vendors. It captures the pattern of the firm’s boundary spanning connections with factor and product markets.	Pattern of managerial actions that explains how a firm achieves and maintains competitive advantage through positioning in product markets.
Main questions addressed	- How to connect with factor and product markets? - Which parties to bring together to exploit a business opportunity, and how to link them to the focal firm to enable transactions (i.e., what exchange mechanisms to adopt?)? - What information or goods to exchange among the parties, and what resources and capabilities to deploy to enable the exchanges? - How to control the transactions between the parties, and what incentives to adopt for the parties?	- What positioning to adopt against rivals - What kind of generic strategy to adopt (i.e., cost leadership and/or differentiation)? - When to enter the market? - What products to sell? - What customers to serve? - Which geographic markets to address?
Unit of analysis	Focal firm and its exchange partners	Firm
Focus	Externally oriented: focus on firm’s exchanges with others	Internally/externally oriented: focus on firm’s activities and actions in light of competition

3.3. Interplay of strategy and business models

Yip identifies two basic relationships due to the impact strategy has on business models. “A company with a given market share usually wants to increase that share; or to improve its cost position, its quality position or its profitability. In most cases companies seek to do so with routine strategies that do not change the underlying business model.” (Yip 2004, 19) That is, *routine strategies* aim at optimizing the market position in a somehow incremental way. If a fundamental repositioning is desired, another type of strategy is necessary: *radical* or *transformational strategies*. “More drastic ambitions, such as doubling or tripling market share, may require a fundamental change in the business model – to target new customer groups, to change the nature of the value position and so on.” (ibid)

The limiting scope of routine strategic thinking is illustrated by the example of Shell’s “responsible energy” (Illustration Box I). Afterwards, further theoretical interplays of business strategy and business models are discussed.

Shell reduces renewables investment

Consider the current case of Shell adjusting its investment strategy: In 1997 Shell built up the business unit Shell International Renewables and the business area “responsible energy” which is the company’s locus of corporate sustainability and CSR activities (Backer 2009). This area was erected strategically and with great efforts in carrying out wind, solar and biofuel projects (Shell 2008), but in March 2009 chief executive Jeroen van der Veer proclaimed a strategic desinvestment in these fields of activity, except biofuels (Pagnamenta 2009a). The Times cited him as follows, “I don't expect them to grow much at Shell from here, due to *portfolio fit* and the *returns outlook* compared to other opportunities” (Pagnamenta 2009a; emphases added). Shell’s business attitude is characterized by large-scale thinking (Backer 2009), serving shareholder’s interests and the duty to deliver optimistic quarterly results announcements. Furthermore, it seems that the company did not fully integrate global ecological and social demands into its core business – still Shell International Renewables and “responsible energy” seem to be green add-ons. As a consequence huge wind farm projects were currently shelved or cancelled, which were considered to be important pillars of the UK’s renewable energy strategy (Pagnamenta 2009b). The trade-off between shareholders’ and other stakeholders’ interests was strategically decided in favour of the former.

Illustration Box I: Shell reduces renewables investment

According to Porter Shell’s strategic move could be interpreted as a measure to sustain the company’s competitive position. “Jockeying among current contestants” is one of five main competitive forces (Porter 1979). It is obvious that struggling for world market shares and running for the highest returns on investment are crucial elements of “jockeying” in the energy industry. Porter would suggest to identify the underlying main drivers and to react with a strategic agenda. “Strategy is making trade-offs in competing. The essence of strategy is choosing what *not* to do. Without trade-offs, there would be no need for choice and thus no need for strategy.” (Porter 1996, 70; original emphasis) Trade-offs like in the case of Shell can have three reasons: “The first is inconsistencies in image or reputation … Second, and more important, trade-offs arise from activities themselves … Finally, trade-offs arise from

limits on internal coordination and control." (Porter 1996, 68-69) A deeper analysis would take out diverse reasons for Shell's trade-off, but especially the second aspect is of interest as it refers to concrete activities, their variety and their underlying preconditions.

Porter (1996) states, "[d]ifferent [strategic] positions (with their tailored activities) require different product configurations, different equipment, different employee behaviour, different skills, and different management systems" (p. 69). The configuration of these internal resources and activities can be subsumed under the business model roof (Amit & Zott 2009) and can then be distinguished from strategy (Magretta 2002; Stähler 2002). Moreover, the configuration of these resources and activities is subject to business and competitive strategy (see Section 5.1). Strategy makes choices on the different positions that shall be realized (Porter 1996) with resources and activities, internal as well as external (Amit & Zott 2009), which then have to be configured according to the business logic and business models which the chosen positions require (Yip 2004). It seems that Porter too makes an important but somehow unconscious distinction between strategy and business models. Consequently, each management decision of some weight affects strategy, the business model, or both.

Porter is right in saying that strategy deals with trade-offs and decides *what* to do or not. But this is just part of the story since dynamic strategic positioning consists of the *what, who* and *how* (e. g. Markides 1999; Afuah 2004; Yip 2004; Amit & Zott 2009). Shell should have tried to develop business models for the specific value propositions (what), customers (who), infrastructural and financial needs of renewables (how). Patient investors for example are a prerequisite for innovative ventures like developing renewable energies (Moore & Wüstenhagen 2004; Wüstenhagen & Boehnke 2008). The business model explicitly asks if and how this and other pieces of a venture fit in (Magretta 2002) but the impression from Shell's specific case is that fit is simply defined in terms of "portfolio fit" and "comparative return outlook".

A transformational strategic decision to develop "responsible energy" has to be supported by more far-reaching decisions on business architectures (Amitt & Zott 2009) – otherwise it is like "old wine in a new bottle" and leads to inappropriate expectations and valuations (Backer 2009). Shell did not change its wine, i. e. its business approach towards renewables, it just created a new bottle-design being labelled "responsible energy". "That renewable energy is not compatible with the oil companies' existing generic subjectivity [large-scale thinking] is probably one of the reasons why many oil companies in the 1990s have preferred to sustain the oil and gas age … instead of concentrating on seriously expanding their renewable energy business." (Backer 2009, 45) But afterwards renewables like wind energy reached larger scales (e. g. off-shore wind farms), Shell decided to apply its existing traditional business logic to "gain a competitive advantage in wind energy from Group skills in the design, implementing and operation of complex engineering projects" (Shell annual report 1998; cited in Backer 2009, 45). The strategic what-decision was clearly made, whereas the business model related who- and how-decisions should have gone further. In other words, radically different strategic positions require radically different business models (Yip 2004; Zollenkop 2006).

3.4. Consequences for strategic sustainability management

The above introduced thesis highlights the assumed business model's relevance for corporate sustainability (Section 2.1). Strategic sustainability management deals with questions of integrating economic, ecological and social issues in order to realize a business case (Dyllick & Hockerts 2002; Schaltegger &Wagner 2006; Schaltegger & Burritt 2005). As strategy and business models have to be distinguished in general, the same holds true for sustainability management in particular. That is, realizing the business case for sustainability does not only depend on strategic management but is also influenced by business model effects. The major differences as stated by Magretta (2002) and Afuah (2004) are of great importance for strategic sustainability management:

Strategy's job is to decide for a subject and to find an answer to the central question of how competitiveness and business success can be improved with voluntary and outstanding environmental and social performance (Schaltegger & Wagner 2006). Then, complementary to strategy definition, a business model configuration which places the subject of corporate sustainability in an adequate setting of resources and activities (Afuah 2004; Amit & Zott 2009) is a precondition for successfully realizing the business case for sustainability.

Hence, against this background strategic sustainability management has to create strategies and capabilities as a basis for competitive advantages – over competitors (e. g. Ansoff 1987). But in the case of Shell the business area of "responsible energy" has to compete internally with the traditional oil and gas business (Backer 2009) which is somehow like a green David against a fossil Goliath. It can be concluded that in some cases strategy is a necessary but not sufficient concept. Shell's decision to invest in "responsible energy" was a strategic decision, but the large-scale and shareholder-driven business model of Shell did not support it.

3.5. In need of a new "perspective" for corporate sustainability management

From a technical perspective a sophisticated business model concept can help to address complex issues in the context of corporate sustainability which on the one hand cross companies' borders and on the other hand go beyond the scopes of single management concepts and instruments (correspondingly, Zott & Amit (2007; 2008) refer to "boundary-spanning" issues). Examples are the greening of traditional industry companies, the emergence of innovative energy ventures in rural areas, a company's transformation from product vendor to service provider or the empowerment of socially disadvantaged people to become entrepreneurs. Similar issues being currently analysed as business model cases revolve around e. g. technological (Halme et al. 2008; Wüstenhagen & Boehnke 2008) and organisational innovations (Hockerts 2007; Schoettl & Lehmann-Ortega 2010 [forthcoming]), business at the bottom of the income pyramid (Seelos & Mair 2004a; 2004b; 2006; 2007; Klein 2008) and strategic questions of market development under conditions of global change (Hart & Milstein 1999). On a more abstract and conceptual level some authors also try to integrate external and internal organizational and cultural preconditions of promoting corporate sustainability (Stubbs & Cocklin 2008).

Current "understanding of sustainable business models and how sustainable development is operationalized in firms is weak" (Stubbs & Cocklin 2008, 103), but several clues in academic

literature indicate that further understanding of these aspects may be of great academic and practical value. Authors from the field of sustainability management research give some hints, e. g. referring to sustainable entrepreneurship and sustainability innovations. Following Schaltegger and Wagner (2008) appropriate business models are the key to capitalizing on the business case for sustainability innovation. “Hence the question arises, what business models exist and can be developed with social benefits which can be partly appropriated?” Moreover, only with adequate business models “should a business case for sustainability innovation exist and (if the sustainability innovation is suitable for the mass market) sustainable entrepreneurs emerge spontaneously” (Schaltegger & Wagner 2008, 39). Another hint can be found in Schaltegger 2008 where is stated that corporate sustainability generally aims at the integration of business and sustainability and that appropriate business “shaping” is a necessary task. Hence, the approach must be to develop “the business model in a way that it enhances or creates sustainable development” (Schaltegger 2008, 41). To sum up, the relevance of business models that translate corporate sustainability strategies into business cases for sustainability and the lack of adequate concepts and theories theoretically justify efforts to develop a basis for the important and often overlooked intersections of business models and corporate sustainability strategies.

All that are important impetus for comprehensive conceptual work, but none of the referred sources further discusses the specific relationships between the business model and corporate sustainability, except Stubbs and Cocklin (2008) who offer a conceptual template of a “Sustainability Business Model” (Section 4.2). Beforehand, Section 4.1 illustrates different corporate sustainability contexts in which business models (can) play a crucial role.

4. BUSINESS MODEL RHETORIC AND CONCEPTS IN CORPORATE SUSTAINABILITY CONTEXTS

This chapter is about examples of how the term business model is used in a somehow metaphorical way to refer to (un-) sustainable corporate behaviour (Subsection 4.1.1) and about how the business model perspective could be applied in the context of sustainability oriented business development (Subsection 4.1.3). I refer to two established literates, John Elkington and Stuart L. Hart, to prove that the business model already entered the discourse of corporate sustainability and that at the same time further theoretical and conceptual considerations are necessary. A gap Stubbs and Cocklin (2008) try to fill (Section 4.2).

4.1. Metaphorical rhetoric – Locusts, honeybees and creative destruction

The well known literate John Elkington, who coined the term “Triple Bottom Line”, compares the business model to the DNA of business which is decisive for the guise of a company. He applies an inside-out perspective on the causalities of business’s effects on the ecological and social environment. In a somehow complementary manner Stuart L. Hart identifies different economies and markets with different sustainability needs and then asks from an outside-in perspective for the business strategies which best satisfy these needs.

4.1.1. *Business models as the very DNA of business (Elkington 2004)*

In his 2004 résumé article “Enter the Triple Bottom Line” Elkington directly addresses the business model as a key feature of corporate ideal types. These are differentiated according to whether they have high or low environmental and social impacts and whether these impacts are regenerative or degenerative in nature. As today’s “economy is highly destructive of natural and social capital, and is characterized by large and growing gaps between rich and poor” (Elkington 2004, 10) the question of regenerative or degenerative business behaviour, i. e. increasing or decreasing values of economic, social and natural capital stocks, is crucial (e. g. Dyllick & Hockerts 2002). This question is directly linked to the business models in application since these are “the very DNA of business” (Elkington 2004, 15). The metaphor of “the very DNA of business” can be compared to “a company’s logic of earning money” (Osterwalder 2004, 15; emphasis removed) or its “framework for making money” (Afuah 2004, 2) – in that sense literates agree that the business model addresses the underlying business logic. The business logic can be decisive for the characteristics which make up the guise, respectively ideal type, of a corporation.

4.1.2. *Locusts' and honeybees' business models*

Selected corporate characteristics related to the regenerative or degenerative repercussions of business are summarized in the next but one table – with an emphasis on Elkington's (2004) comments on business model attributes. The features condensed from his ideal type descriptions are

- general business attitude and sensitivity,
- dynamics between corporation and business environment,
- environmental and social impact and
- business model attributes.

Beforehand, the four guises are located in a "regenerative/degenerative" and "high impact/low impact" matrix.

Table 2: "Corporate characteristics" (Elkington 2004, 11)

	Low impact	**High impact**
Regenerative increasing returns	BUTTERFLY	HONEYBEE
Degenerative decreasing returns	CATERPILLAR	LOCUST

Since this heuristic may serve as a first sketch of specific business models which could be identified in further empirical research, the ideal types are briefly described below. In a modified version this heuristic may support qualitative and quantitative research on so called "business model gestalt themes" as proposed by Zott and Amit (2007; 2008). Each guise could inspire the design of a specific gestalt theme.

Table 3: Corporate characteristics and business model attributes

	Degenerative – decreasing returns		**Regenerative – increasing returns**	
	CORPORATE LOCUST	CORPORATE CATERPILLAR	CORPORATE BUTTERFLY	CORPORATE HONEYBEE
General business attitude and sensitivity	- incapable or unwilling to foresee negative system effects - unwilling to heed early warnings and learn from mistakes	- single-minded dedication to the business task at hand	- strongly committed to CSR and sustainable development agendas	- oriented to a clear and appropriate set of ethics-based business principles
Dynamics between corporation and business environment	- tends to behave like a 'swarm' that overwhelms the carrying capacities of social systems, ecosystems or economies	- operates in sectors where pioneers are starting to metamorphose towards more sustainable forms of value creation	- operates in wide networks and increasingly involves in symbiotic relationships - defines its position by reference to locusts and caterpillars	- is sociable and evolves powerful symbiotic partnerships - learns from the mistakes of locusts - moderates the impacts of caterpillars in its supply chain - boosts the efforts of butterflies
Environmental and social impact	- high - applies an unsustainable 'burn rate' to different types of capital - creates regional or even global impacts	- low - applies a high 'burn rate' to different types of capital - creates mainly local impacts	- high - holds persistent indirect links to degenerative activities	- low - applies strategic sustainability management to natural resources - holds capacities for 'sustained heavy lifting'
Business model attributes	- *operates on "a business model that is unsustainable over the long run"*	- *operates on "a business model that is unsustainable when projected forward into a more equitable world of 8 to 10 billion people"*	- *operates on "a sustainable business model, although this may become less sustainable as success drives growth, expansion and increasing reliance on financial markets and large corporate partners"*	- *operates on "a sustainable business model, albeit based on constant innovation"*

Table based on Elkington 2004, 11

Corporate locusts are “destroying social and environmental value and [are] undermining the foundations for future economic growth” (Elkington 2004, 10). As locusts tend to behave like a “swarm” and are incapable or unwilling to care about future effects, they provoke negative impacts via the degeneration of social, natural and economic capital stocks. The application of unsustainable “burn rates” of resources can be attributed to unsustainable business models. An example of locust-like business is the interplay of the financial services sector, the building industry and tourism in the case of the Spanish “Costa del concrete” (Tourtellot 2004): Some kind of gold rush moved investors, private owners, tourist and construction firms to build countless hotels, holiday accommodations and beach homes in Spanish coastal regions – sometimes even illegal (Caballero et al. 2008). The financial services sector created investment models based on cheap credits which directed massive streams of money to the Spanish real estate industry. Due to the central value proposition of this business – which is the creation of speculative assets for investors and private owners, instead of building useful living spaces –, extensive resources were used up and the coastline became concreted. Nowadays, on 8,000 km the Spanish coastline suffers from pollution (Caballero et al. 2008). Furthermore, investors and private owners can no longer afford their properties and are deep in debt since credit costs are climbing erratically and real estate prices are collapsing due to the global financial crisis (Finkenzeller 2007). Consequently, 800,000 units of accommodation were built in 2006 – more than in Germany, France and Italy together. Simultaneously 15 % of the private owned homes were unoccupied (Finkenzeller 2007).

While it seems improbable to change such locust-like behaviour into more sustainable business approaches, *corporate caterpillars* “have the potential for transformation into a more sustainable guise, often based upon a mutated business model” (Elkington 2004, 11). Its natural counterparts behave single-minded as their mission is to devour as many resources as possible in order to grow, pupate and prepare for the coming metamorphosis. Obviously, the greater the amount of caterpillars the greater the potentially negative environmental impacts; i. e. this model is not sustainable if transferred too broadly as the degeneration of capital stocks may result. But like a real caterpillar its corporate variation may also change its guise towards a more sustainable form of value creation. Again, Shell’s “responsible energy” can serve as an example. It was discussed that Shell currently fails to become a “real” renewable energy player because its business logic and model did not change adequately to really support the mission of promoting sustainable energy. The corresponding hypothesis referred to negative business model effects like e. g. a large-scale and shareholder driven business logic as well as the unwillingness to create a radically new business model architecture that better fits the needs of the renewable energy business field. Shell’s “responsible energy” still has the potential to flourish, but – speaking with Elkington (2004) – one crucial precondition is the mutation of its business model.

Corporate butterflies play a crucial role as “they model new forms of sustainable wealth creation for the honeybees to mimic and, most significantly, scale up” (Elkington 2004, 12). In its business attitude and sensitivity this type is committed to CSR and sustainable development agendas. Therefore, it operates highly interconnected with different kinds of stakeholders and builds symbiotic relationships. Compared to locusts and caterpillars the corporate butterfly’s special nature becomes obvious. Consider the case of The Body Shop. Besides the cri-

tique related to the L'Oreal take over in 2006 and the reproach for greenwashing (Purkayastha & Fernando 2007), The Body Shop pioneered the environmentally and socially concerned production and distribution of cosmetics. "Since its inception, the company had endorsed and championed various social issues that complemented its core values – opposition to animal testing, developing community trade, building self-esteem, campaigning for human rights, and protection of the planet. Body Shop was one of the first companies to publish a 'Values Report' in 1996." (Purkayastha & Fernando 2007, 227) Obviously, this corporate butterfly is different from companies like L'Oreal that stick to animal testing and promoting "conventional" sex symbols. Since its foundation in 1976 The Body Shop was committed to a multitude of CSR initiatives including animal and nature protection, moreover, symbiotic business and social networks were established. But regarding butterflies' business models, Elkington points to a crossroads that The Body Shop already stood at: Ideal corporate butterflies are based on "a sustainable business model, although this may become less sustainable as success drives growth, expansion and increasing reliance on financial markets and large corporate partners" (Elkington 2004, 12). The question remains whether The Body Shop has itself always been a greenwasher, as some critics assert, or if it was a true corporate butterfly which is abused as a CSR buy-in by L'Oreal (Purkayastha & Fernando 2007). However, The Body Shop's business model possessed very special attributes like connecting its money-making logic to the logic of doing well and the creation of multidimensional values for politically motivated customers. The specific money-making attitude and value propositions were related to an "organically" grown business model architecture. These characteristics were the basis upon which The Body Shop was able to spare social, natural and economic capital and to perform with regenerative effects. It is perfectly obvious that the L'Oreal take over will somehow affect this basis of corporate sustainability.

Finally, the fourth ideal type is the *corporate honeybee.* "A sustainable global economy would hum with the activities of corporate honeybees and the economic versions of beehives. Although bees may periodically swarm like locusts, their impact is not only sustainable but also strongly regenerative." (Elkington 2004, 13) What is specific about a honeybee? First, it performs a task that obviously produces positive external effects. While honeybees do their everyday job, i. e. collecting pollen, they pollinate plants and are therefore of the highest significance for every following stage of the ecological life cycle. Second, honeybees are organized following socio-economic principles like hierarchy and division of labour. These insects maintain their colonies internally and externally balanced. Simultaneously they contribute to sustaining higher systems like e. g. the reproduction of plants. In this analogy honeybees apply a prototypical business model for sustainability which is the logic of making a living and providing manifold values including positive external effects.

4.1.3. *Different markets, different business models (Hart & Milstein 1999)*

The previous subsection illustrated how social and environmental impacts can be attributed to corporate ideal types and their business models. The perspective applied can be described as looking from the inside of a company to the outside world. Hart and Milstein (1999) take a complementary perspective to discuss sustainability oriented business strategies against the background of different economies and markets: consumer, emerging and survival economy. These economies serve as starting point for exploring which business

strategies could support corporate sustainability with regard to different market characteristics which can be interpreted as starting from the outside and looking at the inside of an organization.

Hart and Milstein primarily refer to business strategy in the contexts of continuous improvement ("greening") and creative destruction ("global sustainability"); nevertheless, implications for the business model level are evidently given but not directly addressed by the authors. "In the long run, however, the dynamics of creative destruction will work against firms that rely only on incremental improvements and fail to *change the fundamental manner* in which they provide products, processes, and services." (Hart & Milstein 1999, 24; emphasis added) Since "the fundamental manner" clearly refers to the business logic, Hart's and Milstein's formula "Global Sustainability = Creative Destruction" (1999, 25) automatically includes issues of business model design.

Table 4: "New Lenses on the Global Market" (Hart & Milstein 1999, 26)

Economy	Description
Consumer Economy	"In the developed, *consumer* economy, nearly 1 billion global customers have the purchasing power to afford anything they desire. The infrastructure enables the rapid manufacturing and distribution of products and services, and consumption occurs at high levels."
Emerging Economy	"In the *emerging* economy (roughly 2 billion people), basic consumer needs are met; customers have minimal purchasing power. There is little extravagance, but no desperation. Rapid industrialization and urban migration are increasing the demand for additional products and services for this large, rapidly growing market."
Survival Economy	"In the *survival* economy (roughly half of humanity or 3 billion customers), members are largely rural and poor with unnoticed, unmet basic needs. There is no infrastructure, and few companies have dared to invest in what they perceive as a risky, long-term proposition."

Table based on Hart & Milstein 1999, 26; original emphases

Table 3 shows the three economies identified by Hart and Milstein. These economies are not mutually exclusive: "Within any country or region, even the United States, there are *three* types of markets or economies – developed, emerging, and surviving. To better understand sustainability-driven creative destruction, managers must evaluate business opportunities based on the three types." (Hart & Milstein 1999, 26; original emphasis) Against this background the central question is, which roles do business models play when companies try to realize sustainability oriented business opportunities on different markets?

4.1.4. *Models for consumer, emerging and survival economies?*

Hart and Milstein focus on different strategic approaches under the paradigm of sustainability. They argue that "[m]ost efforts in 'greening' and 'environmental management' serve only to improve incrementally the performance of existing products and processes. … As a result, 'greening' fosters continuous improvement rather than reinvention or fundamental innovation." (Hart & Milstein 1999, 24) In other words, companies which 'go for green' and try to better their performance yet tend to do business as usual without fundamentally changing economic and technological structures. Instead, to survive and moreover drive sustainability oriented processes of creative destruction of current industries "[m]anagers need the foresight to see opportunity where they now see only chaos or rhetoric" (ibid, 26). The authors offer "new lenses on the global market" (ibid) to identify necessary radical approaches – as will be discussed, in this article strategy had better been complemented with business model thinking to address this topic.

The first typical economy, the *consumer economy,* is characterized by vast purchasing power, extensive infrastructures and seemingly unlimited product and service offerings. With regard to sustainable development companies "primary challenge … is to reduce its corporate footprint, or its impact on the natural environment throughout its life cycle. To identify opportunities for reducing material content, metrics capture and track the material- and energy-intensiveness of … products and processes – not just those emissions required by regulations" (ibid, 31). Moreover, "dramatic rethinking of product design" and observing "the public's perception of their products and services" are necessary approaches (ibid). It is disputable whether strategies based on such basic environmental management thinking, complemented with ideas of sustainable design and stakeholder integration, really unfold the promised radical potential to "achieve higher levels of earnings growth and improve shareholder value-added" (ibid).

In the *emerging economy* most of the basic consumer needs are met. Affluence of products and services is an unknown phenomenon due to limited purchasing power. The central characteristics are rapid growth and urbanization. A challenge is "to avoid the collision of rising demand for products and services with overburdened natural and social systems. In regions of rapid industrialization, dramatic reductions in emission levels are a critical metric" (ibid). The foreseen growth potential of emerging markets has to be coupled with job creation and local corporate investments to build up future markets. Additionally, to avoid mistakes of the developed markets leapfrog technologies have to be developed. Even if Hart and Milstein offer normative and self-reflective questions for managers, such as "Is it environmentally feasible to double or triple the size of our industry?" (ibid, 28), it remains questionable if benevolent strategy formulation helps emerging markets to develop in a sustainable manner.

Nearly half of humanity lives in *survival economies;* poor people in rural areas with unrecognized needs. Corporate engagements in survival economies are perceived as risky and feasible only in the long-term, i. e. infrastructures, products and services are predominantly unavailable. The challenge is "to meet the basic needs of the poor so that they develop a solid economic foundation and increase their quality of life" (ibid, 32). Strategies should aim at building the "social infrastructure of potential markets through education, training, and increased worker wages", moreover, "[c]ompanies can introduce products and services on a

small-scale to enhance local community development and alleviate pressures for urbanization" (ibid). Hart's and Milstein's formula leads to improved price-earnings ratios and new wealth creation.

In sum, all of these strategic recommendations can be interpreted as variations of the basic innovative and offensive strategies of environmental and sustainability management (e. g. Schaltegger et al. 2003; Schaltegger & Burritt 2005). The authors refer to groundbreaking business models like micro-credit (Grameen Bank; Hart & Milstein 1999, 30-31) or ready-to-make kits for jeans (Ruf and Tuf jeans; ibid, 30) but they do not factor business model concepts into their strategic considerations. The pretension to deliver strategies for fundamental changes is not met. It is recognized that "simply transplanting business models" (ibid, 29) from one economy to another will not work, but the real strength of business model thinking is not unfolded. According to Yip "*radical* (or *transformational*) strategy is needed to change the business model" (2004, 19; orig. emphases); conversely, fundamental strategic re-orientations as claimed by Hart and Milstein should result in tangible business model changes.

For example, from a theoretical viewpoint the micro-credit approach is more about business model design than about business or competitive strategy. If a conventional bank decided to enter the micro-credit market of a survival economy, this would be a strategic decision. But to really enter this market, a fundamentally new business model would be necessary due to the different value proposition (e. g. little loans, low interest rates), different infrastructures (e. g. networks with rural people), different customer relationships (e. g. credit security through community control) and different financial aspects (e. g. higher cost per contract, low rate of return). It can be concluded that not only in cases of survival economies and bottom of the pyramid issues strategy has to be complemented with business model thinking. Different streams of literature document the emergence of corresponding approaches (e .g. Seelos & Mair 2004a; 2004b; 2006; 2007; Hockerts 2007; Halme et al. 2008; Klein 2008; Wüstenhagen & Boehnke 2008; Schoettl & Lehmann-Ortega 2010 [forthcoming]).

4.2. Conceptual approach – The SBM ideal type (Stubbs & Cocklin 2008)

This section deals with a conceptual approach that differs from the discussions above in that it directly aims at integrating corporate sustainability and a generic business model concept. Stubbs and Cocklin (2008) derive an *ideal type* of a so called *sustainability business model* (SBM). It is helpful to discuss the authors' approach in detail and locate it in the BMRS where a sound conceptual connection of business models and corporate sustainability is still missing. The ideal type of Stubbs and Cocklin "is a representation of the 'idea' of a sustainable organization to the extent that 'it has really taken certain traits … from the empirical reality of our culture and brought them together into a unified ideal-construct'. Ideal types represent organizational forms that might exist rather than actual organizations and can be used as design guidelines for new or existing organizations." (ibid, 107; Weber, Shils & Finch 1949, 91 recited) The SBM is an ideal type serving as a design guideline.

The authors state "that organizations adopting a 'sustainability business model' (SBM) must develop internal structural and cultural capabilities to achieve firm-level sustainability and

collaborate with key stakeholders to achieve sustainability for the system that an organization is part of" (ibid, 103). In one word, an SBM is "a model where sustainability concepts shape the driving force of the firm and its decision making" (ibid, 103). It offers some indications of how the concept of corporate sustainability and business models may interrelate.

4.2.1. Background: Ecological modernization and corporate sustainability

The SBM concept is based on two pillars: First, the neoclassical economic paradigm is contrasted with sustainability concepts to formulate prescriptions for corporate sustainability. Therefore, the work is located within the paradigm of ecological modernization (EM) (e. g. Spargaaren & Mol 1992; Huber 2000; Jänicke 2000; Mol 2000; Spaargaren 2006). Second, the cases of Interface Inc. and Bendigo Bank are studied and detailed empirical data is used to shape the SBM image by means of induction. The case study analyses are the fundament of this approach (Stubbs & Cocklin 2008, 106), while the ecological modernization paradigm is its normative grounding. "Ecological modernization stands for a major transformation, an ecological switch of the industrialization process into a direction that takes into account maintaining the sustenance base. Like the concept of sustainable development, ecological modernization indicates the possibility of overcoming the environmental crisis without leaving the path of modernization." (Spaargaren & Mol 1992, 334)

Stubbs and Cocklin describe their attitude towards the neoclassical economic paradigm as follows: "[It] is the dominant paradigm today in which free markets and private property reign. The primary goal of organizations is to maximize shareholder value. Typically, environmental reforms are pursued only if it is in the organization's self-interest." (Stubbs & Cocklin 2008, 105) Therefore, ecological modernization is introduced as overcoming the economic predominance: "EM is one alternative worldview to the neoclassical economic perspective. A core belief of EM is that economic growth can be uncoupled from environmental degradation and EM is achieved through environmental policies, innovation, and new technologies." (ibid) Without any further appreciation of the neoclassical paradigm the authors just add that their work "may draw assumptions from the neoclassical and EM paradigms in a variety of ways" (ibid).

Necessarily, one question emerges: Why do the authors introduce the background of ecological modernization in a somehow "cloudy" manner to ground a normative approach on corporate sustainability and sustainability-driven business models? Instead, a sound normative fundament – more suitable for the business level – is corporate sustainability as introduced in literature on corporate sustainability management (e. g. BMU et al. 2002; 2007; Schaltegger & Dyllick 2002; Schaltegger & Burritt 2005; Schaltegger & Wagner 2006; Schaltegger & Müller 2008). This concept incorporates environmental and social issues and tries to figure out how to realise the integration challenge systematically, how to contribute to sustainable development under economic conditions.

4.2.2. *Methodology: Induction from case studies*

The study follows an explorative design comparable to Eisenhardt's (1989) inductive methodology (Chapters 2.1 and 2.2). In order to develop a general understanding of how business models can be shaped by sustainability concepts according to the EM perspective, two case studies based on in-depth, semi-structured interviews were conducted. Interface Inc. and

Bendigo Bank were chosen because these companies are “organizations that are developing their business models, culture, and practices around sustainability concepts, rather than treating sustainability as an ‘add-on’ to their businesses” (Stubbs & Cocklin 2008, 107). Additionally, literature and other resources like websites and annual reports were consulted. The methodological design and its purpose are clearly justified: “The abductive approach involves constructing theory that is grounded in everyday activities and/or in the language and meanings of ‘social actors’ (employees of sustainable organizations). Categories and concepts are derived from the activities and meanings and these form the basis of an understanding or an explanation of the problem at hand.” (ibid, 106-107) Though this research style follows a Grounded Theory attitude, the ambition was not to build theories but to enhance general understanding based on categories and concepts induced from exploration.

This methodology might be assessed Phase-4-research aiming at inductive insights for generalization purposes (Figure 2). So far, this seems to be problem-free. But a closer look reveals an eminently weak point: The study is not grounded on a straightforward idea about what a business model is on a conceptual level. That is, research is not guided by clear concepts which define basic elements or typologies. Stubbs and Cocklin aim at building categories and concepts but they better had developed basic ideas before processing huge amounts of empirical data. Even Grounded Theory pioneers like Glaser and Strauss (1980) refer to deductive work as a complement to data based theorizing as well as the necessity to clarify categories and concepts before theorizing. Therefore, it seems as if the SBM ideal type is stuck in between Phases 3, 4 and 5 and their back loops (Figure 2).

4.2.3. *Conception: Two dimensions to redefine business purpose*

From the case studies a heuristic is extracted describing how the empirically found characteristics of Interface’s and Bendigo Bank’s business models help to achieve objectives of corporate sustainability. The whole of these characteristics can be interpreted as a normative white list of preconditions, drivers and measures which are assessed as having positive effects on corporate sustainability. To clarify the meaning of these characteristics, the authors introduce two dimensions (Stubbs & Cocklin 2008, 118-121). Two types of overall attributes are introduced in the first dimension: *structural characteristics* and *cultural characteristics.* “Structural characteristics are those that relate to processes, organizational forms and structures, and business practices. Cultural characteristics refer to norms, values, behaviours, and attitudes.” (ibid, 113) In the second dimension specific *internal organizational capabilities* are identified. Those do interrelate with the *socioeconomic environment.* The rationale of this heuristic is that internal organizational capabilities as well as well changes in the socioeconomic environment are necessary to develop specific structural and cultural characteristics which constitute an SBM. Neither the differentiation between cultural and structural characteristics (first dimension) nor between internal and external aspects (second dimension) is absolute. Stubbs and Cocklin refer to examples of overlap: “A long-term focus is required at both the organizational and socioeconomic levels. ‘Patient shareholders’ is classified as both a structural (the ownership structure includes patient shareholders) and cultural (‘patient’ is a cultural attribute of shareholders) characteristic.” (ibid)

In a diagram with structural and cultural attributes on the horizontal axis and internal organizational capabilities and socioeconomic environment on the vertical axis, the characteristics of an SBM can be structured graphically. Figure 4 is induced from Interface's and Bendigo Bank's business models' characteristics (ibid, 113-114). This diagram helps to classify attributes of a business model as being structural or cultural, and as being related to the socioeconomic environment or internal organizational capabilities. Also, aspects of the environment and capabilities of the internal organization can be analyzed as primarily appearing structurally or culturally. The dashed lines indicate possible overlaps. Basically, the heuristic asks for specific themes that an SBM has to address via its structural and cultural attributes (ibid, 118-119). These attributes are supported, respectively developed, by internal organizational capabilities (inner sphere) and/or the socioeconomic environment of a company (outer sphere).

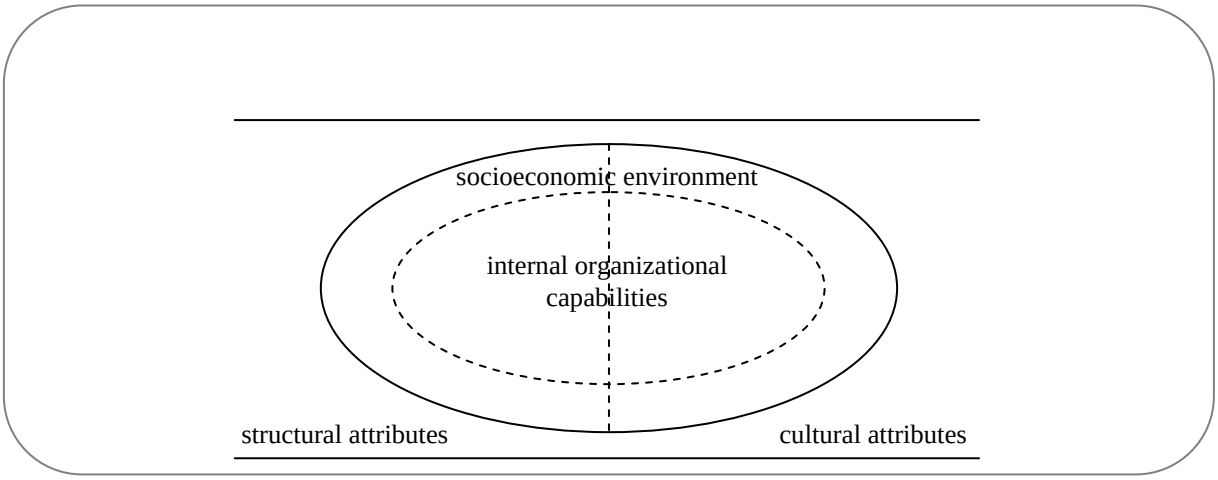

Figure 4: Dimensions of the SBM (Stubbs & Cocklin 2008, 114)

Seven specific "meta-themes" are identified as pillars of an SBM – the following table summarizes these topics.

Sustainability business model pillar	Description
"Redefining the Purpose of Business"	- the main contribution of an SBM is to redefine business purposes - economic as well as ethical reasons lead to a wider definition of business purposes - emphasize is on environmental and social aspects going beyond monetary objectives like profitability and shareholder returns
"Reporting Financial, Environmental, and Social Outcomes"	- reporting on financial as well as environmental and social outcomes is important for cultivating relationships - but reporting on corporate sustainability performance "by itself, is not a good indicator of sustainability; it is neither a necessary nor a sufficient condition for companies to achieve sustainability" (p. 115) - "market analysts typically place little value or importance on sustainability and only track financial performance" (ibid); for the success of an SBM valuations have to account for corporate sustainability performance
"Stakeholder View of the Firm"	- to engage with stakeholders actively and to make them engage with the company, structural and cultural factors are crucial - companies "must be willing to share resources (people, profit, time, or natural resources) among stakeholders to achieve sustainable outcomes for all stakeholders" (ibid) - an SBM has to allow for a long-term oriented harmonization of stakeholders' and shareholders' claims; "[t]his may mean accepting a lower return on investment (dividends) in the short term […] so that organizations can direct profits to structural and cultural change programs […]" (ibid)
"The Role of Leadership"	- persons like CEOs may transfer personal values and concerns on environmental and social issues to companies' cultures - leadership has to build consensus among stakeholders and shareholders; "[s]ustainability leaders embed sustainability in the culture and work towards institutionalizing it in the minds of key stakeholders." (p. 116)
"Nature and Environmental Sustainability"	- structural changes require capital investment and behavioural changes - "The dilemma for organizations that have large ecological footprints is that they may not have the scale of operations (and revenue) to meet the costs of new infrastructure […]." (ibid) - approaches to solving this dilemma could be realized by means of innovative business models
"Modifying the Taxation System"	- active modification of a company's environment can support better fit of the internal organizational capabilities and the socio-economic environment - "To fully realize an SBM, modifications to the taxation systems are required to shift the tax burden from 'goods', like income and labour, to 'bads', like ecological damage and consumption of non-renewable resources." (p. 117) - the result would be a diffusion of eco-innovations, guided by changing environmental policies
"Retaining and Reinvesting Local Capital"	- the structural characteristics of retaining capital are important to an SBM - capital should be kept local, without negating the necessity of keeping in touch with global processes - measures like community enterprise foundations or regional development funds as well as ethics to work cooperatively for the common good have to be cultivated with local stakeholders

Table 5: Normative pillars of the SBM

4.2.4. *Review: Type and function of the SBM ideal type approach*

Stubbs and Cocklin touch two important dimensions of business model concepts: type and function. What they refer to as an ideal type corresponds to a specific class of models – generic models. Linder and Cantrell (2000) distinguish three types – generic, operating and scenario business models. A generic business model is an abstract model consisting of essential elements and their relationships. Operating models are (consciously and unconsciously) implemented models existing in organizations; these are concrete derivatives of generic models. As it has a virtual character, the scenario model does not really exist. It serves purposes like "fostering innovation, simulating opportunities or acting as a guideline in change management" (Osterwalder 2004, 16). That is, the SBM ideal type has to be discussed in terms of a generic model to reveal its theoretical strengths and limitations.

Above, the SBM's function of serving as a "design guideline" was mentioned. According to Osterwalder (2004, 19-22), five categories of functions can be distinguished "which are understanding and sharing, analyzing, managing, prospects and patenting of business models". Design is one of the functions that Osterwalder subsumes under managing (ibid, 21). Since the SBM is presented as a means of identifying sustainability related business topics in internal/external and structural/cultural cross hairs the understanding, sharing and analyzing functions are focused, while the managing respectively designing functions are obviously underestimated. But from the perspective of corporate sustainability the managing and designing potential of a business model concept is crucial.

Therefore, in the following chapter a more technical approach will be followed to create a generic template for business models for sustainability. A template that shall offer the managing potential prescribed by Osterwalder: "The business model concept helps ameliorating the design, planning, changing and implementation of business models. Additionally, with a business model approach companies can react faster to changes in the business environment. Finally, the business model concept improves the alignment of strategy, business organization and technology." (Osterwalder 2004, 21)

To sum up, from a theoretical point of view the SBM ideal type approach conceptualizes a generic business model with a focus on understanding, sharing and analyzing. In the SBM concept the managing function – which encompasses designing, planning, changing and implementing a business model and helps management to better react, improve decision-making and align strategies – is definitely underdeveloped.

4.2.5. *Discussion: Paradigm shift or conceptual complement?*

Obviously, the SBM ideal type approach has some remarkably weak points. Though, the development of a generic business model concept for corporate sustainability contexts is an overdue step – it is *not* a panacea for developing a new and more sustainable model of the firm. Moreover, it is not able to reform the neoclassical economic paradigm – a conclusion that can even be reasoned with reference to basic assumptions of ecological modernization. For example, Jänicke (2000) states that the economic logic behind the diffusion of environmentally and socially sound solutions is an important, but limited, driver. Stubbs and Cocklin refer to sustainability business models to overcome this limitation – but, following Jänicke, policy approaches have to come into play to move from an ecological modernization to an

ecological structural change (Jänicke 2000, 3-4). That is, Stubbs and Cocklin somehow overstretch the field, at least a concrete idea of how business models unfold such transformative powers should have been thoroughly discussed.

Altogether, the innovative contribution of Stubbs and Cocklin is the introduction of structural and cultural attributes taking into account the socioeconomic environment and internal organizational capabilities (Stubbs & Cocklin 2008, 113-121). But in fact the general corporate function of profit maximization remains unaffected despite the integration of environmental and social issues. Companies have to optimize their economic performance (however defined) in order to sustain themselves (Dyllick & Hockerts 2002, 133; Schaltegger & Hasenmüller 2005, 8; Schaltegger 2006). In this context the business model, understood as a performance concept for sustainable entrepreneurship and sustainability management, has to support creating the business case for sustainability.

4.3.Summary

Section 4.1 described Elkington's guises of his "chrysalis economy" (Elkington 2001; 2004). In this heuristic the business model plays a crucial role. As the very DNA of business it is the decisive factor for corporate behaviour which can have high or low impacts and can be degenerative or regenerative. With regard to the fundamental thesis of this research, Elkington helps to illustrate the assumed interrelations between corporate sustainability and business models, but he does neither offer a sound business model concept nor a systematic analysis of possible interrelations. Accordingly, future research could try to specify business model gestalt themes. Gestalt themes are "design themes that orchestrate and connect the elements of a business model" (Zott & Amit 2007, 183; emphasis removed). Therefore, qualitative and quantitative indicators would have to be developed to "measure" e. g. locusts' and honeybees' strategies and business models in a more down-to-earth manner. Thus, business model effects on corporate sustainability could be tracked statistically.

The different approaches to consumer, emerging and survival economies according to Hart and Milstein (1999) could also be translated into business model gestalt themes. Starting from the question of how sustainability oriented business models can be designed for differently developed markets, indicators would have to be developed to measure correlations between sustainability oriented business model designs and market maturity.

Section 4.2 summarized the SBM ideal type of Stubbs and Cocklin (2008) which was identified as the only conceptual approach which directly connects corporate sustainability issues with a generic business model template. It was argued that a business model concept should serve purposes of sustainable entrepreneurship and sustainability management instead of shifting paradigms like the neoclassical economic worldview. In a competitive environment "the power of business models" (Shafer et al. 2005) should rather be used to support the creation of business cases for sustainability.

Chapter 5 therefore introduces a generic business model template as a concept for sustainable entrepreneurship and sustainability management.

5. A GENERIC TEMPLATE FOR BUSINESS MODELS FOR SUSTAINABILITY

As can be seen from different literature reviews (e. g. Scheer et al. 2003; Osterwalder 2004; Kraus 2005; Zollenkop 2006; Ballon 2007; Klein 2008) the number of business model definitions – thus, the variety of their determining components – increases in a linear if not even exponential relation to the number of authors concerned with this topic. The concepts of Osterwalder and Zott and Amit were chosen to develop a generic business model template combining the different strengths of the authors' approaches (e. g. Osterwalder 2004; Osterwalder & Pigneur 2009; Amit & Zott 2001; Zott & Amit 2007; 2008). In his dissertation and related articles Osterwalder conceptualizes the business model with a clear management orientation (before he transfers his concept to the field of e-business), delivers valuable connections to strategic and operative management and proposes a helpful visual representation. Zott and Amit develop a widely applicable understanding of business models which has at least been furthered in their working-paper on "activities based business models" (Amit & Zott 2009). They also perform groundbreaking work on the statistical measurement of different business model types and their relations to strategy (Zott & Amit 2007; 2008). Therefore, both approaches will be applied to develop a generic business model template for research on corporate sustainability.

5.1. The business model's scope and its management

In the context of business models for sustainability Osterwalder's concept serves as a generic template for purposes of verbal and visual representation of business model elements and their interrelations (Osterwalder 2004; Osterwalder et al. 2005; Osterwalder & Pigneur 2009). His approach begins with a framework (*pillars*) derived amongst others from the perspectives of the Balanced Scorecard (BSC) (Kaplan & Norton 1992; 1996a). This framework is augmented by business model "building blocks" (*elements*) which were compiled from twenty different business model publications from 1998 to 2003 (Osterwalder 2004, 24). This conceptual design approach is chosen as a template since it proves to be well defined and widely accepted.[1] It avoids the fuzziness that can often be recognized in business model literature.

For example, strategy and business model issues are clearly differentiated – a prevalent source of conceptual blurredness, e. g. discussed by Magretta (2002) or Yip (2004) (Section 3.2). Following Belz and Bieger (2006) strategy and the business model are different approaches of performance management; therefore, a clear distinction seems to be necessary. Concerning its relation to strategy in general, the business model can be located on a separate level between normative and strategic management on the one hand and operative management on the other (see Figure 3). This localization causes additional work on the different levels' relations, but these efforts are outweighed by conceptual precision.

Another typical source of fuzziness refers to the conceptual scope. In the dot-com years, for example, *revenue* models and *business* models were often treated as being equivalent (Bal-

[1] For the practical impact of Osterwalder's concept see e. g. www.businessmodelalchemist.com.

lon 2007). Afuah states that “in the late 1990s, it was not unusual … to refer to a firm as having an advertising, an auction, a markup, a production, or a subscription business model. These terms … pertained to revenue models, not business models” (Afuah 2004, 11). That is, the main difference lies within the models’ scopes. The revenue model focuses on the revenue generating aspects only, whereas a “business model describes the rationale of how an organization creates, delivers, and captures value” (Osterwalder & Pigneur 2009, 14), i. e. how revenues are generated and how costs incur when customer equity and customer value are created. As can be seen from the following sections the chosen template integrates the revenue model as one of nine business model elements.

Since Osterwalder’s work guarantees clarity regarding purposes of verbal and visual representation and since it can clearly be distinguished from other approaches of performance management, it is chosen to provide the main elements and relationships of a generic template for business models for sustainability.

5.1.1. *The scope – the four-pillar template*

Following Ballon, four central business model areas can be identified when reviewing relevant literature (Ballon 2007, 8; emphases added):

- “the products and services a firm offers, representing a substantial value to a target customer (*value proposition*), and for which he is willing to pay;
- the relationship the firm creates and maintains with the *customer,* in order to satisfy him and to generate sustainable revenues;
- the *infrastructure* and the network of partners that are necessary in order to create value and to maintain a good customer relationship; and
- the *financial aspects* that can be found throughout the three former components, such as cost and revenue structures.”

That is, Ballon (2007) highlights four basic aspects that may constitute a business model framework (in italics). In Afuah’s (2004) definition, as well as in others, these aspects can be identified, too. Similarly, Osterwalder’s framework stands on the pillars *product, customer interface, infrastructure management* and *financial aspects* which are “the four main areas that constitute the essential business model issues of a company” (Osterwalder 2004, 42).

Figure 5 shows the verbal representation of these four basic pillars arranged according to the "business model canvas" (Osterwalder & Pigneur 2009). This diagram is based on a very straightforward logic: A business model focuses the value being created for target customers (product); therefore, a firm has to manage its partnerships, resources and capabilities to find adequate value configurations for products and services (infrastructure management); to address market segments and target customers, communication and distribution channels as well as diverse customer relationships have to be established (customer interface); at least, the objective of a focal firm is to appropriate as much of the created value as possible which refers to the underlying financial performance (financial aspects). These and similar aspects make up the frame of a business model and are discussed with different emphases in business model literature (e. g. Afuah 2004; Yip 2004; Ballon 2007; more abstract in Zott & Amit 2007; 2008). Compared to meta-studies on business model concepts (e. g. Scheer et al. 2003; Kraus 2005; Klein 2008) this approach appears to adequately define the scope of a generic template.

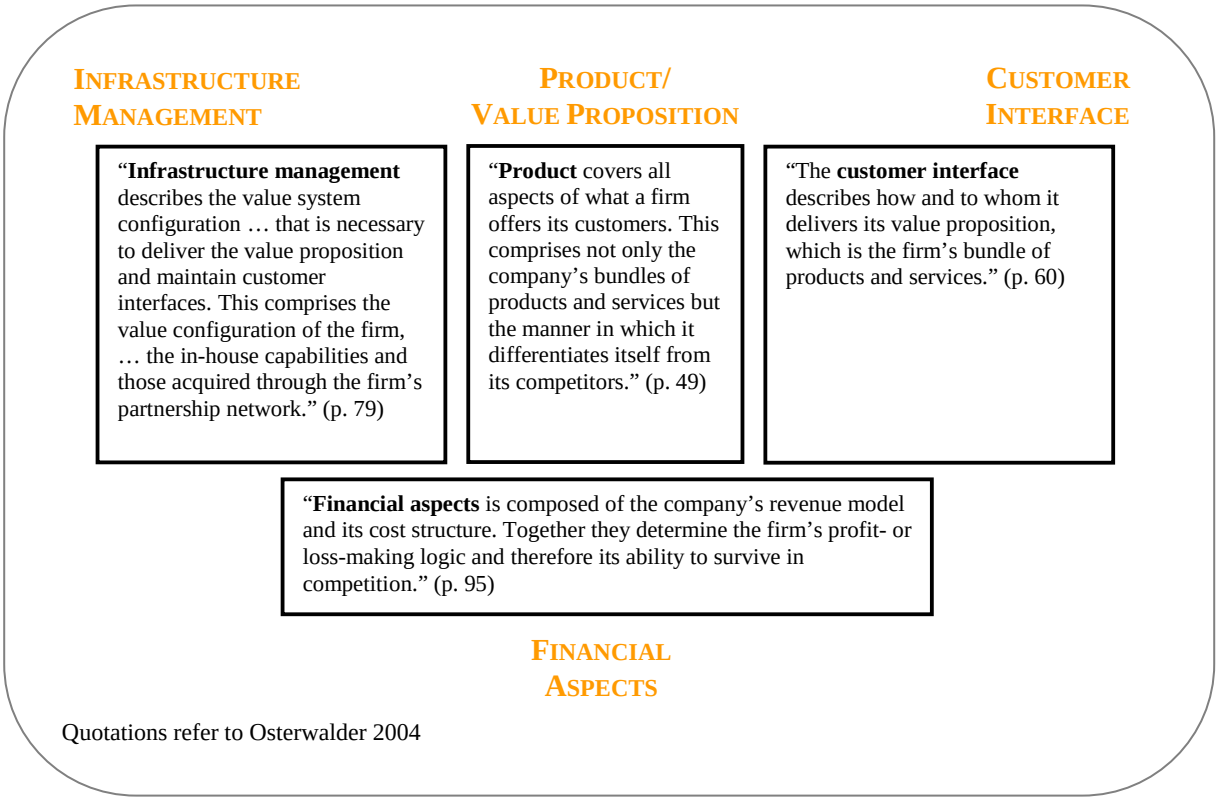

Figure 5: Verbal representation of the four-pillar template

On this level of low granularity Osterwalder refers to Kaplan and Norton's four BSC perspectives (Kaplan & Norton 1992; 1996a) which he directly compares to the four framework pillars mentioned above. According to the latter the essential perspectives of a firm are the *financial, customer, internal process* and *learning and growth* perspectives (Kaplan & Norton 1996a, 24-29) (see Subsection 5.3.1). Besides the BSC Osterwalder also refers to Markides' *what, who* and *how* of a business (Markides 1999). These references are helpful to determine the scope of a business model framework, and they also owe to an important scientific

(but also pragmatic) criterion: connectivity to established theoretical management discourses; an aspect that is often missed in the rather young domain of business model research (Yip 2004; Lambert 2006; Ballon 2007).

Table 6: "The four business model pillars" (Osterwalder 2004, 43)

Business Model Ontology (Osterwalder 2004)	**Balanced Scorecard (Kaplan & Norton 1992)**	**Business Perspectives (Markides 1999)**
Product	Learning and Growth Perspective	What?
Customer Interface	Customer Perspective	Who?
Infrastructure Management	Internal Business Perspective	How?
Financial Aspects	Financial Perspective	-

Osterwalder directly compares the four pillars to the perspectives of Kaplan and Norton and the basic business elements defined by Markides (Table 7). Concerning two points, this approach has to be discussed in some detail: First, the (non-) similarities of the business model pillars and the BSC perspectives have to be clarified since they are not as direct as Osterwalder suggests (Osterwalder 2004, 42). Second, the BSC and the business model can be connected in a conceptual way which could open up the field of strategic business model management (see Section 5.3).

5.1.2. *Extending the scope - the five-pillar template*

Obviously, the above introduced perspectives belong to "conventional" streams of management literature which – in one word – focus on the economic function of the firm only. Neither Osterwalder nor Kaplan and Norton intend to define a specific place for environmental and social aspects in their basic conceptions. The BSC is also made to integrate soft and non-monetary aspects of business, but nevertheless it has to be developed further to become an integrative system of corporate sustainability management. In its enhanced form the BSC becomes a Sustainability Balanced Scorecard (SBSC) (e. g. Schaltegger & Dyllick 2002; Figge et al. 2002) (see Subsection 5.3). As was discussed in the context of Stubbs' and Cocklin's "sustainability business model" equal theoretical and conceptual developments are still missing in the fields of business model research. Hence, the next step is to introduce aspects of corporate sustainability to the generic business model template. In contrast to Stubbs and Cocklin, who more or less collect sustainability related issues which are connected to a roughly defined business model (see Figure 4 and Table 6), the approach at hand is to develop a general conceptual fundament. The idea is to create a generic template for business models for sustainability which can be applied without depending on specific cases.

Therefore, the four-pillar template is augmented first, by highlighting aspects of corporate sustainability being potentially inherent in the existing four pillars (*accentuation*), and second, by introducing a fifth and sustainability oriented business model pillar (*extension*). These methods compare to the design approach of developing SBSCs. Analogous to Schaltegger and Dyllick (2002) and Figge et al. (2002), sustainability related corporate resources and

activities are highlighted in the four basic pillars (comparable to the method of *subsumption;* Figge et al. 2002, 275; see Table 9). Additionally, a fifth pillar is introduced (comparable to *addition;* ibid): the "non-market pillar" which refers to the idea of the SBSC's *non-market perspective.* According to Figge et al., the "reason for this is that, fundamentally, environmental and social aspects originate from non-market systems as social constructs" (Figge et al. 2002, 274) – an aspect which is neglected in nearly any business model discussion.

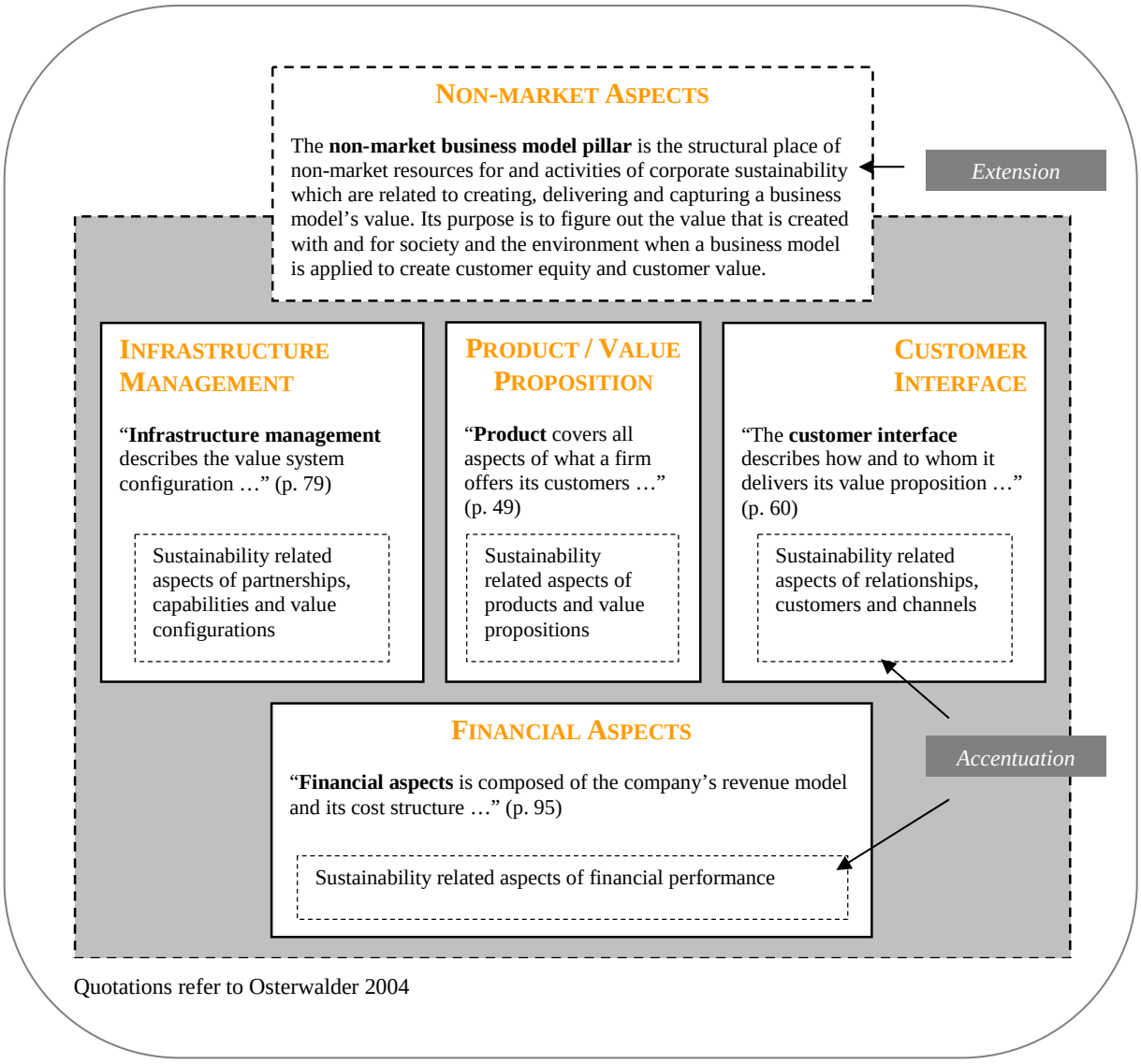

Figure 6: Five-pillar template for business models for sustainability

The intention of *accentuation* is to highlight the existing aspects of corporate sustainability which are immanently existent in the four basic pillars. These aspects, i. e. resources and activities, are already given but have to be exemplified in the way they are subject to a company's business and market mechanisms (e. g. if the value proposition is based on ecologically or socially enhancing products or services). *Extension* is a method which aims at creating a specific structural space for the non-market resources and activities of a business model which are related to issues of corporate sustainability. Examples are natural resources like fresh air, soil and water or forms of social and human capital which are applied in busi-

ness processes but are not (fully) priced, i. e. cases with negative external effects or cases in which positive externalities are exploited. On the contrary, corporate activities can also produce positive external effects like e. g. nature recreation, knowledge spill-overs or contributions to community building which could be added to the value proposition. If these positive external effects could be appropriated, i. e. made marketable, business cases for sustainability could be created (Schaltegger & Wagner 2008).

The accentuated business model pillar areas as well as the non-market pillar are the structural places of resources for and activities of corporate sustainability which are related to a business model's value proposition. Whereas the conventional pillars represent the value which is created with and for a firm's partnerships and networks (infrastructure management), the customer value (customer interface and product) and the focal firm's profit (financial aspects), the accentuated areas and the non-market pillar figure out the value that is created with and for society and the environment when a business model is applied to provide customer value.

This preliminary definition of the five-pillar template implies a central limitation: Only those resources and activities are considered which are somehow linked to a business model's value proposition. That is, e. g. purely philanthropic CSR activities will not be accounted for – unless business models for non-market and philanthropic issues of corporate sustainability will be created. A purpose Osterwalder's template might be used for.[2] To define the accentuated and extended areas further some more light has to be shed on the rationale of the business case for sustainability (e. g. Schaltegger & Hasenmüller 2006; Schaltegger & Wagner 2006) since a business model for sustainability follows the same idea of integrating the three sustainability dimensions with a firm's core activities and business.

To sum up, the design approach of business models for sustainability is based on an accentuated and enhanced five-pillar template which positions resources for and activities of corporate sustainability in a firm's architecture. This architecture then reflects the resources and activities which are needed to create a business case for sustainability. Therefore, starting from normative and strategic management the "translation" of a given corporate sustainability strategy into a business model for sustainability may happen through a specifically designed and business model oriented SBSC (see Subsection 5.3.2). This approach opens up the not yet existing field of strategic business model management.

[2] In his "Business Models Beyond Profit" lecture, 22nd August, Impact Summer Scool 2009, Bremen, Osterwalder proposed his framework as a starting point for developing social entrepreneurship businesses. However, such approaches have neither been implemented from a business model perspective, nor have they been researched accordingly.

Excursus: Business *Cases* and Business *Models* for Sustainability

The business case is about simultaneously integrating economic, social and environmental aspects with the core business of a firm. The central question is "how can the competitiveness and business success of a company be improved with voluntarily created outstanding environmental and social performance?" (Schaltegger & Wagner 2006, 1) If a firm realizes economic success *through* sustainability it has found its business case (e. g. Schaltegger & Hasenmüller 2006). But Schaltegger and Müller also point out that "[i]t has to be considered that being in compliance with social and environmental standards does neither always nor automatically bring about financial benefits. A business case has to be created actively by environmental and social management." (Schaltegger & Müller 2008, 23; translated)

A business model for sustainability may serve as a complementary basis for an active creation of the business case. Whereas single concepts, systems and instruments of corporate sustainability management support the business case on the normative, strategic and operative levels, the business model offers an architectural reflection of how resources and activities contribute to the creation of the business case. Against this background a sustainability-driven business model can be interpreted as a merging frame for corporate sustainability management resources and activities.

This rationale fits with a thesis of the above mentioned authors: "In the most elaborate form of corporate sustainability management and sustainable entrepreneurship, the business case for sustainability becomes a 'Sustainable Business Model' or 'Sustainability Creating Business Model'. The task is not to identify a business case (that exists anyway), the task is to create it with adequate measures. These measures can be new or further developments of existing business models as well as approaches of affecting market conditions." (Schaltegger & Müller 2008, 28; translated)

Illustration Box 2: Business Cases and Business Models

5.1.3. *Summary*

The business model's scope comprises four basic pillars: *product/value proposition, customer interface, infrastructure management* and *financial aspects*. In analogy to the methodical approaches of creating SBSCs a generic template for business models for sustainability can be based on the *accentuation* of sustainability aspects in the four basic pillars and the *extension* with a fifth non-market pillar. The outcome is a five-pillar template which exceeds the scope of conventional business model concepts.

5.2.The business model's elements and their relationships

Section 5.1 dealt with the scope of a template for business models for sustainability and Section 5.3 will introduce some ideas on managing this scope and aligning it to strategy. To identify specific sustainability related business model issues the exact elements and relationships which constitute the five pillars have to be discussed. Literature offers varying definitions of elements and relationships. An exemplary comparison illustrates why, again, Osterwalder's concept is chosen (Table 7).

Table 7: Comparison of business model elements

Osterwalder 2004		Yip 2004
Pillars	**Elements**	**Elements**
Product	*Value Proposition*	Value Proposition
Customer Interface	*Target Customer*	Nature of Inputs
	Distribution Channel	How to Transform Inputs
	Relationship	Nature of Outputs
Infrastructure Management	*Value Configuration*	Vertical Scope
	Capability	Horizontal Scope
	Partnership	Geographic Scope
Financial Aspects	*Cost Structure*	Nature of Customers
	Revenue Model	How to Organize

Table based on Osterwalder 2004, 42; Yip 2004, 19-20

Table 7 shows Osterwalder's approach consisting of pillars which determine the scope and the pillar's elements. Every element is further defined and finally related to the others, where reasonable (see below). Moreover and most important, these elements are constructions which are similar in their degree of abstraction. For example, product, target customer, value configuration and cost structure refer to very different aspects of a business model, but the according elements are comparable with regard to their "nature". Every element is a representative construct. A product and its value proposition consist of different aspects like the level of customer communication (e. g. market segments, communities), the performance level (e. g. product, product range, performance system) and the level of utility (e. g. fulfilment of needs, problem solving, happening) (Bieger & Belz 2006, 28-30). An equal constructivist approach is needed to define a firm's cost structure which can e. g. consist of direct and indirect costs as well as fixed and variable costs which refer to different cost objects like product, service, a project or other entities like customers or brands (Horngren et al. 2000, 28-33). Moreover, costs can be expressed in very different ways like e. g. total costs or unit costs (ibid, 33-35). That is, the advantage of the chosen template lies within the systematic way in which the business model can be constructed going from low to medium and finally to

high granularity. In contrast, Yip's concept uses elements which differ in their degree of abstraction and in the way they have to be constructed, in other words, Yip starts from very different levels of granularity.

Table 8 delivers the elements' definitions according to the basic template. In the following the elements and their relationships are discussed, integrating aspects of corporate sustainability which are located in the accentuated areas and the additional fifth pillar.

Table 8: "The nine business model building blocks" (Osterwalder 2004, 43)

Pillar	**Building Blocks of Business Models**	**Description**
Product	*Value Proposition*	A Value Proposition is an overall view of a company's bundle of products and services that are of value to the customer.
Customer Interface	*Target Customer*	The Target Customer is a segment of customers a company wants to offer value to.
	Distribution Channel	A Distribution Channel is a means of getting in touch with the customer.
	Relationship	The Relationship describes the kind of link a company establishes between itself and the customer.
Infrastructure Management	*Value Configuration*	The Value Configuration describes the arrangement of activities and resources that are necessary to create value for the customer.
	Capability	A capability is the ability to execute a repeatable pattern of actions that is necessary in order to create value for the customer.
	Partnership	A Partnership is a voluntarily initiated cooperative agreement between two or more companies in order to create value for the customer.
Financial Aspects	*Cost Structure*	The Cost Structure is the representation in money of all the means employed in the business model.
	Revenue Model	The Revenue Model describes the way a company makes money through a variety of revenue flows.

5.2.1. *Product*

> "Product covers all aspects of what a firm offers its customers. This comprises not only the company's bundles of products and services but the manner in which it differentiates itself from its competitors. Product is composed of the element **value proposition** which can be decomposed into its elementary offerings" (Osterwalder 2004, 49; emphases changed)

The central issue of this pillar – and of the whole business model – is the *value proposition.* A business model proposes value not only for customers, but also for the focal firm itself and its value chain partners. Correspondingly, Belz and Bieger differentiate benefit advantages for customers and customer equity for the firm which in sum define customer value in a broader sense (Belz & Bieger 2006, 28-32). The value proposition can be decomposed into single offerings to explore how value is proposed and created (Osterwalder 2004, 49). From the perspective of corporate sustainability the question arises *what kinds of value* are proposed and created and which issues have to be accentuated in this context (Elkington 2001)?

As discussed above, the business case for sustainability can be described as a win-win situation. Therefore, to be marketable, public benefits of products and services (e. g. positive effects like reduced social and environmental impacts) have to be transformed into private benefits (Schaltegger & Wagner 2008; Wüstenhagen & Boehnke 2008). In general terms, this problem is about the internalisation of externalities, i. e. about overcoming the discrepancy between public and private benefits (Fritsch et al. 2003). Wüstenhagen and Boehnke (2008), for example, discuss this discrepancy as a central barrier to the private decision for sustainable energy systems in private households. This barrier has to be overcome by intelligently designed business models. In this regard a business case for sustainability emerges when companies and entrepreneurs discover profitable business models that surmount or at least reduce this discrepancy (Schaltegger & Wagner 2008). That is, value configurations have to be created which couple private with public benefits (infrastructure management; see below). Successful marketing of such products and services requires non-conventional competitive strategies. Basic approaches are sustainability market buffering, cost, differentiation and market development strategies (Schaltegger et al. 2003, 181-185; Schaltegger & Burritt 2005, 206-209).

For example, differentiation can be a way to increase the value creation potential of a business model. "Business opportunities for sustainability related product differentiation can be driven by higher sales revenue or by increased contribution margins caused by a greater willingness by customers to pay." (Schaltegger & Burritt 2005, 205-206) If customers are willing to pay e. g. for positive ecological attributes of a product or service, public benefits turn into private benefits for the customers and the suppliers. Moreover, besides the willingness to pay the willingness to adapt can be crucial. Some customers may be willing to pay for expensive hybrid cars, whereas others use less expensive car-sharing systems – the latter would correspond with the sufficiency strategy (ibid, 207). The value proposition "mobility" can be offered as either product or service. Simultaneously, suppliers benefit privately as they capitalize on marketing public benefits through new technologies, utilities and custom-

ers, i. e. through new business fields (Abell 1980) based on sustainability problems and solutions (Petersen 2003, 238; Dyllick 2006, 440-443).

It can be concluded that a business model for sustainability must be based on value creation approaches which integrate public and private benefits to overcome the public/private benefit discrepancy and therefore refers to an extended understanding of value propositions.

5.2.2. *Customer interface*

> "The customer interface covers all customer related aspects. This comprises the choice of a firm's **target customers,** the **channels** through which it gets in touch with them and the kind of **relationships** the company wants to establish with its customers. The customer interface describes how and to whom it delivers its value proposition …" (Osterwalder 2004, 60; emphases changed)

The customer interface is directly related to strategic and operational marketing issues. Looking closer at the pillar's elements reveals this connection: *target customers* and their specific characteristics; *distribution channels,* their links, strategies and conflicts; and finally *customer relationships* and the mechanisms to create and maintain them. Whereas "[s]trategic marketing is concerned with market segmentation to identify attractive customer groups and positioning the company compared with competition", operational marketing "implements the positioning of the marketing mix" (BMU et al. 2002, 81). That is, the former is closely related to competitive and the latter to operational or functional strategies. With reference to corporate sustainability eco-marketing, social marketing or sustainability marketing are approaches to go beyond conventional concepts (Villiger et al. 2000; BMU et al. 2002; Schaltegger et al. 2003). However, since eco-marketing can contribute to corporate sustainable development (BMU et al. 2002, 82) the business model elements, namely target customer, channel and relationship, are discussed against its further developed conceptional background.

Basically, "eco-marketing cannot simply be seen as 'the marketing of more environmentally friendly products'" since its main aim is "to change the conditioning of customers … so that they take environmental considerations into account in their purchase decisions" (Schaltegger et al. 2003, 208). As discussed above, a business model for sustainability has to make offerings which bridge the public/private benefit gap through extended value propositions. The central tasks of eco-marketing are analysing marketing opportunities, defining business fields and positioning (strategic marketing) and managing the marketing mix (product, place, price, promotion) (operational marketing) (Schaltegger et al. 2003). Based on the inputs of strategic and operational marketing management, i. e. information about business fields and desired positions, business model management has to design adequate channels for goods and services and to support long lasting customer relationships, bearing in mind the benefit discrepancy.

Osterwalder points out that a channel feature can also be part of the value proposition (2004, 64). This could be a possible lever to overcome the benefit discrepancy: For example, if customers have the opportunity to visit farms instead of conventional supermarkets to buy organic food, this channel may add benefits to the basic offering like visiting the countryside, recreation and learning. Moreover, this specific channel may contribute to creating and main-

taining “a long-term credible relationship with the customer and recognition that production of environmentally unfriendly goods and services over the long run is not sustainable” (Schaltegger et al. 2003, 209). In all aspects mentioned above, the main difference between conventional approaches and the idea of eco-marketing lies within the notion of responsibility. Whereas Belz and Bieger define a successful customer relationship as one that maximizes customer equity and customer benefits over the long run (2006, 31-32), eco-marketing also cares for the “integration of responsibility for the avoidance or reduction of environmental pollution during the product life-cycle (Schaltegger et al. 2003, 208).

It can be concluded that the customer interface of a business model for sustainability has to be managed according to principles of eco-, social or sustainability marketing. The task is to maximize customer value (customer equity and customer benefits) by means of market segmentation, channel design and relationship building which help to bridge the public/private benefit gap.

5.2.3. *Infrastructure management*

> “Infrastructure Management … comprises the **value configuration** of the firm, in other words the activities to create and deliver value, and, the relationship between them, the in-house **capabilities** and those acquired through the firm’s **partnership** network.” (Osterwalder 2004, 79; emphases changed)

This pillar stands for the value system configuration which is needed to deliver the value proposition and keep up customer interfaces. *Value configurations* are based on internal and external resources and activities and can be represented by value creation chain frameworks. According to Porter (1985) a value creation chain consists of support activities (related to business infrastructure, human resources, research and development, material economy) and primary activities (related to logistics, production, sales, exist logistics, customer service and return logistics and recycling). As will be discussed below, the internal process perspective of the (S)BSC aims at internal value creation chains. The business model goes further in that it integrates internal and external activities, capabilities and partnerships. Thus, a business model can be used to link a company’s value creation chain to those of other market players or whole industries.

Capabilities, as an element of infrastructure management, are based on a company’s assets and resources, internal as well as external. From the perspective of the “dynamic capabilities” stream (Winter 2003) research on organizational capabilities is an established and broad field dealing e. g. with issues of competitive advantage (e. g. Teece & Pisano 1994; Teece et al. 1997), organizational learning (e. g. Zollo & Winter 2002) or innovation management (e. g. Lee & Kelley 2008). From a strategic management perspective the “term ‘dynamic’ refers to the capacity to renew competences so as to achieve congruence with the changing business environment … The term ‘capabilities’ emphasizes the key role of strategic management in appropriately adapting, integrating, and reconfiguring internal and external organizational skills, resources, and functional competences to match the requirements of a changing environment” (ibid). Whereas the value configuration element is activity centred, the capability element deals with capacity and competence building.

Finally, both elements can be enhanced through *partnerships* which are "voluntarily initiated cooperative agreement[s] formed between two or more independent companies in order to carry out a project or specific activity jointly" (Osterwalder 2004, 89). Regarding competitive strategy the purpose of cooperation is to coordinate resources, activities and capabilities. Whereas the "five forces" stimulate competition and can lead to both efficiency gains and losses (like lower prices, limited profitability and decreasing quality premiums; Porter 1979; 1996), diverse market relations are based on cooperation and alliances due to possible win-win-situations (Contractor & Lorange 2002). That is, "suppliers can be allies with whom firms cooperate to create better value for the end customer and earn higher profits. … Customers and complementors are not always adversarial either, nor are all rivals." (Afuah 2004, 5) For decades strategic cooperation amongst firms and their competitors as well as between firms and their customers is an important topic in strategic management literature (e. g. Astley 1984; Axelrod 1984; Hamel et al. 1989; Lado et al. 1997; Contractor & Lorange 2002).

Due to outsourcing tendencies triggered by radical changes of information and communication technologies (Osterwalder 2004), cooperation can be a decisive lever for both activities which make up the value configuration and resources which underlie capabilities. Consequently, the sustainability potential of a business model can also be enhanced through cooperative approaches that include diverse stakeholders from the socio-economic environment, e. g. customers, suppliers, competitors, environmental organizations or legal bodies (Schaltegger et al. 2003). Schaltegger et al. distinguish between four purposes of promoting sustainable development through cooperation: market competition, following standards and norms, conflict resolution and publicity. If a business model is strategically managed to improve the competitive position of a firm (Yip 2004), cooperation, respectively co-opetition, e. g. with environmental or social organizations can be used to move competition to environmentally and socially benign techniques or sustainable product design (Schaltegger et al. 2003). If necessary resources and activities are not directly available to accordingly develop capabilities and adjust value configurations, cooperation can be useful to enhance value creation and supply chains (e. g. Seuring & Goldbach 2006).

It can be concluded that the infrastructure management of a business model for sustainability should take advantage of partnerships to enhance resources and activities in a way that promotes sustainability performance throughout the associated value and supply chains.

5.2.4. *Financial aspects*

> "Financial aspects is composed of the company's **revenue model** and its **cost structure.** Together they determine the firm's profit- or loss-making logic and therefore its ability to survive in competition." (Osterwalder 2004, 95; emphases changed)

In its conventional form the financial aspects pillar refers to a company's cost and revenue structure. In contrast to the other pillars "it is transversal because all other pillars influence it. This block is the outcome of the rest of the business model's configuration" (Osterwalder 2004, 95). *Cost structure, revenue model* and *profit* are the constituting elements. Cost structure measures the costs related to creating, marketing and delivering value to customers. "It sets a price tag on all the resources, assets, activities and partner network relationships and exchanges that

cost the company money." (ibid, 101; emphasis added) Obviously, this conventional accounting philosophy is one of the reasons for the discussed public/private benefit discrepancy. The revenue model, which sometimes is referred to as a business model (Afuah 2004), pictures a company's ability to create revenue streams from its value creating activities. A revenue model consists of different streams and pricing mechanisms. The simple equation "revenue - costs = profit/loss" is valid in the context of corporate sustainability management, but has to integrate multidimensional facets due to the fact that environmental and social profits and losses have to be accounted for, too, but are not easy to calculate.

To overcome the limitations of conventional monetary accounting different approaches were developed to correct absolute value added figures by external costs induced by a company. "While being theoretically sound, however, such absolute measures suffer from the problems that accompany the monetarisation of external environmental and social effects." (Figge & Hahn 2006, 147) Furthermore, relative measures such as eco- and socio-efficiency were introduced to assess corporate sustainability performance (e. g. BMU et al. 2002; Schaltegger & Burritt 2005). "Such relative measures of eco-efficiency relate value added of a company (in monetary terms) to the environmental damage caused by these activities (in physical terms). From a viewpoint of sustainability, however, the major shortcoming of eco- and social efficiency considerations is that they do not take eco- and social effectiveness, i. e. absolute changes of the environmental and social burden, into account." (Figge & Hahn 2006, 147)

Generally, the financial aspects pillar has to be augmented by concepts being oriented towards shareholders and the financial market, while taking into account environmental and social issues' as well as their relevance for the financial realities of a company. Recognizing the above mentioned limitations of relative measures, the eco-efficiency oriented concept of Environmental Shareholder Value (ESV) could be one approach to accentuate sustainability related issues in the financial aspects pillar (Schaltegger & Figge 2000; Figge & Hahn 2002). ESV stands for the application of a conventional shareholder value perspective to value-increasing or -decreasing measures of corporate environmental protection. Schaltegger and Figge argue that if "the concept of shareholder value is understood as an approach to achieving a lasting increase in a company's value, it is certainly *compatible with economically efficient environmental management.* Therefore it is entirely in line with the idea of eco-efficiency" (Schaltegger & Figge 2000, 38; orig. emphasis).

Which financial aspects have to be considered when measuring ESV? In accordance with Rappaport (1986) the common *value drivers* are e. g. sales growth, operating profit margin and income tax rate (referring to operating management decisions); working capital investments, fixed capital investments (referring to investment decisions); cost of capital (referring to financing options); and the duration of value growth. These drivers and the underlying managerial decisions influence the three central *valuation components* of shareholder value, which are free cash flow, discount rate and debt capital applied. Shareholder value is calculated on a net current value basis since expected future cash flows are discounted (Rappaport 1986; Copeland et al. 1993). In the context of corporate environmental protection the shareholder value perspective asks for the effects environmental management can have on enterprise value. Both, shareholder value and environmental management, have in common

a long-term and future orientation which aims at increasing the value of a company. This approach differs from conventional value creation and environmental management in that ESV seeks to create value *through* environmental management.

A short introduction to the main drivers helps identifying possible effects business model design can have on ESV.

- Environmental investments "have a long-term structural influence on methods of production, and thus on working procedures, decision-making paths, specialist skills etc" (Schaltegger & Figge 2000, 34). Obviously, investments are required which enhance shareholder value. According to their long-term impact, investments should be as capital extensive as possible (fixed assets) and increase the efficiency and productivity of processes (current assets). That is, from developing corporate strategy to business planning (see Subsection 5.3.2.2) the design of a business model's infrastructure and interfaces should subscribe to these basic principles.
- "The effect of operational management on shareholder value is primarily determined by *sales growth,* the *operating profit margin* and the *rate of income tax.*" (ibid, 35) As argued before, business models are important for dealing with sector developments and market competition (Magretta 2002; Afuah 2004; Yip 2004). Moreover, the success of business strategies like price leadership and differentiation also depend on the business model/strategy fit (Chesbrough & Rosenbloom 2002; Zott & Amit 2008). Therefore, ESV drivers like sales growth and profit margin depend e. g. on marketing innovative and revenue stimulating products and services which contribute to environmental protection. Some cases prove that the success of special products or services highly depends on the underlying business model (Chesbrough & Rosenbloom 2002).
- In the context of financing Schaltegger and Figge refer to a "green bonus". "Banks increasingly discriminate between environment-friendly and environment-polluting companies. … Some investors have also begun to take ecological aspects into account when deciding where to invest." (Schaltegger & Figge 2000, 36) The discount rate for calculating ESV depends on the weighted average of equity and debt capital costs. Cheaper capital means increasing ESV. Currently, some studies try to figure out the importance of business model design for capital acquisition, indicating that business models can have an effect; for the moment left open in what way positive or negative (Frantzis et al. 2008; Bolinger 2009; Schoettl & Lehmann-Ortega 2010 [forthcoming]).

An important and currently not approached task is the development of evaluation concepts for sustainability oriented business models. If ESV can be transformed into a measure of "Environmental Business Model Value", the financial drive of environmentally or socially responsible business models can be estimated. If such business models are evaluated with regard to the needs of the financial market, they could improve access to equity and debt capital. This is the most important lever for sustainability oriented organizations and enterprises such as NGOs or social businesses. A properly designed business with a high Environmental or Social Business Model Value can be *the* aspect for future financing options.

It can be concluded that, according to the task of overcoming the public/private benefit discrepancy, the financial aspects pillar of a business model for sustainability has to be augmented by concepts which provide algorithms for evaluating combined measures like Environmental Shareholder Value and furthermore "Environmental/Social Business Model Value".

5.2.5. *Non-market aspects*

> The **non-market business model pillar** is the structural place of non-market resources and activities of corporate sustainability which are or can be related to a business model's value proposition. Its purpose is to figure out the value that is or can be created with and for society and the environment when a business model is applied to provide customer value.

In accordance with the methodology for developing SBSCs (see Subsection 5.3.1.1) the non-market pillar integrates resources and activities which are not directly subjected to market mechanisms, but which can be of strategic relevance from a companies point of view (Figge et al. 2002). Theoretically speaking, when it comes to strategic business model management, this pillar has to contain elements which resonate with corporate sustainability strategies; i. e. elements which can be addressed in the process of translating strategy into a business model (see Subsection 5.3.2.2). A classification of non-market spheres which influence business is delivered by Schaltegger et al. (2003). These spheres are the technological, economic, legal, sociocultural, and the sphere of politics (ibid, 37).

The *technological sphere* refers to discoveries and inventions which can "improve the effectiveness of processes and products, enhance safety or promise new and broader possibilities for action" (ibid, 42). Improvements of environmental and social side-effects can be achieved through technological developments; moreover these side-effects become transparent as measuring instruments advance. To increase effectiveness, some resources and activities of a business model should be dedicated to the technological aspects which are directly related to the value proposition. Being aware of effectiveness improvements and side-effects may be an approach to reduce the public/private benefit gap. Therefore, a company has to be sensitive to effects which are not directly traded, i. e. which are not included in market transactions. For example, the introduction of new technologies in textile supply chains may reduce the share of child labour. How to evaluate such changes if child labour is an institutionalized element, due to sociocultural and socioeconomic settings and pressures in foreign countries?

In the *economic sphere* potential market participants are brought together. "Competitors, inflation and price stability, and the trend in interest and exchange rates in the financial markets and in selling and buying activities, form the core of the economic sphere. In order to continue in existence the business must operate in a profitable way, so that it can provide a normal return on its capital." (ibid, 43) This sphere refers to competition and efficiency. Resources and activities of the financial aspects pillar are dedicated to the latter aspect. Competition is an issue of another business level but can linked to the business model since the strategic level (Figure 3) can be a starting point to manage the business model for purposes of competition (Magretta 2002; Yip 2004; see Subsection 5.3.2). Obviously, the economic sphere has not to be addressed exclusively in the design of the non-market pillar, but in managing the business model configuration as a whole.

"The central question for a business considering the *legal sphere* is … which fundamental legal requirements affect it." (Schaltegger et al. 2003, 44; emphasis added) In short, the legal sphere "produces" opportunities as well as threats through changing regulations. Such issues can not directly be embedded into the configuration of a business model, but business model design has to react and to cope with corresponding changes. Normative and strategic management have to take care of regulations, norms, laws, standards and benchmarks and then have to align the business model accordingly. That is, legal issues are a sensitive topic of strategic business model management. For example, if a business is based on producing a mass market good like cars whose usage becomes regulated (e. g. emission taxation), the crucial question is how flexible can the business model be shifted to alternatives without losing market shares, without breaking supplier and customer relationships etc.? The question for the automobile industry is, how flexible can the business logic of oil dependency, standard conveyor belt production and the permanent need for growing markets be substituted for providing mobility services based on electricity, battery charging and maybe car-sharing?

Legitimacy and the power of public opinion are the central topics of the *sociocultural sphere.* "When organisations, products and personalities are highly regarded by the public, the sociocultural sphere is at its most powerful as a driver of change in business behaviour." (ibid, 46) The basic question "Which social purposes should be pursued by business?" should be directly linked to the value proposition of a business model. This could be achieved e. g. by deriving symbiotic CSR activities from the value proposition through slight modifications of some of the business models resources and activities. For example, a company could modify its value proposition and transfer it to emerging or survival economies (Hart & Milstein 1999; see Subsections 4.1.3 and 4.1.4). Some examples can be found in developing countries; the most famous examples are micro-credits and mobile communication for poor people. Besides devoted entrepreneurs like Muhammad Yunus, established companies from consumer economies could try to transfer their value propositions adequately to poor countries ("bottom of the pyramid" business). If done authentically, companies could enhance their reputation and legitimacy in a more and more polarized world. Such ambitioned approaches are dependent on innovative and flexible business models which clearly exceed "conventional" perspectives, building blocks or pillars (Seelos & Mair 2007; Klein 2008).

In the context of corporate sustainability, sustainable entrepreneurship and sustainability management, the purpose of the non-market pillar to integrate non-market aspects related to sustainability issues into the business logic of organizations. Environmental and social issues, as well as public burdens and benefits, are social constructs (Figge et al. 2002); they generally are not inherent in market transactions and therefore have to be integrated exclusively. It is the "nature" of sustainable entrepreneurship and sustainability management to develop market opportunities and competitiveness based on currently neglected issues (Schaltegger & Wagner 2008). In sustainability contexts these are often found apart from locusts' businesses and consumer markets. Therefore, intelligent and sensitive business model design which integrates (yet) not marketed issues is needed to create business models for sustainability and business cases for sustainability.

To sum up, the non-market pillar should represent configurations of resources and activities that relate the business model's value proposition to technical, legal, normative and political issues which (currently) are not subjected to market mechanisms and market relationships.

5.2.6. *Summary*

Based on the discussion of corporate sustainability issues connected to the extended and integrated template pillars, a preliminary conceptual definition of business models for sustainability can be derived:

A business model for sustainability is the activity system of a firm which allocates resources and coordinates activities in a value creation process which overcomes the public/private benefit discrepancy. That is, a business model for sustainability is the structural template of a business logic which creates the business case for sustainability. This can be achieved by

- *extending value propositions to integrate public and private benefits (product/value proposition pillar),*
- *making customers involved and responsible partners in value creation processes (customer interface pillar),*
- *taking advantage of partnerships which enhance resources and activities (infrastructure pillar),*
- *evaluating combined measures like Environmental Shareholder Value and Environmental/Social Business Model Value (financial aspects pillar), and*
- *dedicating resources and activities to secure free, legitimate and legal behaviour and to explore currently neglected opportunities in non-market spheres (non-market pillar).*

5.3. Approaching strategic business model management

This section explores some conceptual ideas about how to integrate tasks of "business model management" into established management concepts. The main point is that business model management has to be located with reference to strategic and operative management concepts like e. g. management cycles. Since the business model template and the BSC are based on comparable perspectives, the BSC management system and the related management cycle as introduced by Kaplan and Norton are chosen as conceptual frame.

The BSC had been introduced for purposes of performance measurement (Kaplan & Norton 1992) before it was promoted as a strategic management system which communicates and coordinates the translation of "vision and strategy into objectives and measures across a balanced set of [a firm's] perspectives" (Kaplan & Norton 1996a, 29). This set consists of the *financial, customer, internal process* and *learning and growth* perspectives (Kaplan & Norton 1996a, 24-29). The specific strength of this management system is its ability to integrate financial as well as non-financial and quantitative as well as non-quantitative information – an advantage that can be used for developing SBSCs which additionally integrate "soft" environmental and social aspects into the general management system of a firm (Schaltegger &

Dyllick 2002; Figge et al. 2002). In the following the *management system approach* of the (S)BSC is focused (for the *performance measurement approach* see Kaplan & Norton 1992).

5.3.1. *The business model and the (S)BSC*

5.3.1.1. From BSC to SBSC

Generally, “a BSC translates strategy in terms of objectives, measures and targets in the four perspectives” (Figge et al. 2002, 271). Therefore, two types of indicators are formulated for each perspective and are integrated into a hierarchical system. First, so called “lagging indicators” are defined (Kaplan & Norton 1997, 28). They represent the “long-term strategic objectives … formulated for the strategic core issues of each perspective derived from the strategy of the business unit” (Figge et al. 2002, 271). Lagging indicators stand for the perspective’s strategic objectives and the degree of achievement. Second, the key performance drivers are defined as “leading indicators” (Kaplan & Norton 1997, 28) which “express the specific competitive advantages of the firm and represent how the results – reflected by the lagging indicators – should be achieved” (Figge et al. 2002, 271). Additionally, concrete targets and measures are formulated for each perspective.

The BSC derives its management system quality from the construction of cause-and-effect relationships between the lagging and leading indicators. These relationships cross the four perspectives and are oriented towards the financial perspective: “By formulating and defining the goals and measures based on the strategy top down from the financial perspective through the other perspectives, it becomes clear which influence factors impact most the lagging indicators and thus ultimately the achievement of the objectives.” (Figge et al. 2002, 271)

To provide a management frame which also refers to the non-market aspects of business models for sustainability, the BSC management system has to be enhanced. As mentioned earlier (see Subsection 5.1.2), an SBSC can be developed by subsumption of environmental and social aspects to the basic BSC perspectives and/or introduction of an additional non-market perspective (Schaltegger & Dyllick 2002, 121-123; Figge et al. 2002, 273-276). Moreover, these two variants can be complemented by the deduction of an extra environmental and social scorecard from an existing BSC system. This method is an optional second step which only complements subsumption or addition. Table 9 summarizes the methods.

It is intended to integrate market and non-market sustainability aspects into business models’ architectures (see Sections 5.1 and 5.2). Therefore, as proposed in Figure 6, the generic template of business models for sustainability simultaneously contains the accentuated and extended pillars. This approach is borrowed from constructing SBSCs: “It is important to note that certain environmental or social aspects can be subsumed under the four conventional BSC perspectives parallel to the introduction of a specific perspective for other strategically relevant environmental or social aspects.” (Figge et al. 2002, 275; emphasis added) The point made above, that the BSC can be designed as a tool for translating corporate strategy into a business model will be extended in the following with regard to the relationships between corporate sustainability strategy, business models for sustainability and the SBSC.

Table 9: Methods of creating SBSCs

Method	Approach
Subsumption (optional first step)	- environmental and social aspects are subsumed under the existing four perspectives, lagging and leading indicators, targets and measures - captures strategically relevant environmental and social aspects that are already integrated in the market system
Addition (optional first step)	- strategically relevant but not market integrated environmental and social aspects are caught by an additional non-market perspective - this refers to aspects which are of strategic relevance and influence a firm's success but are not reflected in the basic four perspectives - therefore, lagging and leading indicators, targets and measures have to be formulated and linked towards the financial perspective
Deduction (optional second step)	- deduction of a derived environmental and social scorecard - optional second step that is only possible as an extension of subsumption or addition - used to coordinate, organize and further differentiate environmental and social aspects due to their strategic relevance and position in the cause-and-effect chains

Table based on Schaltegger & Dyllick 2002, 53-64; Figge et al. 273-276

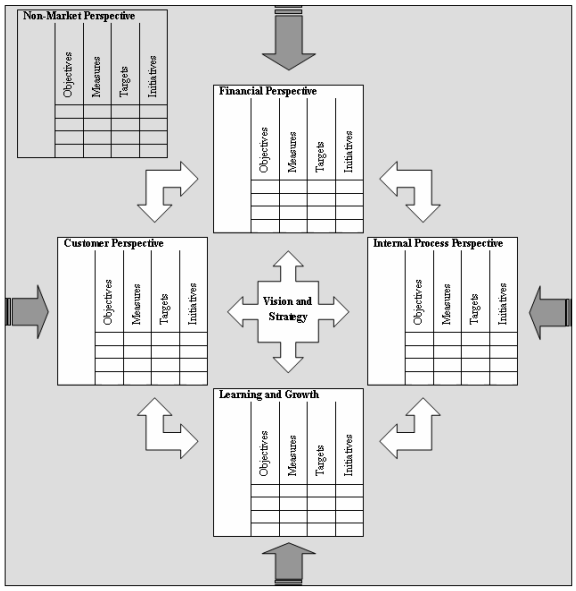

Figure 7: An SBSC completed with non-market perspective (Schaltegger & Dyllick 2002, 59)

Figure 7 shows a generic BSC system that has been augmented by a non-market perspective to represent an SBSC.

5.3.1.2. Aligning business model and (S)BSC

In Table 10 the comparison of the business model pillars and the BSC perspectives from Table 6 has been rearranged. Beginning from the top, the *financial aspects pillar* and the financial perspective are comparable since at "the financial level, the most basic building blocks are costs for setting up and running the service or product, the revenue gained from it, and the way these are shared between actors" (Ballon 2007, 10), which fits with the intention of the financial perspective of the BSC (Kaplan & Norton 1996a, 47).

In contrast to Table 6 the *value proposition pillar* is now assigned to the customer perspective. "The … value proposition is an overall view of one of the firm's bundles of products and services that together represent value for a specific customer segment." (Osterwalder 2004, 50) Consequently, the reassignment seems to be necessary since in the customer perspective the "value proposition is the key concept for understanding the drivers of the core measurements of [customer] satisfaction, acquisition, retention, and market and account share" (Kaplan & Norton 1996a, 73). That is, the value proposition is the key to every kind of customer related aspects like product and service design, pricing or market segmentation etc.

In his comparison Osterwalder assigns the *customer interface pillar* to the customer perspective which seems appropriate at first sight. But as the customer interface pillar generally refers to how a company delivers value to its customers (based on specific relationships, mechanisms and channels; Osterwalder 2004, 58-78) it seems to have more in common with the internal process perspective of the BSC (Kaplan & Norton 1996a, 92). All the more, as this perspective is based on the recommendation to "define a complete internal-process value chain that starts with the innovation process … and ends with postsale service" (ibid). Thus, it crosses nearly all areas of an organization and intersects the *infrastructure management pillar,* too (indicated by the dashed lines in Table 10).

Consequently, direct assignments of the BSC perspectives and the business model pillars as proposed by Osterwalder are difficult because of their specific scopes. Moreover, their "conceptual natures" have to be considered: The BSC is an indicator based management tool that implements and works on given strategies to bridge the gap between strategic and operative planning (Figge et al. 2002; Schaltegger & Dyllick 2002). This tool "claims to identify the major strategically relevant issues of a business and to describe and depict the causal contribution of those issues that contribute to a successful achievement of a firm's strategy" (Figge et al. 2002). Whereas the "business model is a structural template of how a focal firm transacts with customers, partners, and vendors; that is, how it chooses to connect with factor and product markets. It refers to the overall *gestalt* of these possibly interlinked boundary-spanning transactions" (Zott & Amit 2008, 3). According to Bieger and Belz (2006) or Yip (2004) this orientation makes it a main concept of performance management equal to strategy. That is, from a purely conceptual perspective, strategy and the business model are "superior" concepts which have to be distinguished from each another and from "inferior" concepts like the BSC.

Table 10: The (S)BSC and the business model

Pillars / Perspectives	**Balanced Scorecard Approach* Kaplan & Norton 1996a**	**Sustainability Balanced Scorecard** Schaltegger & Dyllick 2002**	**Extended Business Model Template* based on Osterwalder 2004**
Financial	"**Financial performance** measures indicate whether a company's strategy, implementation, and execution are contributing to bottom-line improvement …" (p. 25-26)	- increased market value - increased revenues - improved cost efficiency - focused risk management … through sustainability	"**Financial aspects** is composed of the company's revenue model and its cost structure …" (p. 95) *+ Sustainability aspects*
Customer	"In the **customer perspective** … managers identify the customers and market segments in which the business unit will compete …" (p. 26)	- image and reputation - cust. profitability through sustainability margins - customer loyalty through additional customer value - revenue increase through sustainability offers	"The … **value proposition** is an overall view of one of the firm's bundles of products and services …" (p. 50) *+ Sustainability aspects*
Internal process	"In the **internal-business-process perspective,** executives identify the critical internal processes in which the organization must excel …" (p. 26)	- sustainable product innovations - eco- and socio-efficient processes - sustainable use and waste disposal	"The **customer interface** describes how and to whom it delivers its value proposition …" (p. 60) *+ Sustainability aspects*
Learning & growth	"**Organizational learning and growth** come from three principal sources: people, systems, and organizational procedures …" (p. 28)	- employees' motivation and competencies, technological competencies to solve sustainability problems - problem awareness for sustainability issues - sustainability oriented corporate culture	"**Infrastructure management** describes the value system configuration …" (p. 79) *+ Sustainability aspects*
Non-Market	not available	- behaving publicly like a "Good Corporate Citizen" - securing "licence to operate" - legitimating corporate strategy - protecting critical activities and potentials - identifying sustainability potentials	The **non-market business model pillar** is the structural place of non-market resources for and activities of corporate sustainability …

* Original emphases removed and new emphases added.

** Refers to Schaltegger & Dyllick 2002, 112-120.

In Table 10 the standard BSC perspectives are complemented with basic strategically relevant sustainability aspects and a non-market perspective as proposed by Schaltegger and Dyllick (2002, 112-120). Obviously, the generic business model pillars have to be accentuated and a non-market pillar has to be added as indicated in Figure 6 above. This step is a prerequisite for a concept which supports the management of business models for sustainability.

5.3.2. *Approaching business model management*

5.3.2.1. Resource allocation and activity coordination

The previous considerations lead to the following assumption: The SBSC, as a flexible management system which communicates, coordinates and controls the translation of a firm's vision and strategy, might be applied to directly connect strategy and the business model. That is, an SBSC might be developed which supports the translation of a firm's vision and strategy into its business model.

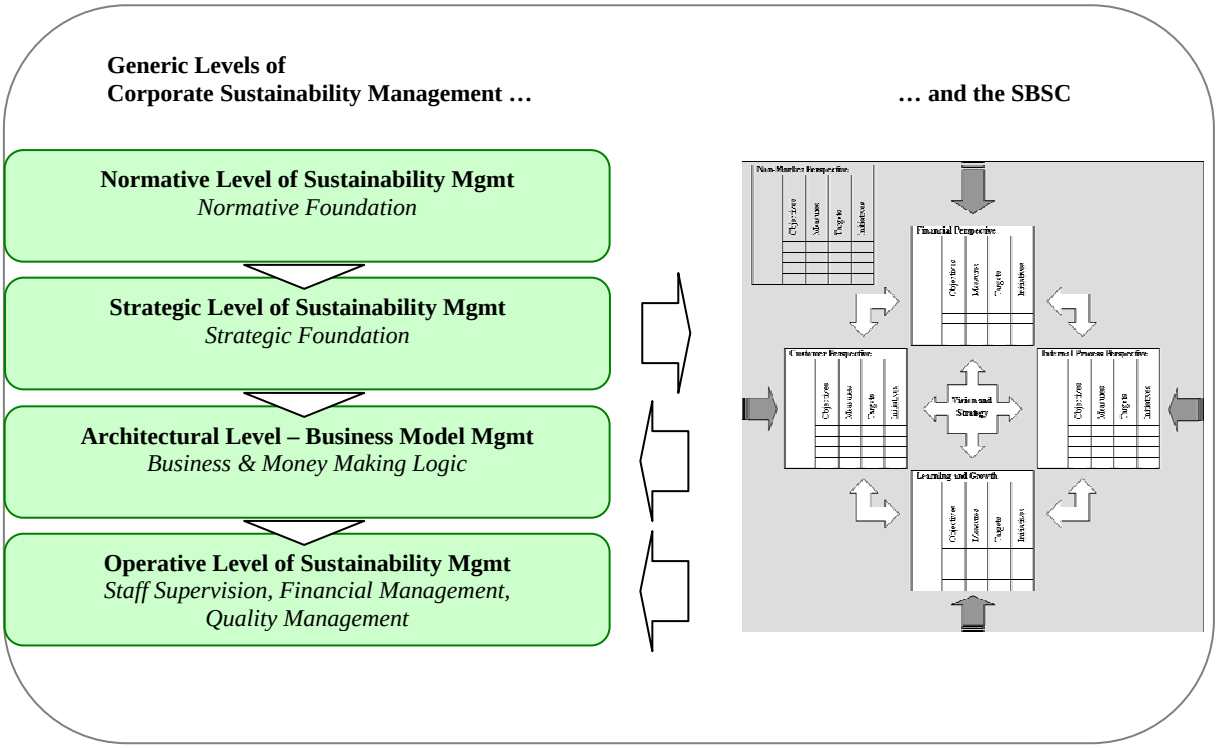

Figure 8: Generic management levels and the SBSC

Figure 8 roughly connects the different levels of corporate sustainability management (left side) and the SBSC tool (right side). Another version is that different performance management concepts, in particular strategy and the business model, can be linked through the BSC (for an overview of different performance management concepts consult e. g. Bieger & Belz 2006). This version will be further elaborated in the following paragraphs.

The idea behind Figure 8 is to reconcile the strategy level with the business model level in a currently unconsidered way through the application of a specifically designed SBSC. Since it

communicates, coordinates and controls the translation of a firm's vision and strategy, it could also support purposes of business model design – in other words: business model management. The task is to design the SBSC perspectives according to the business model pillars, and vice versa, to be able to transfer objectives and measures from the strategy level to the business model level (and to finally measure business model performance). This approach provides for distinct conceptual connections between the different levels of corporate management (indicated by the top-down triangles). Besides discussions of general differences and common grounds of strategy and the business model (e. g. Magretta 2002; Yip 2004) a systematic conceptualisation of these connections is still missing. Most business model literates simply claim that strategy has to be translated into business models without depicting how (e. g. Afuah 2004; Osterwalder 2004; Yip 2004; Ballon 2007; an exception is the work of Zott & Amit 2007; 2008).

The SBSC is an appropriate tool for such purpose, first, since developing the perspectives follows an open and flexible approach (Kaplan & Norton 1992; 1993; Figge et al. 2002; Schaltegger & Dyllick 2002) which may allow for aligning the process of top-down strategy implementation through the perspectives with the pillars of the structural business model template. Second, the SBSC "enables an orientation of all business resources and activities towards the conversion of the strategy and a better communication of the strategy" (Figge at al. 2002, 272). Thus, the SBSC is an open and flexible tool which offers orientation of business *resources* and *activities,* whereas the business model can be viewed as a template of a firm's "activity system" which is constituted by activities and resources: "An *activity* in a focal firm's business model can be viewed as the engagement of human, physical, and/or capital *resources* of any part to the business model (the focal firm, end customers, vendors, etc.) to serve a specific purpose toward the fulfillment of the overall objective." (Amit & Zott 2009, 3; emphases added) It can be concluded that the SBSC can mediate between the strategy and the business model levels.

Corollary: The conversion of strategy's objectives and measures of what *to achieve with a firm's resources and activities ("lagging indicators") can be managed with an SBSC and be transferred to the business model level where resources and activities are structurally arranged in an activity system due to the* how *of objective achievement ("leading indicators").*

At this early stage of conceptual development the following limitations are immanent in Figure 8: Feedback loops, i. e. aspects of business model performance measurement and learning, have to be added (Zott & Amitt 2007; 2008; Kaplan & Norton 1996b); strategy is treated as corporate strategy without differentiating business respectively competitive strategy and functional strategy (e. g. Afuah 2004, 12-13).

5.3.2.2. An extended management cycle

It was concluded that applying an SBSC in consequence is about allocating resources and coordinating activities. Since the business model, interpreted as an activity system (Amit & Zott 2009), is the structural template of resources and activities, the SBSC may be an appropriate tool for actively managing it. This point will now be further developed by referring to Kaplan and Norton's four management processes which relate to the practical application of a BSC (Kaplan & Norton 1996b). These processes are represented in Figure 9.

The first process, *translating the vision,* is about clearly defining vision and strategy statements for purposes of concrete action. “For people to act on the words in vision and strategy statements, those statements must be expressed as an integrated set of objectives and measures, agreed upon by all senior executives, that describe the long-term drivers of success.” (ibid, 76) *Communicating and linking,* the second process, signals what the organization is about to achieve. Therefore, employees have to be aligned with the overall strategy. To “align employees’ individual performances with the overall strategy, scorecard users generally engage in three activities: communicating and educating, setting goals, and linking rewards to performance measures” (ibid, 80). The third process *business planning* will be discussed below. The fourth process closes management process cycle. *Feedback and learning* is about articulating the shared vision, supplying strategic feedback on it and facilitating strategy review and learning. Crucial to feedback and learning is the realization of double-loop learning. In a single loop executives can learn if expectations were met and, in case, why not; i. e. learning refers to measures. Whereas in a double loop it can also be learned how strategies, their objectives and targets can be reconsidered (ibid, 84-85).

Figure 9 is an extension of Figure 8. On the left side the strategy and business model levels can be found. The five-pillar business model template is the graphical representation of the latter. The dashed top-down pyramid indicates the mediated influence strategy has on the business model. On the right side the management process cycle of implementing an SBSC is shown – it is this cycle which mediates between strategy and the business model. A given corporate sustainability strategy enters the translation process and then is communicated and linked. A basis for business planning is worked out. Finally, feedback and learning reflect the measures of strategic sustainability management.

The crucial process for business model management is business planning. The task of business planning is “to link change programs and *resource* allocation to long-term strategic priorities” (Kaplan & Norton 199b, 82; emphasis added). Therefore, measures from all perspectives are chosen and targets for each of them are set. “Then [scorecard users] determine which *actions* will drive them toward their targets, identify measures they will apply to those drivers from the four perspectives, and establish the short-term milestones that will mark their progress along the strategic paths they have selected.” (ibid, emphasis added) With reference to Amit and Zott (2009) who define the business model as structural template of a firm’s activity system consisting of resources and activities, it can be concluded that business model management can be integrated into the business planning process. “Once the strategy is defined and the drivers are identified, the scorecard influences managers to concentrate on improving or reengineering those processes most critical to the organization’s strategic success.” (Kaplan & Norton 199b, 83) Definitely, designing a firm’s business model is such a crucial process.

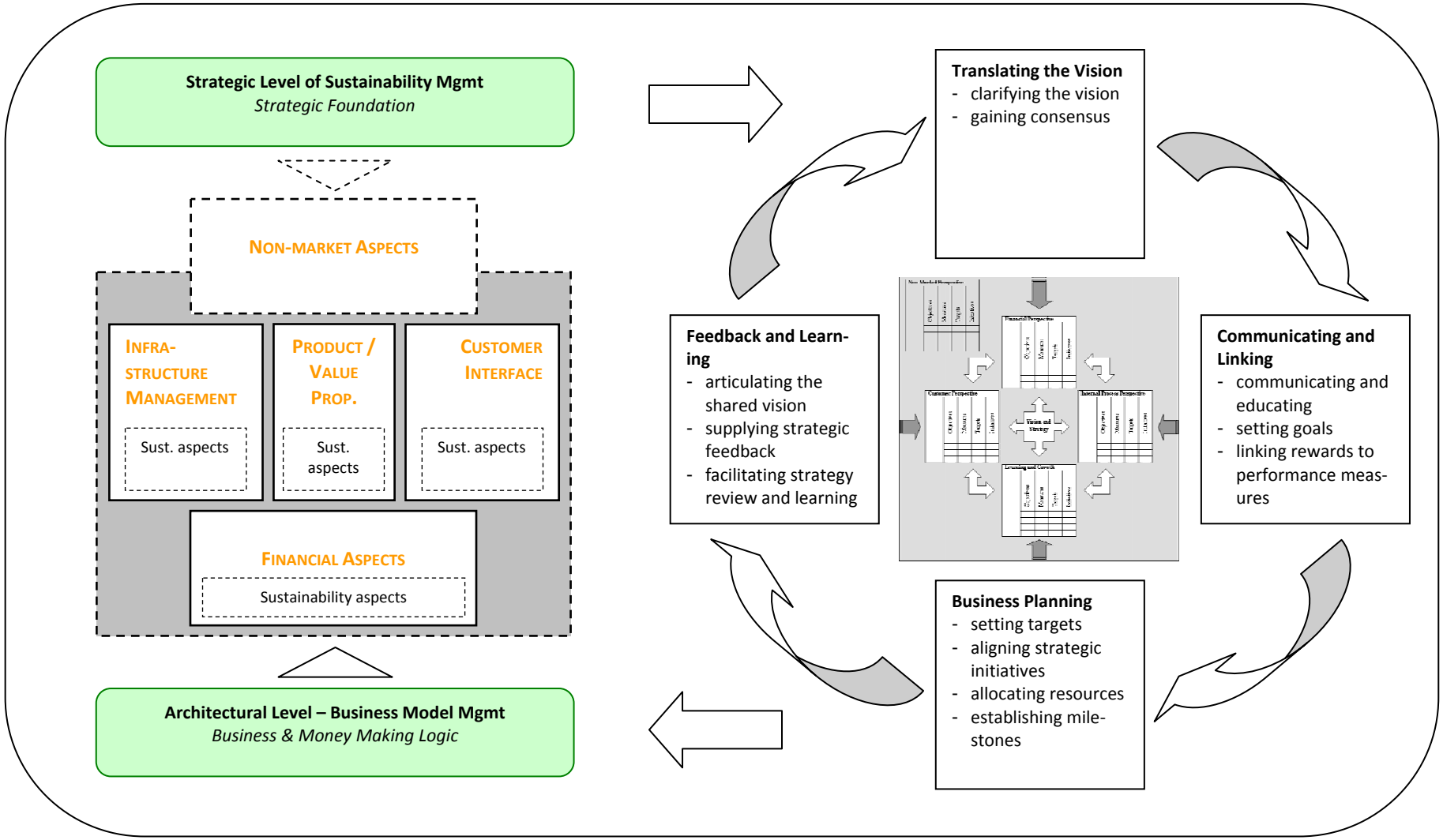

Figure 9: Business model management as sub-process of the management cycle

5.3.3. *Summary*

Business model authors often refer to the necessity of aligning strategy and the business model. Both are important concepts of performance management. For purposes of managing this alignment the idea of integrating the processes related to the practical application of SBSCs with business model management was introduced. For three reasons this might be a promising approach: First, the business model's *scope,* represented by its pillars, and the scorecard's perspectives share a similar view on organizations. Second, in consequence applying SBSCs is about strategy-conform *resource allocation* and *activity coordination* which are the basic elements of a firm's activity system. Third, the management process of *business planning* can be interpreted as a frame for processes of business model management. That is, the not yet existing field of business model management can be connected to established approaches of strategic management.

6. CONCLUSIONS AND RESEARCH OUTLOOK

6.1. In need of a new "perspective"

In this paper it was argued that business model concepts can contribute to research on corporate sustainability and sustainability management. Besides general clues, further developed theoretical approaches and concepts which integrate business model thinking and issues of corporate sustainability are missing to date. Metaphorical rhetoric and heuristics often make use of business model terminology. But against the background of current theoretical and conceptual offerings from the field of business model research it can be concluded that research on corporate sustainability and sustainability management is not in charge of sufficient business model approaches. The SBM ideal type of Stubbs & Cocklin (2008) was identified as the only conceptual work which directly connects corporate sustainability issues with a generic business model template. This concept was extensively discussed and it was argued that a business model concept should serve purposes of (strategic) sustainability management instead of shifting paradigms like the neoclassical worldview. In a competitive environment the strengths of business model concepts should rather be used to support the creation of business cases for sustainability.

6.2. Preliminary definition: business models for sustainability

Therefore, the most basic element of a business model concept was developed in this paper: a generic template for business models for sustainability. The conventional business model's scope comprises four basic pillars: *product/value proposition, customer interface, infrastructure management* and *financial aspects.* In analogy to creating Sustainability Balanced Scorecards the generic template for business models for sustainability was derived through the *accentuation* of sustainability aspects in the four basic pillars and the *extension* with a fifth non-market pillar. The outcome was a five-pillar model which exceeds the scope of conventional business model templates.

Based on the discussion of sustainability management issues connected to the extended and integrated template pillars, a preliminary conceptual definition of business models for sustainability was derived:

A business model for sustainability is the activity system of a firm which allocates resources and coordinates activities in a value creation process which overcomes the public/private benefit discrepancy. That is, a business model for sustainability is the structural template of a business logic which creates the business case for sustainability. This can be achieved by

- *extending value propositions to integrate public and private benefits (product/value proposition pillar),*
- *making customers involved and responsible partners in value creation processes (customer interface pillar),*

- *taking advantage of partnerships which enhance resources and activities (infrastructure pillar),*
- *evaluating combined measures like Environmental Shareholder Value and Environmental/Social Business Model Value (financial aspects pillar), and*
- *dedicating resources and activities to secure free, legitimate and legal behaviour and to explore currently neglected opportunities in non-market spheres (non-market pillar).*

6.3. Strategic business model management

Business model authors often refer to the necessity of aligning strategy and the business model. Both are important concepts of performance management. For purposes of managing this alignment the idea of integrating the process circle related to the application of Balanced Scorecards with business model management was proposed. For three reasons this might be a promising approach: First, the business model's *scope,* represented by its pillars, and the scorecard's perspectives share a similar view on organizations. Second, in consequence applying Balanced Scorecards is about strategic *resource allocation* and *activity coordination;* according to Amit & Zott (2009) both resources and activities are the basic units of a firm's activity system. Third, the management process of *business planning* can be interpreted as a frame for processes of strategic business model management. That is, the not yet existing field of business model management could be connected to established measures of strategic management.

6.4. Research outlook

Future research on business models for sustainability could address the following three topics.

1. Instrumental business modelling

Amit and Zott (2009) define the business model as structural template of a firm's activity system which consists of resources and activities. Starting from this proposition it was argued that strategic business model management could be integrated into business planning processes since business planning is about resource allocation and activity coordination. This topic aims at developing a practical concept and instrument for realizing the often mentioned but hardly detailed alignment of strategy and business models. The (Sustainability) Balanced Scorecard concept might be an established and sound framework for such a purpose.

2. Ontology development

The five-pillar template for business models for sustainability was derived from Osterwalder's (2004) conventional business model concept. Its advantage lies within the systematic way in which the business model can be constructed going from low to medium and finally to high granularity. Osterwalder's approach referred to conventional management concepts, systems and instruments. The construction of a technical ontology that can be translated into a mod-

elling language might be reproduced for the proposed template for business models for sustainability.

3. Design theme measurement

As the very DNA of business the business model is the decisive factor for corporate behaviour which can have high or low impacts and can be degenerative or regenerative. Future research could try to specify according business model gestalt themes. Gestalt themes are “design themes that orchestrate and connect the elements of a business model” (Zott & Amit 2007, 183; emphasis removed). Therefore, qualitative and quantitative indicators have to be developed to measure e. g. locusts’ and honeybees’ strategies and business models as well as sustainability oriented business models designed for differently developed markets. Thus, business model effects on corporate sustainability and sustainable development could be tracked statistically. I would suggest starting with defining and measuring gestalt themes according to efficiency, consistency and sufficiency strategies.

7. LITERATURE

Abell, D. (1980): Defining the business. The starting point of strategic planning. Englewood Cliffs NJ: Prentice-Hall.

Afuah, A. (2004): Business models. A strategic management approach. Boston: McGraw-Hill/Irwin.

Alt, R. & Zimmermann, H.-D. (2001): Preface: Introduction to Special Section - Business Models, EM - Electronic Markets, Vol. 11, No. 1, 3–9.

Amit, R. & Zott, C. (2001): Value Creation in E-Business, Strategic Management Journal, Vol. 22, No. 6-7, 493–520.

Amit, R. & Zott, C. (2009): Designing your Future Business Model: An Activity System Perspective. IESE Working Paper, No. WP-781. Barcelona: IESE Business School of Navarra.

Andersen, M. & Tukker, A. (Eds.) (2006): Perspectives on Radical Changes to Sustainable Consumption and Production (SCP) (Proceedings). Workshop of the Sustainable Consumption Research Exchange (SCORE!) Network, Thursday 20 and Friday 21 April 2006, Copenhagen, Denmark. Roskilde & Delft: RISO & TNO.

Ansoff, H. (1987): Corporate strategy. London: Penguin Books.

Anttonen, M. (2008): Greening from the Front to the Backdoor? A Typology of Chemical and Resource Management Services, Business Strategy and the Environment, doi:10.1002/bse.644 (early view).

Astley, W. (1984): Toward an appreciation of collective strategy, Academy of Management Review, Vol. 9, No. 3, 526–535.

Axelrod, R. (1984): The evolution of cooperation. New York: Basic Books.

Backer, L. (2009): When Oil and Wind Turbine Companies Make Green Sense Together, Business Strategy and the Environment, Vol. 18, No. 1, 43–52.

Ballon, P. (2007): Business modelling revisited: the configuration of control and value, The Journal of Policy, Regulation and Strategy for Telecommunications, Information and Media, Vol. 9, No. 5, 6–19.

Belz, C. (2001): Nachhaltiges Marketing schafft nachhaltige Kundenvorteile, Thexis, Vol. 18, No. 2, 2–10.

Belz, C. & Bieger, T. (2006): Customer Value. Kundenvorteile schaffen Unternehmensvorteile. 2. Auflage. St. Gallen: Thexis.

Birkin, F.; Cashman, A.; Koh, S. & Liu, Z. (2009): New Sustainable Business Models in China, Business Strategy and the Environment, Vol. 18, No. 1, 64–77.

Birkin, F.; Polesie, T. & Lewis, L. (2007): A new business model for sustainable development: an exploratory study using the theory of constraints in Nordic organizations, Business Strategy and the Environment, DOI: 10.1002/bse.581 (in press).

BMU; Econcense & CSM (Eds.) (2007): Nachhaltigkeitsmanagement in Unternehmen. Von der Idee zur Praxis: Managementansätze zur Umsetzung von Corporate Social Responsibility und Corporate Sustainability. Berlin/Lüneburg: BMU, econsense & CSM.

Bolinger, M. (2009): Financing Non-Residential Photovoltaic Projects: Options and Implications. San Francisco: Lawrence Berkeley National Laboratory.

Bryman, A. & Bell, E. (2007): Business research methods. 2nd ed. New York: Oxford University Press.

Bundesministerium für Umwelt Naturschutz und Reaktorsicherheit (BMU) (2008): Erneuerbare Energien in Zahlen. Nationale und internationale Entwicklung. Berlin: BMU.

Bundesministerium für Umwelt Naturschutz und Reaktorsicherheit (BMU); econcense & Centre for Sustainability Management (CSM) (Eds.) (2007): Nachhaltigkeitsmanagement in Unternehmen. Von der Idee zur Praxis: Managementansätze zur Umsetzung von Corporate Social Responsibility und Corporate Sustainability. Berlin/Lüneburg: BMU; econsense & CSM.

Bundesumweltministerium (BMU); Bundesverband der Deutschen Industrie (BDI) & Centre for Sustainability Management (CSM) (Eds.) (2002): Sustainability Management in Business Enterprises. Concepts and Instruments for Sustainable Organisation Development. Berlin: BMU & BDI.

Caballero, M.; Marcos, P.; Barea, J. & Río, S. d. (2008): Destruction at All Co[a]st 2008. Report on the Spanish Coast Situation. Madrid: Greenpeace, http://www.greenpeace.org/raw/content/espana/reports/destruction-at-all-coast.pdf, 17.07.2009.

Chesbrough, H. & Rosenbloom, R. (2002): The role of the business model in capturing value from innovation: evidence from Xerox Corporation's technology spin-off companies, Industrial & Corporate Change, Vol. 11, No. 3, 529–555.

Christensen, C.; Johnson, M. & Kagermann, H. (2009): Wie Sie Ihr Geschäftsmodell neu erfinden, Harvard Business Manager, No. 4/2009, http://www.harvardbusinessmanager.de/heft/artikel/a-615055.html, 26 August 2009.

Christoff, P. (1996): Ecological modernisation, ecological modernities, Environmental Politics, Vol. 5, No. 3, 476–500.

Constanza, R. & Daly, H. (1992): Natural Capital and Sustainable Development, Conservation Biology, Vol. 6, No. 1, 37–46.

Contractor, F. & Lorange, P. (Eds.) (2002): Cooperative strategies and alliances. Amsterdam: Pergamon.

Copeland, T.; Koller, T. & Murrin, J. (1993): Valuation. Measuring and managing the value of companies. Wiley professional banking and finance series. New York: Wiley.

Currie, W. (Ed.) (2004): Value Creation from E-Business Models. Oxford: Elsevier.

Daly, H.E. (1992): Allocation, distribution, and scale: towards an economics that is efficient, just, and sustainable, Ecological Economics, Vol. 6, No. 3, 185–193.

Dubielzig, F. (2009): Sozio-Controlling im Unternehmen. Das Management erfolgsrelevanter sozial-gesellschaftlicher Themen in der Praxis. Wiesbaden: Gabler.

Dunphy, D.; Griffiths, A. & Benn, S. (2007): Organizational change for corporate sustainability. A guide for leaders and change agents of the future. 2nd ed. London: Routledge.

Dyllick, T. & Hockerts, K. (2002): Beyond the Business Case for Corporate Sustainability, Business Strategy and the Environment, Vol. 11, No. 2, 130–141.

Edwards, A. (2005): The sustainability revolution. Portrait of a paradigm shift. Gabriola Island, BC: New Society Publ.

Eisenhardt, K. (1989): Building Theories from Case Study Research, The Academy of Management Review, Vol. 14, No. 4, 532–550.

Elkington, J. (2004): Enter the Triple Bottom Line, in: Henriques, A. & Richardson, J. (Eds.): The Triple Bottom Line, does it all add up? London: Earthscan, 1–16.

Elkington, J. (2001): The chrysalis economy. How citizen CEOs and corporations can fuse values and value creation. Oxford: Capstone.

Federal Government of Germany (Ed.) (2008): Progress Report 2008 on the National Strategy for Sustainable Development. Berlin: Federal Government.

Federal Ministry for the Environment Nature Conservation and Nuclear Safety (BMU) (Ed.) (2008): Renewable energy sources in figures. National and international development. Berlin: BMU.

Federal Ministry for the Environment Nature Conservation and Nuclear Safety (BMU) (Ed.) (2009): Development of Renewable Energies in Germany in 2008. As at April 2009. Berlin: BMU.

Federal Ministry of Education and Research (BMBF) (2006): Research for Sustainability. Framework programme of the German Federal Ministry of Education and Research (BMBF) for a sustainable, innovative society. Berlin: BMBF.

Figge, F. (2001): Environmental Value Added. Ein neues Maß zur Messung der Öko-Effizienz, Zeitschrift für angewandte Umweltforschung, Vol. 14, No. 1-4, 184–197.

Figge, F. & Hahn, T. (2002): Environmental Shareholder Value Matrix. Konzeption, Anwendung und Berechnung. Lüneburg: CSM.

Figge, F. & Hahn, T. (2002): Sustainable Value Added. Measuring Corporate Sustainable Performance beyond Eco-Efficiency. CSM Working Paper. Lüneburg: CSM.

Figge, F. & Hahn, T. (2006): Sustainable Value Added. A New Approach to Measuring Corporate Sustainable Performance, in: Schaltegger, S. & Wagner, M. (Eds.): Managing the business case for sustainability. Sheffield: Greenleaf, 146–164.

Figge, F.; Hahn, T.; Schaltegger, S. & Wagner, M. (2002): The Sustainability Balanced Scorecard - Linking Sustainability management to Business Strategy, Business Strategy and the Environment, Vol. 11, No. 5, 269–284.

Finkenzeller, K. (2007): Spanischer Bauboom am Ende, Financial Times Deutschland, No. 02.10.2007, http://www.ftd.de/boersen_maerkte/geldanlage/:Agenda%20Spanischer%20Bauboom %20Ende/260421.html?p=1, 17.07.2009.

Fisher, D. & Freudenburg, W. (2001): Ecological Modernization and Its Critics: Assessing the Past and Looking Toward the Future, Society and Natural Resources, Vol. 14, No. 8, 701–709.

Folmer, H. & Tietenberg, T. (Eds.) (2005): International Yearbook of Environmental and Resource Economics 2005/2006. A Survey of Current Issues. Cheltenham: Edward Elgar.

Frantzis, L.; Graham, S.; Katofsky, R. & Sawyer, H. (2008): Photovoltaic Business Models. Golden, Colorado: National Renewable Energy Laboratory.

Fritsch, M.; Wein, T. & Ewers, H. (2003): Marktversagen und Wirtschaftspolitik. Mikroökonomische Grundlagen staatlichen Handelns. 5. Auflage. München: Vahlen.

Glaser, B. & Strauss, A. (1980): The discovery of Grounded theory. Strategies for qualitative research. 11th edition. New York: Aldine.

Gordijn, J.; Osterwalder, A. & Pigneur, Y. (2005): Comparing two Business Model Ontologies for Designing e-Business Models and Value Constellations. 18th Bled eCommerce Conference "eIntegration in Action", 6-8 June 2005, Bled, Slovenia.

Halme, M.; Anttonen, M. & Kuisma, M. (2008): Exploration of business models for material efficiency services, in: Wüstenhagen, R.; Hamschmidt, J.; Sharma, S. & Starik, M. (Eds.): Sustainable innovation and entrepreneurship. Cheltenham: Edward Elgar, 71–96.

Hamel, G.; Doz, Y. & Prahalad, C. (1989): Collaborate with your customers - and win, Harvard Business Review, Vol. 67, No. 1, 133–140.

Hamel, G. & Välikangas, L. (2003): The Quest for Resilience, Harvard Business Review, September, 52–63.

Hamschmidt, J. (Ed.) (2007): Case studies in sustainability management and strategy. The oikos collection. Sheffield: Greenleaf.

Hart, S. & Milstein, M. (1999): Global Sustainability and the Creative Destruction of Industries, Sloan Management Review, Vol. 41, No. 1, 23–33.

Henriques, A. & Richardson, J. (Eds.) (2004): The Triple Bottom Line, does it all add up? Assessing the sustainability of business and CSR. London: Earthscan.

Herzig, C. (2008): Herausforderungen an das integrative Nachhaltigkeitsmanagement : Empirische Analysen zur Integrationsleistung von Unternehmen. Lüneburg: Leuphana Universität Lüneburg.

Hockerts, K. (2007): Mobility Car-sharing, in: Hamschmidt, J. (Eds.): Case studies in sustainability management and strategy. Sheffield: Greenleaf, 252–276.

Horngren, C.; Foster, G. & Datar, S. (2000): Cost accounting. A managerial emphasis. 10. ed. Upper Saddle River, NJ: Prentice Hall International.

Huber, J. (2000): Towards Industrial Ecology: Sustainable Development as a Concept of Ecological Modernization, Journal of Environmental Policy & Planning, Vol. 2, No. 4, 269–285.

Hummel, J. (2005): Online-Gemeinschaften als Geschäftsmodell. Eine Analyse aus sozio-ökonomischer Perspektive. Neue betriebswirtschaftliche Forschung. Wiesbaden: Dt. Univ.-Verl.

Institut für ökologische Wirtschaftsforschung GmbH (IÖW) (2009): Investitionen der vier großen Energiekonzerne in Erneuerbare Energien. Bestand, Ziele und Planungen von E.ON, RWE, EnBW und Vattenfall konzernweit und in Deutschland. Berlin: IÖW & Greenpeace.

Jänicke, M. (2000): Ökologische Modernisierung als Innovation und Diffusion in Politik und Technik: Möglichkeiten und Grenzen eines Konzepts. FFU-report, No. 00-01.

Joyce, P. & Winch, G. (2004): A framework for codifying business models and process models in e-Business design, in: Currie, W. L. (Eds.): Value Creation from E-Business Models. Oxford: Elsevier, 35–64.

Kaplan, R. & Norton, D. (1992): The Balanced Scorecard - Measures that Drive Performance, Harvard Business Review, Vol. 70, No. 1, 71–79.

Kaplan, R. & Norton, D. (1993): Putting the Balanced Scorecard to Work, Harvard Business Review, September-Oktober, 134–147.

Kaplan, R. & Norton, D. (1996a): The balanced scorecard. Translating strategy into action. Boston, Mass.: Harvard Business School Press.

Kaplan, R. & Norton, D. (1996b): Using the Balanced Scorecard as a Strategic Management System, Harvard Business Review, January-February, 75–85.

Kaplan, R. & Norton, D. (1997): Balanced Scorecard: Strategien erfolgreich umsetzen. Stuttgart: Schäffer-Poeschel.

Kaplan, R. & Norton, D. (2000): Having Trouble with Your Strategy? Then Map It, Harvard Business Review, September-Oktober, 167–176.

Kaplan, R. & Norton, D. (2001): Transforming the Balanced Scorecard from Performance Measurement to Strategic Management: Part I, Accounting Horizons, Vol. 15, No. 1, 87–104.

Kersten, W. (2001): Geschäftsmodelle und Perspektiven des industriellen Einkaufs im Electronic Business, Zeitschrift für Betriebswirtschaftslehre, No. 3, 21–37.

Klein, M. (2008): Poverty alleviation through stustainable strategic business models. Essays on poverty alleviation as a business strategy. Rotterdam: ERIM.

Kraus, R. (2005): Strategisches Wertschöpfungsdesign. Ein konzeptioneller Ansatz zur innovativen Gestaltung der Wertschöpfung. Wiesbaden: Dt. Univ.-Verl.

Krstov, L. & Sinkovec, U. (2007): Relations between Business Strategy, Business Models and e-Business Applications. Information and Intelligent Systems Conference, 12.-14. September, Zagreb, Kroatien.

Lado, A.; Boyd, N. & Hanlon, S. (1997): Competition, Cooperation, and the Search for Economic Rents: A Syncretic Model, Academy of Management Review, Vol. 22, No. 1, 110–141.

Lambert, S. (2006): A Business Model Research Schema. 19th Bled eCommerce Conference "eValues", June 5-7 2006, Bled, Slovenia.

Lee, H. & Kelley, D. (208): Building dynamic capabilities for innovation: an exploratory study of key management practices, R & D Management, Vol. 38, No. 2, 155–168.

Lehmann-Ortega, L. (2008): Business Model: From Buzz Word to Managerial Tool. Groupe Sup de Co Montpellier (GSCM) Working Paper, www.businessmodelcommunity.com, 28 January 2009.

Lehmann-Ortega, L. & Schoettl, J. (2005): From Buzzword to Managerial Tool: The Role of Business Models in Strategic Innovation. 40th Annual Assembly of the The Latin American Council of Management Schools (CLADEA), 20-22 October 2005, Santiago de Chile, Chile.

Linder, J. & Cantrell, S. (2000): Changing Business Models: Surveying the Landscape. accenture Institute for Strategic Change.

Magretta, J. (2002): Why Business Models Matter, Harvard Business Review, Vol. 80, No. 5, 86–92.

Mahadevan, B. (2000): Business Models for Internet based E-Commerce - An Anatomy, California Management Review, Vol. 42, No. 4, 55–69.

Markides, C. (1999): All the right moves. A guide to crafting breakthrough strategy. Boston: Harvard Business School Press.

Mol, A. (1997): Ecological Modernization: Industrial Transformations and Environmental Reform, in:

Mol, A. (2000): Ecological Modernization: Industrial Transformations and Environmental Reform, in: Redclift, M. & Woodgate, G. (Eds.): The international handbook of environmental sociology. Cheltenham, UK: Elgar, 138–149.

Mol, A. & Spaargaren, G. (2000): Ecological Modernization Theory in Debate: A Review, Environmental Politics, Vol. 9, No. 1, 17–49.

Moore, B. & Wüstenhagen, R. (2004): Innovative and Sustainable Energy Technologies: The Role of Venture Capital, Business Strategy and the Environment, Vol. 13, No. 4, 235–245.

Müller, M. & Schaltegger, S. (Eds.) (2008): Corporate Social Responsibility. Trend oder Modeerscheinung? München: Oekom.

Osterwalder, A. (2004): The Business Model Ontology. A Proposition in a Design Science Approach. Dissertation, Universite de Lausanne. Lausanne: Universite de Lausanne.

Osterwalder, A.; Lagha, S.B. & Pigneur, Y. (2002): An Ontology for Developing e-Business Models. International Conference on Decision Making and Decision Support in the Internet Age, 3-7 July 2002, Cork, Ireland.

Osterwalder, A. & Pigneur, Y. (2004): An ontology for e-business models, in: Currie, W. L. (Eds.): Value Creation from E-Business Models. Oxford: Elsevier, 65–97.

Osterwalder, A. & Pigneur, Y. (2009): Business model generation. A handbook for visionaries, game changers, and challengers. Amsterdam: Modderman Drukwerk.

Osterwalder, A.; Pigneur, Y. & Tucci, C. (2005): Clarifying Business Models: Origins, Present and Future of the Concept. Communications of the Association for Information Systems, No. 15, http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.83.7452&rep=rep1&type= pdf, 18.05.2009.

Pagnamenta, R. (2009a): Anger as Shell reduces renewables investment, Times Online, 18 March 2009, http://business.timesonline.co.uk/tol/business/industry_sectors/natural_resources/article5927869.ece, 8 May 2009.

Pagnamenta, R. (2009b): Green energy plans in disarray as wind farm giant slashes investment. Fears for 'green energy' after investment is slashed, Times Online, 26 March 2009, http://business.timesonline.co.uk/tol/business/industry_sectors/natural_resources/article5977714.ece, 8 May 2009.

Perman, R.; Ma, Y.; McGilvray, J. & Common, M. (2003): Natural resource and environmental economics. 3. ed. Harlow: Pearson Education.

Petersen, H. (2003): Ecopreneurship und Wettbewerbsstrategie. Verbreitung ökologischer Innovationen auf Grundlage von Wettbewerbsvorteilen. Marburg: Metropolis.

Petersen, H. (2006): Ecopreneurship and competitive strategies, in: Schaltegger, S. & Wagner, M. (Eds.): Managing the business case for sustainability. Sheffield: Greenleaf, 398–411.

Petrovic, O.; Kittl, C. & Teksten, R. (2001): Developing Business Models for eBusiness, http://www.iconocast.com/ZZZZZResearch/Business_Model.pdf, 27.01.2008.

Porter, M. (1979): How Competitive Forces Shape Strategy, Harvard Business Review, March-April, 137–145.

Porter, M. (1980): Competitive strategy. Techniques for analyzing industries and competitors. 19. ed. New York: Free Press.

Porter, M. (1985): Competitive advantage. Creating and sustaining superior performance. New York: Free Press.

Porter, M. (1996): What Is Strategy?, Harvard Business Review, November-December, 61–78.

Porter, M. (2001): Strategy and the Internet, Harvard Business Review, March, 63–78.

Purkayastha, D. & Fernando, R. (2007): The Body Shop: Social Responsibility or Sustained Greenwashing?, in: Hamschmidt, J. (Eds.): Case studies in sustainability management and strategy. Sheffield: Greenleaf, 226–251.

Rappa, M. (2009): Managing the Digital Enterprise. Business Models on the Web, http://digitalenterprise.org/models/models.html, 26 August 2009.

Rappaport, A. (1986): Creating shareholder value. The new standard for business performance. 14. print. New York: Free Press.

Rüegg-Stürm, J. (2005): The new St. Gallen management model. Basic categories of an approach to integrated management. Houndmills: Palgrave Macmillan.

Schaltegger, S. & Hasenmüller, P. (2005): Nachhaltiges Wirtschaften aus Sicht des "Business Case of Sustainability". Ergebnispapier zum Fachdialog des Bundesumweltministeriums (BMU) am 17. November 2005. Lüneburg: Centre for Sustainability Management (CSM).

Schaltegger, S. & Hasenmüller, P. (2006): Nachhaltiges Wirtschaften aus Sicht des "Business Case of Sustainability", in: Tiemeyer, E. & Wilbers, K. (Eds.): Berufliche Bildung für nachhaltiges Wirtschaften. Konzepte, Curricula, Methoden, Beispiele. Bielefeld: Bertelsmann, 71–86.

Schaltegger, S. (2000): Wirtschaftswissenschaften. Studium der Umweltwissenschaften. Berlin: Springer.

Schaltegger, S. (2006): How Can Environmental Management Contribute to Shareholder Value? The Environmental Shareholder Value Approach, in: Schaltegger, S. & Wagner, M. (Eds.): Managing the business case for sustainability. Sheffield: Greenleaf, 47–61.

Schaltegger, S. (2008): From CSR to Corporate Sustainability, Forum CSR International, 40–41.

Schaltegger, S. & Burritt, R. (2005): Corporate Sustainability, in: Folmer, H. & Tietenberg, T. (Eds.): International Yearbook of Environmental and Resource Economics 2005/2006. Cheltenham: Edward Elgar, 185–222.

Schaltegger, S.; Burritt, R. & Petersen, H. (2003): An Introduction to corporate environmental management. Striving for sustainability. Sheffield: Greenleaf Publ.

Schaltegger, S. & Dyllick, T. (Eds.) (2002): Nachhaltig managen mit der Balanced Scorecard. Konzept und Fallstudien. Wiesbaden: Gabler.

Schaltegger, S. & Figge, F. (2000): Environmental Shareholder Value. Economic Success with Corporate Environmental Management, Eco-Management and Auditing, Vol. 7, No. 1, 29–42.

Schaltegger, S. & Müller, M. (2008): CSR zwischen unternehmerischer Vergangenheitsbewältigung und Zukunftsgestaltung, in: Müller, M. & Schaltegger, S. (Eds.): Corporate Social Responsibility. München: Oekom, 17–35.

Schaltegger, S. & Wagner, M. (2006): Managing and Measuring the Business Case for Sustainability. Capturing the Relationship between Sustainability Performance, Business Competitiveness and Economic Performance, in: Schaltegger, S. & Wagner, M. (Eds.): Managing the business case for sustainability. Sheffield: Greenleaf, 1–27.

Schaltegger, S. & Wagner, M. (Eds.) (2006): Managing the business case for sustainability. The integration of social, environmental and economic performance. Sheffield: Greenleaf.

Schaltegger, S. & Wagner, M. (2008): Types of Sustainable Entrepreneurship and the Conditions for Sustainability Innovation, in: Wüstenhagen, R.; Hamschmidt, J.; Sharma, S. &

Starik, M. (Eds.): Sustainable innovation and entrepreneurship. Cheltenham: Edward Elgar, 27–48.

Scheer, C. & Deelmann, T. & Loos, P. (2003): Geschäftsmodelle und internetbasierte Geschäftsmodelle. Begriffsbestimmung und Teilnehmermodell. ISYM - Information Systems & Management, No. 12. Mainz: Johannes Gutenberg Universität Mainz.

Schoettl, J. & Lehmann-Ortega, L. (2010 [forthcoming]): Photovoltaic Business Models: Threat or Opportunity for Utilities. Forthcoming in: Wüstenhagen, R. & Wuebker, R. (Eds.): Handbook of Research on Energy Entrepreneurship. Cheltenham: Edward Elgar Publishing Ltd.

Seelos, C. & Mair, J. (2004a): Entrepreneurs in Service of the Poor: Models for Business Contributions to Sustainable Development. IESE Working Paper, No. OP 04/16. Barcelona: IESE Business School of Navarra.

Seelos, C. & Mair, J. (2004b): Social Entrepreneurship: The Contribution of Individual Entrepreneurs to Sustainable Development. IESE Working Paper, No. WP 553. Barcelona: IESE Business School of Navarra.

Seelos, C. & Mair, J. (2006): Profitable Business Models and Market Creation in the Context of Deep Poverty: A Strategic View. IESE Working Paper, No. OP 07/6. Barcelona: IESE Business School of Navarra.

Seelos, C. & Mair, J. (2007): Profitable Business Models and Market Creation in the Context of Deep Poverty: A Strategic View, Academy of Management Perspectives, Vol. 21, No. 4, 49–63.

Seuring, S. & Goldbach, M. (2006): Managing Sustainability Performance in the Textile Chain, in: Schaltegger, S. & Wagner, M. (Eds.): Managing the business case for sustainability. Sheffield: Greenleaf, 466–477.

Shafer, S.; Smith, H. & Linder, J. (2005): The power of business models, Business Horizons, Vol. 48, No. 3, 199–207.

Slywotzky, A. (1996): Value migration. How to think several moves ahead of the competition. Boston: Harvard Business School Press.

Spaargaren, G. (2006): The Ecological Modernization of Social Practices at the Consumption Junction: Discussion-paper for the ISA-RC-24 conference ‘Sustainable Consumption and Society’, June 2-3, Madison, Wisconsin.

Spaargaren, G. & Mol, A. (1992): Sociology, environment and modernity. Ecological modernization as a theory of social change, Society and Natural Resources, Vol. 5, No. 4, 323–344.

Stähler, P. (2002): Business Models as an Unit of Analysis for Strategizing. International Workshop on Business Models, Lausanne, Switzerland (1st Draft, 30. September 2002).

Stähler, P. (2002): Geschäftsmodelle in der digitalen Ökonomie. Merkmale, Strategien und Auswirkungen. 2. Auflage. Lohmar: Eul.

Stubbs, W. & Cocklin, C. (2008): Conceptualizing a "Sustainability Business Model", Organization & Environment, Vol. 21, No. 2, 103–127.

Tapscott, D.; Ticoll, D. & Lowy, A. (2000): Digital Capital: Harnessing the Power of Business Webs. Boston: Harvard Business School Press.

Teece, D. & Pisano, G. (1994): The Dynamic Capabilities of Firms: an Introduction, Industrial & Corporate Change, Vol. 3, No. 3, 537–556.

Teece, D.; Pisano, G. & Shuen, A. (209-533): Dynamic Capabilities and Strategic Management, Strategic Management Journal, Vol. 18, No. 7, 1997.

Timmers, P. (1998): Business Models for Electronic Markets, EM - Electronic Markets, Vol. 8, No. 2, 3–8.

Tourtellot, J. (2004): Destination Scorecard: 115 Places Rated, National Geographic Traveller, No. March, 60–67, http://www.nationalgeographic.com/traveler/pdf/115_destinations_article.pdf, 17.07.2009.

Tukker, A.; Charter, M.; Vezzoli, C.; Stø, E. & Andersen, M. (Eds.) (2008): Perspectives on radical changes to sustainable consumption and production. Sheffield: Greenleaf.

Ulrich, P. & Fluri, E. (1995): Management: eine konzentrierte Einführung. 7. Auflage. Stuttgart: UTB.

Villiger, A.; Wüstenhagen, R. & Meyer, A. (2000): Jenseits der Öko-Nische. Basel: Birkhäuser.

Viscio, A. & Pasternack, B. (1996): Toward a New Business Model, Strategy & Business, Vol. 20, No. 2, 125–134.

Voelpel, S.; Leibold, M.; Tekie, E. & Krogh, G. v. (2005): Escaping the Red Queen Effect in Competitive Strategy: Sense-testing Business Models, European Management Journal, Vol. 23, No. 1, 37–49.

Weber, M. (2008): The business case for corporate social responsibility: A company-level measurement approach for CSR, European Management Journal, Vol. 26, No. 4, 247–261.

Winter, S. (2003): Understanding dynamic capabilities, Strategic Management Journal, Vol. 24, No. 10, 991–995.

Wüstenhagen, R. & Boehnke, J. (2006): Business models for sustainable energy, in: Andersen, M. & Tukker, A. (Eds.): Perspectives on Radical Changes to Sustainable Consumption and Production (SCP) (Proceedings). Roskilde & Delft: RISO & TNO, 329–334.

Wüstenhagen, R. & Boehnke, J. (2008): Business Models for Sustainable Energy, in: Tukker, A.; Charter, M.; Vezzoli, C.; Stø, E. & Andersen, M. M. (Eds.): Perspectives on radical changes to sustainable consumption and production. Sheffield: Greenleaf.

Wüstenhagen, R.; Hamschmidt, J.; Sharma, S. & Starik, M. (Eds.) (2008): Sustainable innovation and entrepreneurship. New perspectives in research on corporate sustainability. Cheltenham: Edward Elgar.

Yip, G. (2004): Using Strategy to Change Your Business Model, Business Strategy Review, Vol. 15, No. 2, 17–24.

Yu, C. (2001): An Integrated Framework of Business Models for Guiding Electronic Commerce Applications and Case Studies, in: Bauknecht, K.; Madria, S. K. & Pernul, G. (Eds.): Electronic Commerce and Web Technologies. Berlin: Springer, 111–120.

Zollenkop, M. (2006): Geschäftsmodellinnovation. Initiierung eines systematischen Innovationsmanagements für Geschäftsmodelle auf Basis lebenszyklusorientierter Frühaufklärung. Wiesbaden: Dt. Univ.-Verl.

Zollo, M. & Winter, S. (2002): Deliberate Learning and the Evolution of Dynamic Capabilities, Organization Science, Vol. 13, No. 3, 339–351.

Zott, C. & Amit, R. (2007): Business Model Design and the Performance of Entrepreneurial Firms, Organization Science, Vol. 18, No. 2, 181–199.

Zott, C. & Amit, R. (2008): The Fit Between Product Market Strategy and Business Model: Implications for Firm Performance, Strategic Management Journal, Vol. 29, No. 1, 1–26.

Zott, C. & Amit, R. (2009): Designing Your Future Business Model: An Activity System Perspective. IESE Working Paper, No. WP-781. Barcelona: IESE Business School of Navarra.